



LOW CARBON LIVING
CRC

Hashtag Sustainability? Home Renovators' Media World

RP3021

Report2



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The Report

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² The CRCLCL industry partners are listed in the Acknowledgements to this Report.

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Executive Summary

About the report

The issue which this project addresses is that while there is great potential to reduce carbon dioxide emissions by improving energy efficiency through changes to building layout, structures, fixtures and appliances as Australian homes are being renovated, this potential is not currently being realised. It appears that 'top down' approaches by government to encourage low carbon renovations are relatively ineffective in changing renovators' practices. Market research into renovation and energy efficiency suggests that media play an important role in shaping home renovation practices.

The first report from this project, called *'I'd just Google it': media and home renovation practices in Australia*³, outlined renovators' motivations, influences and the ways in which they sought information and expertise. It began to investigate the role of different types of media at various stages of the renovation process: ideas, design, development and building work.

This second report tells the story of the Home Renovators' Media World. It provides a more detailed and nuanced understanding of the roles of media in home renovation processes, from the perspective of renovators. Such an understanding is essential in developing more effective communication and community engagement to achieve home renovations which are more energy efficient and which contribute to lower carbon dioxide emissions.

This Report adds to current understanding in three ways: i) mapping the media ecology for home renovations from the perspective of renovators; ii) distilling key learnings from a deeper analysis of targeted media examples identified in the research; and iii) presenting the analysis of Twitter engagement by social media users and key 'intermediaries' in the Australian renovation market.

Key findings

The headline findings from the research are as follows:

Home renovators' media consumption is plural and layered, across a range of media devices, content and applications.

The media ecology for home renovations is best described as an interconnected, overlapping network of formal, institutional *and* informal user-generated content production, communication and circulation across the full spectrum of communication environments: traditional

(broadcast and print), digital (internet and apps) and social media.

Renovators use media across all stages of renovation – in developing ideas and planning, design, decision making, documentation and building works – and they rarely use only one source of information or media type. Media consumption is plural. It occurs across a range of media devices from desktop computer or laptop to smart phone. The media content spans different levels of interactivity from one-to-many mainstream TV and many-to-many Twitter feeds, while media sites can be both instructive and entertaining as exemplified by YouTube videos.

The cultural impact of traditional media is far-reaching but not uniform or predictable.

Traditional media, particularly broadcast media, influences ideas about products and methods as well as cultural values in relation to home-making/improvement through entertainment programs on renovation. Traditional media organisations (such as Channel 9 and its flagship program *The Block*) provide both the cultural context of renovations in Australia and generate a substantial level of public engagement. However, this type of engagement is context-specific and negotiated and does not have a uniform or predictable impact. For example, renovators assess featured products through inquiries to social networks or online communities⁴ or resort to finding cheaper alternatives.

Digital and social media have appeal to renovators as a means of seeking informal advice, recommendations, reviews and networking.

Renovators use digital media (internet and apps) and social media to find and validate reliable sources of information on home renovations, including energy efficiency measures and products, through advice from trusted professionals and also other renovators. In different ways, online communities such as Whirlpool, personal blogs or Facebook networks help guide renovators through fragmented information or relate general information to the renovator's specific needs. Internet, apps and social media allow a real-time, tailored and directed engagement with other renovators as well as communication with family and friends.

³ CRC LCL Project RP3021

http://www.lowcarbonlivingcrc.com.au/sites/all/files/publications_file_attachments/rp3021_project_report2016.pdf.

⁴This is broadly in line with the general media trends identified by marketing company Sensis, which sees blogs and reviews as an influence on purchase decisions, with 55% of social media users in Australia consulting reviews before buying (Sensis, 2015: 3).

A diverse group of intermediaries plays an important role in public communication and engagement using a variety of media including social media.

The research identified a range of influential actors who can help spread and amplify messages about energy efficient home renovations. For example, research into Australian public Twitter accounts highlighted the productivity by some celebrities, not for profit organisations and media organisations in contrast to already recognised intermediaries such as governments, renovation industry organisations and retailers (see Figure 1). However, it is clear that low Twitter activity of a specific organisation, event or individual alone is not a predictor of engagement or (commercial) success. For example, Australian retail icon Bunnings doesn't have a verified official Twitter account, but is nonetheless frequently discussed by Twitter users. Language and discourse also matters. Our interviews show that renovators respond more to the ideas of 'liveability' and 'sustainability', while our social media analysis suggests that public conversations using hashtags #solar and #sustainability (both leading with over 100k tweets) dominate over #greenenergy (2.5k) and #lowcarbon (just over 1k). #reno recorded over 30k tweets.

Renovators engage in two-way conversations about solutions for home-making through renovations.

Renovators are not passive absorbers of information and advice. They want to be able 'to ask specific questions'. Some of the ways in which renovators were able to ask questions – and get answers – were found in face-to-face sessions locally, such as 'speed dating sessions' on energy efficiency run by local councils and the Sustainable Housing Day run by a not for profit organisation, the Alternative Technology Association.

Implications: Harnessing the potential of media to encourage mainstream energy efficient and low carbon Home renovations

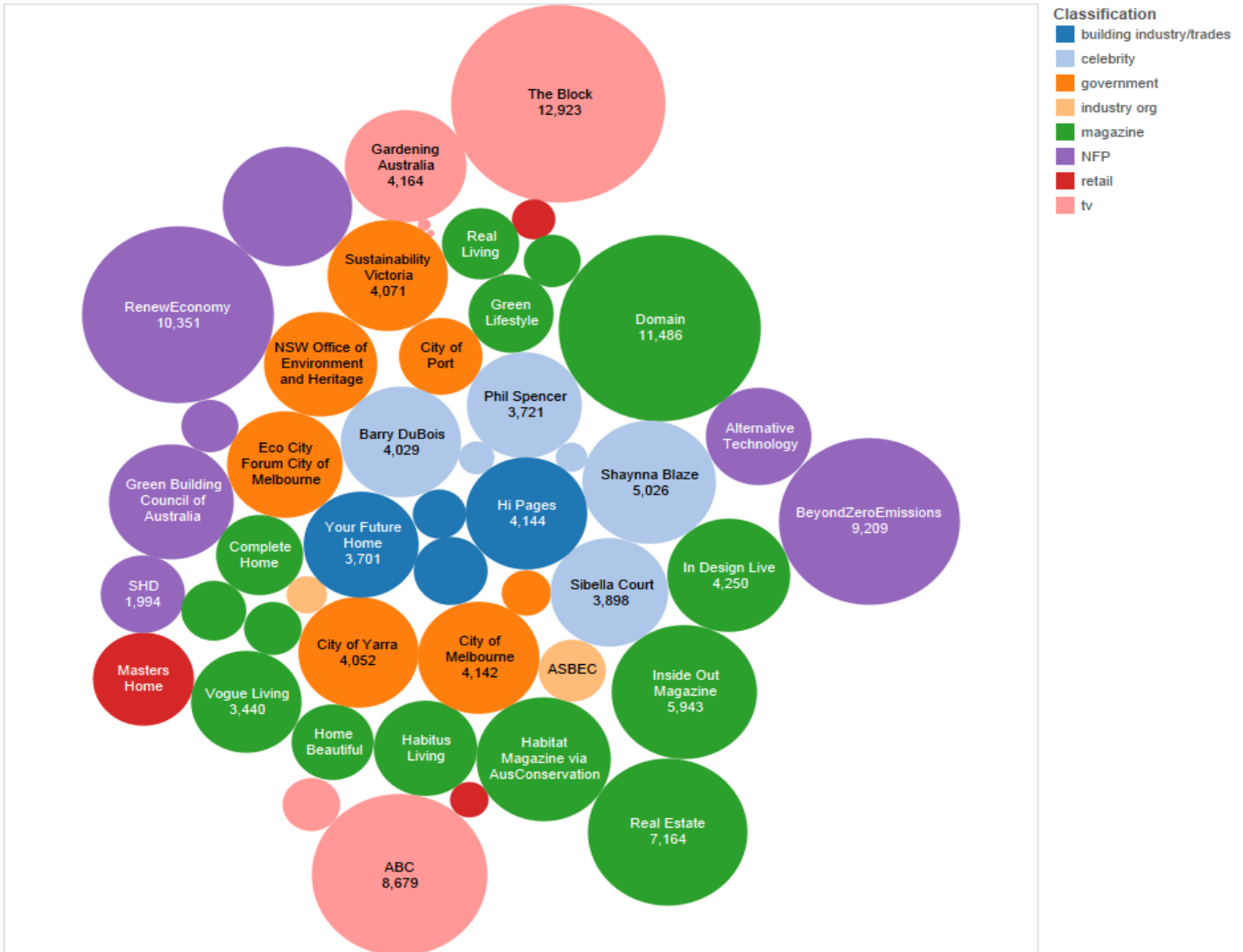
- i. Communication strategies to mainstream energy efficient renovations should reflect systems thinking. This calls for integrated and participatory media approaches across a range of intermediaries rather than projected marketing messages or standalone social media campaigns.
- ii. Approaches to communication could learn from mainstream broadcast media with an emphasis on entertainment and story-telling that resonates with renovators' aspirations and lifestyles – and reflects and shapes the *ordinary* cultural context for renovations.
- iii. Digital and social media should build on the utility of everyday social relationships and face-to-face communication – given that renovators value the opportunity to ask specific questions and to learn about other renovators' experiences.

- iv. Building on media conversations through a diverse network of intermediaries has the potential to engage with a wide range of renovators about energy efficient renovations.
- v. Use of terms like liveability and sustainability are more likely to engage renovators in these conversations than terms such as energy efficiency and low carbon living.
- vi. Effective communication strategies from industry and government require nimble organisations and adaptive strategies which can capitalise on prevalent conversations and initiatives, with an existing social base, rather than starting from scratch.
- vii. As renovation is an everyday activity, basic interactivity and purposeful engagement can also be achieved through supporting *local* face-to-face, community engagement programs (e.g. organised by local councils, social enterprises or not-for-profits).
- viii. It is important to curate content that addresses home renovations as an ordinary experience. While some resistance to posting renovators' own personal content is recognised⁵, there is room for encouraging the production and circulation of short renovation stories or using out-reach community means, perhaps through local councils⁶, to assist renovators to have their projects captured, showcased and shared.

⁵ This reflects wider trends across many social media platforms where more people read what others post than post themselves. Indeed, the power of reading, listening and 'lurking' in community building has been identified. (e.g. Crawford, 2009). This is confirmed by a study specifically on environmental sustainability (DecarboNet, 2014).

⁶ City of Yarra is currently experimenting with such clips (<http://yarracity.vic.gov.au/planning--building/Environmentally-Sustainable-Design/environmentally-sustainable-design-case-studies/>). Thank you to Euan Williamson for passing this on.

Figure 1: Tweets per known account by intermediaries



Original analysis from customised TrISMA dataset search.

Approach and Outputs

The challenge which this Report addresses is to provide a detailed and nuanced understanding of what we call the Home Renovators' Media World. Such an understanding is essential in developing more effective communication and community engagement to achieve home renovations which are more energy efficient and which contribute to lower carbon dioxide emissions.

Approach

The research approach was to provide a more detailed and nuanced understanding of the roles of media in home renovation processes from the perspective of renovators than is currently available, using a variety of original and secondary sources.

It builds on the first Report from this project which documented:

- The relatively low level traction of top-down strategies to encourage energy-efficient / low-carbon home renovations, e.g. through one-way communication campaigns;
- The lack of detailed empirical studies on the role of media and communications in shaping on-the-ground renovation practice, and thus implications for media-led public engagement strategies⁷.

As home renovators' media use is a new area of research, the research approach was exploratory and based on the following:

- Inclusion of a broad group of renovators in terms of their motivations and media consumption practices, which span different levels of involvement, skills, values and investment. While different cohorts or profiles of renovators have been proposed⁸, our study emphasises the diversity of renovations, including minor⁹ and DIY-style renovations as well as major building projects, reflecting varied aspirations and lifestyles.
- A focus on how renovators engage with media in a changing media landscape rather than telling them what they should be doing. Crucial to this approach is identifying media use, formats and content that resonate with ordinary renovators.
- The idea of 'intermediaries' between renovators and the professionals and tradespeople that undertake many renovations. These intermediaries are very diverse and include retailers, celebrities, media

⁷ Hulse et al. (2015).

⁸ For example, 'green renovators' (Maller, Horne, Dalton, 2012), and also a typology from our research (Hulse et al. 2015).

⁹ HIA (Housing Industry Association) (2015) RenovationsRoundup, A quarterly update on the Home RenovationsMarket, Autumn 2015; HIA, Canberra.

organisations, industry bodies, government and not-for-profit organisations.

We carried out mixed method research focused on home renovators' **media use** to add to the available market research and existing academic literature on home renovation and energy efficiency in Australia – details of the methods are given in the Appendix.

Outputs

The research enabled three main outputs which are detailed in the rest of this Report.

Media mapping

Drawing on a variety of sources, we examined renovators' media use in sourcing ideas, information and expertise to carry out their home renovation projects. We use a media ecology framework which means examining the complex interplay between official organisations, intermediaries and ordinary users. There is a particular focus on renovators' use of digital media, since very little is known about this type of media use despite its growing importance.

The detailed media mapping is provided in **chapter 2** of this Report.

Close studies of selected media and engagement types
Our research identified a number of media 'hot spots' or sites of intensive activity about renovation. They variously enable people to watch how others renovate, to join in conversations about renovations and to seek expert guidance. Having provided a broad sweep of the media landscape by plotting its interconnected nodes and showing how people travel between services in the media mapping, we then developed close studies to drill down further into the role of media in the everyday life of Australian renovators. The four close studies were chosen to span a range of traditional broadcast media, social media, online forums and the not for profit sector. The close studies comprise: *The Block*, *Grand Designs*, *Whirlpool* and the 2015 Alternative Technology Association's Sustainable House Day.

The detailed close studies are provided in **chapter 3** of this Report.

Social media analysis

An innovative part of the research was detailed analysis of social media on home renovations and energy efficiency. This was possible for the first time through the development of TrISMA (Tracking Infrastructure for Social Media Analysis)¹⁰. TrISMA has been developed to track

¹⁰ This infrastructure was developed with funding from the Australian Research Council LIEF (Linkage Infrastructure, Equipment and Facilities) research infrastructure (LE 130100162) and is part of a cross-institutional partnership between Queensland University of Technology, Curtin University, Swinburne University, Deakin University and the National Library of Australia.

the public communication of Australian social media users across Twitter, Facebook and prospectively Instagram.

The TrISMA research (starting with the Twitter platform) analysed public conversation on, and engagement with, the topic of sustainability and home renovations very broadly. The term 'sustainability' was mentioned in almost 490k tweets, and 'reno' in almost 240k. By comparison, the popular renovation TV show *The Block* was mentioned close to 400k times. We have also zoomed in on the use of Twitter by a range of key selective intermediaries identified in the research such as celebrities, government and not-for-profit, and media organisations, which shows diverse levels of tweets sent out from their official accounts (see Figure 7).

The details of the social media analysis are provided in **chapter 4** of this Report.

Implications

Whilst the research is on-going, it is important to distil the learning from the project to date and to draw out the implications for those who want to encourage more energy efficient and lower carbon home renovations.

Chapter 5 presents the implications from the cumulative findings of the research.

Media Mapping

Introduction

This chapter offers a snapshot of home renovation in the Australian media landscape, charting key communication channels, media formats, and messages. It presents a media ecology framework in which to understand the relationships between the different media forms and channels used, their specific characteristics and applications – and how this can inform media and communication strategies for sustainable home renovations.

Media ecology is defined as an approach that recognises:

Media as environments, and environments as media, with an explicit concern for their evolution, effects, and forms. It comprises a theory about the complex interplay between human, technology, media, and the environment, with the aim of increasing awareness of mutual effects (Milberry, 2012).

Framed by an organic, living metaphor the media ecology perspective emphasises that communication systems operate dynamically in overlapping ways rather than as discrete and isolated sites. Media ecology highlights the various feedback loops that operate between different media forms and their users. It is most visible in the new forms of participatory, co-creation patterns of production and consumption that drive social media.

We use the media ecology framework to chart renovators' use of media in sourcing ideas, information and expertise to carry out home renovation projects, since very little is known about this type of media use despite its increasing significance. We examine formal and informal interrelations within the media system, between official organisations and ordinary users – focusing particularly on **the role of informal media and communication**.

In framing the media mapping, the research drew on recent research in cultural and media studies and emphasises:

The role of mainstream media in building communities of interest; representing and promoting values, tastes and forms of expertise as part of a group and on a large scale.

This is captured by concepts such as 'media citizenship' (Hartley, 1993; 1999) and 'cultural citizenship' (Miller, 2007), which draw attention to the broader dimensions of group membership. For example, it helps to explain the ways in which mainstream property TV programming shapes audiences' understanding, appreciation and popularisation of particular aesthetic styles for domestic

spaces or how home becomes 'an asset to be invested in' (Allon and Redden, 2012: 386);

The impact of digital media (internet and social media) in shaping consumption patterns through informal and peer-to-peer mechanisms of communication, learning and knowledge sharing.

This adds to, extends and amplifies the public discussion beyond formal institutions such as government or traditional media organisations. This is referred to as 'participatory', 'networked cultures', co-creation (Jenkins, Ford and Green, 2013); or the 'sharing economy' (Schor and Fitzmaurice, 2015);

The co-existence and relationships between formal and informal, 'old' and 'new/digital' media in the contemporary media landscape.

This is best referred to as 'media ecology' (see above and Figure 2 which provides a simple visual representation of this relationship)¹¹. In media research there is an increasing awareness of the rise of what's been called 'informal media economies'; modes of content creation and distribution that no longer rely on traditional, formal systems of regulation. User generated content and the sharing economy exemplify these new structures (Lobato and Thomas, 2015).

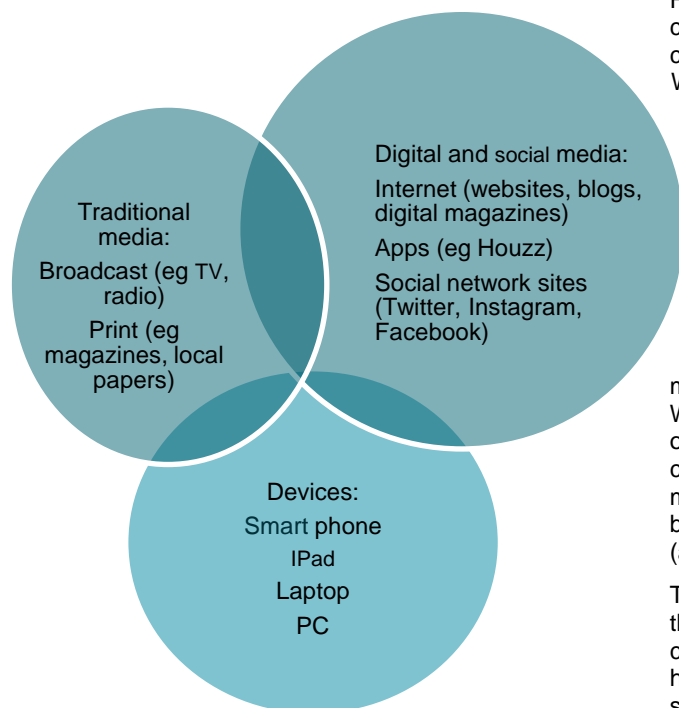
Media map framework: Cultural and media studies perspective on public engagement and social change

Many attempts to promote energy efficient home renovations incorporate 'top down' communications from governments and others to home renovators. These are efforts to persuade people to undertake home renovations which improve energy efficiency through measures such as insulation of ceilings, floors and walls; double glazing, more efficient means of space heating and cooling and heating hot water, LED lights and more efficient appliances.

¹¹ Note there are many other descriptions of the current media landscape. Jenkins et al talk about the co-existence of 'grassroots and commercial media' as part of a 'layered media environment' (Jenkins, Ford and Green, 2013: 42).

Figure 2: Media Ecology Framework (simplified version)

Formal communication (top down)



Informal communication (user generated)

There are also contrasting examples of environmental communication. For example, ‘citizen science’ offers examples of collaborative amateur-expert exchanges, whereby ordinary people’s stories and local knowledge are harnessed to contribute to a more democratic agenda setting and decision making in relation to journalistic reporting (Allan and Ewart, 2015).

In this report, we draw on a cultural and media studies perspective which considers media as a platform for social change through representation and storytelling used in formats such as journalistic reporting, TV drama or advertising. Media is a central system for social conversations and plays a crucial role in developing meanings, defining themes and parameters for public discussions. This cultural capacity to animate attention and shift public perceptions has been mobilised for humanitarian as well as commercial purposes.

One example of this cultural and media studies perspective is in health communication and education. Tailoring health education resources for young people based on young people’s self-reported specific needs for information and media platforms of choice, and using ‘lay language’ that is familiar and relevant to their lives is an illustrative model (McKee, Walsh and Watson, 2014). To find solutions to ineffective communication on improved health, this work argues for the need to provide engaging,

entertaining content not merely the deployment of ‘correct’ scientific facts.

Further evidence for the importance of everyday language comes from the research into environment and social change. For example, in the UK context, Gearty and Williams (2013) used participatory action research to engage the 50+ (years) demographic in digital storytelling and to examine the efficacy of ordinary narratives for pro-environmental change. The older demographic was of a particular interest because they were identified to practise a sustainable lifestyle without proclaiming the environmental agenda (2013: 2). The research found that the audiences who watched these personal stories appreciated their ‘authenticity’, ‘accessibility’ and congeniality – considering them easier to ‘absorb (...)’ compared to more factual forms of communication’ (Gearty and Williams, 2013: 9). Overall, the research noted the viability of social processes of digital storytelling for intra-and cross community pro-environmental communication, suggesting more attention to ‘a suite of stories’ reflecting a range of behaviours, and thus a potential relevance to different (age) audience groups.

The cultural and media studies approaches converge with the longstanding research in environmental communication focused on ‘mapping and understanding how media and communication processes impact on and shape public understanding, opinion, political decision making in society’ (Hansen and Cox, 2015: 7). There are two key components to this perspective:

- textual and content analysis of media representations and their role in shaping public debate (see above);
- the participation of ordinary people in the production of knowledge and action for environmental change. The example of citizen science and citizen environmental journalism mentioned above is one area of interest – based on the prospects of building in citizens’ personal experiences and accounts to complement official, scientific knowledge or professional journalism (Allan and Ewart, 2015).

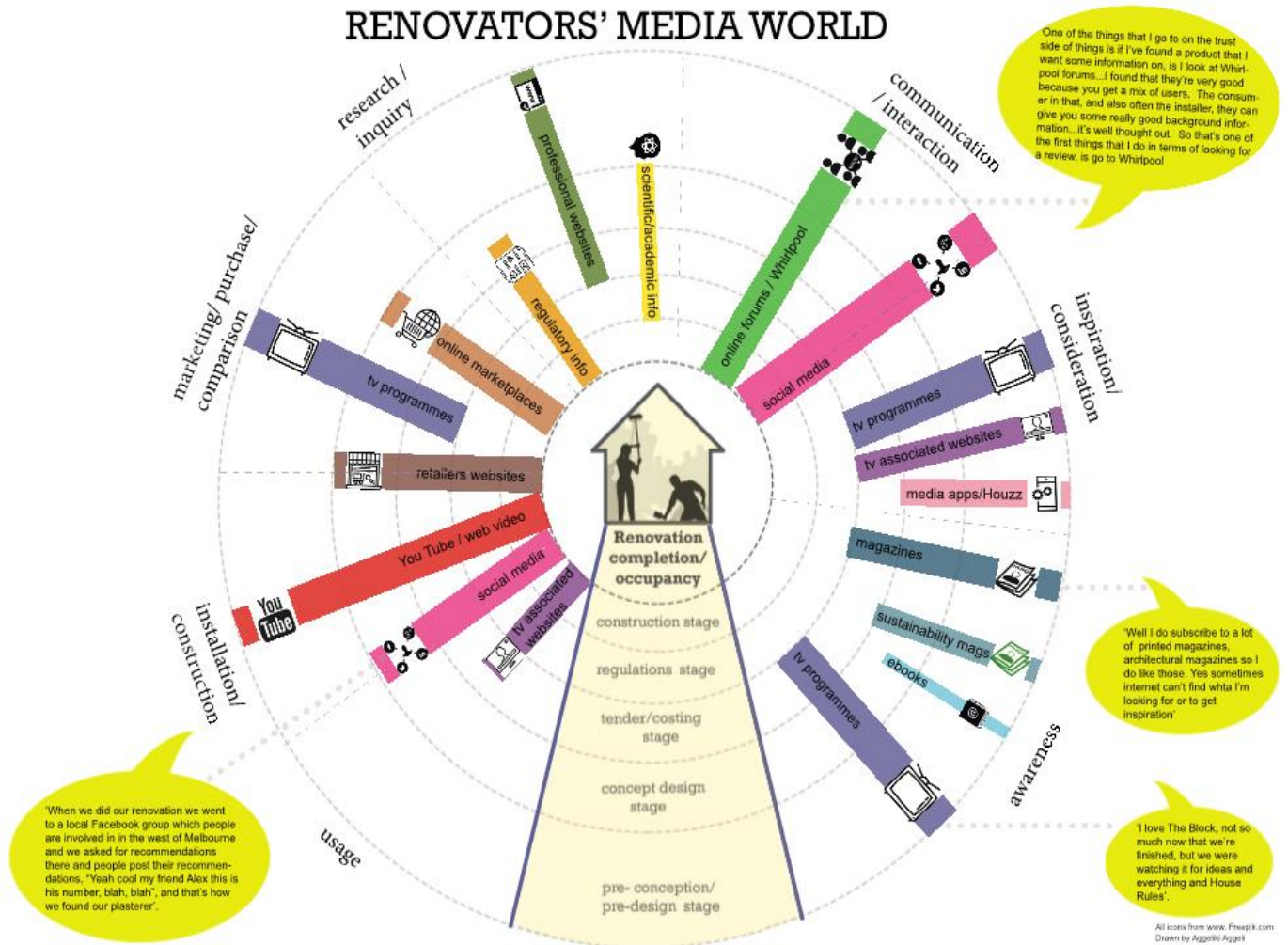
In summary, our media map framework considers media an ‘entry point for understanding the organisation of human action’ (Couldry, 2012: 8, emphasis ours) and thus key to understanding public communication and promotion of energy efficient / low-carbon renovations.

Key Findings: Media mapping

Diversified landscape with formal and informal media production

The general media landscape is changing with the internet and social media. The schematic model of renovators’ media world (shown below) represents the diversity and the overlapping nature of media types and their selected uses.

Figure 3: Renovators' Media World



This media world spans well-established broadcast media, print magazines, as well as online communities built around peer-to-peer advice and skill sharing such as *Whirlpool Forum* or *YouTube*, visual social networking of *Pinterest* and *Instagram*, hyper-local *Facebook* groups and the relative newcomers such as the US-originated *Houzz* online platform specifically dedicated to the ideas of home making. Extracts from our focus groups (See Figure 3 in yellow) illustrate a qualitative context for individual media use.

It's important to acknowledge that media consumption for renovation is – as everyday media consumption in general – at the same time symbolic, mundane and practical. Media are used to learn about the world, to be entertained or to carry out activities such as communication, hanging-out or shopping. Particular media uses, configurations and applications for renovations will differ depending on the renovator's experience, skills and context. This schema can help locate various empirical instances of the role media play in home renovation projects.¹²

Traditional 'old' media blend into and co-exist with 'new' digital media

Mainstream media, particularly TV, continues to play an important role in reflecting and feeding what has been called the Australian 'obsession' with home renovations (Allon, 2008), across a range of reality, property and lifestyle TV programming delivered in competition, popular education and entertainment formats. Channel 9's *The Block* is a leader in this space, with average audiences in excess of 1.5 million and achieving record audiences for the 2015 season finale of 2,054,000 viewers (see chapter 3 for Close Study of *The Block*). Its closest commercial competitor, *House Rules* reached 1,119,000 viewers during the same period.

There is also substantial user-generated content on renovation practice created and distributed online and through social media including blogs, online forums and social networking sites such as Twitter, Facebook or Instagram. The peer-to-peer online forum *Whirlpool* is a good example of this user productivity. Anyone interested in renovations – at different stages in the process – can ask specific questions and join the online community of renovators (see chapter 3 for Close Study of *Whirlpool*). A large volume of media activity related to renovations is generated also by business, government, activist and not-for-profit organisations.

There are significant connections between 'traditional' (TV, radio) and 'new' digital media. For example, popular interior design/lifestyle magazine *Inside Out* noted in our research is available in print editions as well as online, and has social media presence through Pinterest, Facebook, Instagram and Twitter¹³. Equally, property TV shows have their own websites, accounts on social media and print

magazines (e.g. www.9now.com.au/the-block; @TheBlock9; The Block Magazine). TV series *Grand Designs* (UK), in addition to international franchises (e.g. in Australia, New Zealand), has print and digital magazines, as well as industry show events.

It is important to note that print versions of magazines are still popular, including those with an environmental bent for niche readership. Depending on the circulation model, they are accompanied by online versions available by subscription or free of charge. The impact of specialist magazines mentioned by a number of focus groups participants, who saw *Sanctuary* and its sibling *ReNew* magazines as a reliable source of information and advice. Expert informants also recognised their professional role in pushing the sustainability agenda, praising the high production value that can broaden the appeal of content beyond sub-cultural green readership towards the mainstream.

Sanctuary is a magazine covering content related to green house design, run by not-for-profit organisation Alternative Technology Association. *ReNew* is another of ATA's magazines, focused on 'practical sustainable living', alternative technologies and DIY tips.¹⁴

¹² Two PhD studies as part of this project are mapping in detail the role of media in renovation practices.

¹³ As of 28 April 2016, *Inside Out* had 197K Pinterest followers; 1,161,605 Facebook likes; 204k Instagram followers; and 18.3k Twitter followers.

¹⁴ <http://renew.org.au/about/>.

Source: Courtesy of Australian Technology Association (ATA)

Importantly, *Sanctuary* and *ReNew* magazines are available in both print and on-line versions. It is clear that even in some green niche markets, print subscriptions dominate over online subscriptions, as shown in Table 1. However, it is estimated that a great majority of subscribers are also on the list for the e-newsletters for these magazines, such that they are accessing information both via traditional print and online means. The shorter e-newsletter form appears to fill a gap in terms of on-line demand for more timely news and events than is possible in quarterly longer form magazine publications.

Table 1: *Sanctuary* and *ReNew* magazines by type of subscription

Magazine subscriptions	Sanctuary	ReNew
Print subscriptions	88%	11%
On-line subscriptions	12%	89%
All	100%	100%

Diversity of media content: across generalist and specialist; across mainstream and niche media
 Generalist property TV programs such as *Grand Designs* can be as successful in communicating ideas about energy efficiency and sustainability as can be dedicated outlets for direct messages about sustainability such as ATA's *Sanctuary* or *ReNew* magazines. Their respective contribution to the public conversation about environmental sustainability should be considered as complementary rather than treated in isolation.

In addition to media content produced by creative industries, there are extensive resources¹⁵ produced by government or professional organisations ranging from federal mandatory building regulations to voluntary state government or local council rules. Our renovator-centred research is largely inconclusive in terms of understanding their value as information sources given their variety and also the wide range of renovation projects and the renovator's own level of expertise and skill. The survey material reveals their importance to the roughly 30% of the respondents; while in focus groups some renovators did mention building regulations as their key point of reference, acknowledging the quality of state government resources. Others were unaware of government-generated online resources directed at them, and tapped into their close social networks for guidance. The research uncovered a number of best

¹⁵ e.g. <http://www.sustainability.vic.gov.au/smarter-renovations-planner>.

practice examples of local councils' communication and outreach programs – with the qualitative research located in Melbourne, the examples included Melbourne-based local councils' web information and local programs on sustainability. But even then the picture is not uniform as some renovators admitted to not knowing and therefore not using resources available through local councils.

The interviewed experts did argue for the role of government in driving a market for energy-efficient built environment through regulation; although some noted the political 'ambiguity' surrounding the government attitude towards pushing the building standards for energy performance.

Media consumption in context

Existing government and industry market research has identified the internet is a primary source of information and decision-making for home renovations but the particulars of its use were left unaddressed. Our research has delved into it to provide more detail.

The internet is significant for **general research, as well as specific information about products, trades skills** (e.g. through tradesman hire pages), and decision-making at all stages of home renovation.

Some renovators are active users of social networking sites, following Twitter and Instagram accounts – such as *The Block's* participants Alisa & Lysandra – for inspiration and styling ideas; Facebook groups; YouTube and blogs for specific topics of interest. There are many blogs related to renovations; they came up frequently in the conversations with renovators as a source of inspiration, a way to find out 'how to do things', and to learn informally from people posting about their own experiences.

The dominant feature of social media is that they are reliant on primarily pre-existing social networks and connections. In our research, Facebook's role was recognised by some experts for its capacity to 'network some of the existing frameworks' such as those organised around professions like EcoSmart Electricians; interest groups such as the tiny house movement; or place-based communities through Facebook Groups which can be used when looking for trustworthy tradespeople in a particular locality.

The use of social networking sites and social media is popular but uneven. We had examples of home renovators discontinuing using Facebook as it didn't fulfil their social networking needs and thus was irrelevant for their renovation projects. Our study found that the use of social media such as Instagram or Facebook was reported by just over 18% of the SHD survey participants, compared to 31.76% in our previous online survey. It appears that visual sites such as Instagram and Pinterest are becoming the social media of choice for some. Houzz as website and mobile applications was mentioned frequently by renovators.

The differentiated and uneven use of media, in terms of various devices and platforms used corresponds to the general picture of contemporary media consumption in Australia. Some of this diversity of use can be attributed to the usual categories of age or gender. For example, according to industry statistics:

LinkedIn usage remains higher among males, those working full-time and higher income earners.

Visual platforms like Instagram, Snapchat and Tumblr continue to appeal more to the younger age demographics; usage is much lower in over 30s.

Males use Twitter more than females while Pinterest is far more appealing to the latter (Sensis, 2015: 18).

Our qualitative research brought out the diversity of media consumption in relation to the renovator's context with specific needs and experiences. For example, renovators with an existing group of trusted social contacts experienced in renovations tend to draw on them in the first instance rather than reaching out to broader social media communities for advice. But online and social media are utilised for information and initial advice by those with limited access to social networks with relevant expertise. Above all, online and social media were used *throughout* the renovation process, for seeking targeted information (be of trusted quality or of local relevance) – as well as validating information through a **trusted informal system of recommendations** and reviews (see Close Study of Whirlpool in chapter 3).

While the internet and social media use in Australia is wide-spread (Sensis, 2015), **broadcast media** and **print media** continue to be used for ideas and inspiration for renovations. Programs such as *The Block* or *Grand Designs* offer a specific vocabulary for home renovators to use in their dealings with practitioners, as well as concrete ideas for products and building techniques. Media stories and representations may be criticised as slippery or inaccurate depictions of the actual build processes, as revealed by renovators and practitioners, but they do define people's aspirations and create a cultural framework for their actual realisation (see chapter 3 for Close Study on *The Block*).

Our research has identified a spectrum of **print media**, magazines, retail catalogues or real-estate brochures as popular for inspiration and information (this is reflected in our 'magazine' category as part of the Twitter analysis – see chapter 4).

The value of trust: local content and social networks
Renovators appreciate local content in local papers for its relevance and trust-worthiness. Some examples identified in the research included *Yarra News*, *Melbourne magazine*, or local online newspaper *The*

Echonet Daily produced for the Byron Bay Shire. Local content is used for information about events such as Sustainable House Day and sometimes for accessing local trades.

Local social networks are used largely for sourcing trustworthy providers and products, and to share experiences. From friends and neighbours to visiting local hardware stores, talking to local builders and experts, and attending local government sessions, people seek out local know-how and expertise. The reliance on social networks is captured in the following quote from a focus group:

*A: I'd never Google a tradie ever.
Q: That's interesting, tell me more about it, why not?
A: Because I would only use somebody that has been referred, recommended ... You always put out the call to networks.
Q: Facebook?
A: No.
Q: [Because] you're not on Facebook anymore?
A: No people that we know, so...
Q: So email people that you know?
A: Yeah call them or even people at work and say hey we're doing a kitchen reno, has anyone got a good cabinet maker or things like that. And 99% of the time someone says oh yeah we did ours and they were great and I'll get the details. But yeah it's really super unlikely that we'll Google a tradie. (Focus Group 4)*

Renovators noted that they look out for similar-scale renovations in the neighbourhood to speak to people directly and share experiences. They try to engage local trade professionals for a mix of reasons. Trusted relationships with practitioners are critical, which means that renovators will, in the first instance, make use of local contacts for referrals and advice. Local practitioners are in demand because they are trusted to possess relevant local knowledge including a council's regulations. It was also hinted that a local referral system relies on social reputation mechanisms, whereby well-delivered renovation projects accrue to builders' reputation that can be leveraged for further commissions.

Limits of advertising

In relation to the value of local content, some interviewees suggested they use local papers because of the limited amount of advertising. Generally, the scepticism towards marketing and advertising strategies was reported in the research. Many home renovators objected to product placement in popular TV renovation shows and solely profit-making motivations of retailers. They sought to counter this influence by the extensive research and informal advice and verification, both online and offline. Of commercial lifestyle TV programming, one renovator explained:

They're all advertorials, every single one of them, they're selling a product and I see through it, and it's not the best product all the time, it's just the product that they have paid for. Better Homes and Gardens is classic for it. I saw it very much at Melbourne International Flower and Garden Show this year, because they're a big player in that. And I think that that's the issue, for me, in terms of credibility in the product that they're selling. (Focus Group 5)

Renovators may use retail websites such as Bunnings to research DIY products and access instructions. But they are likely to check the information by accessing social networks and local infrastructures such as local councils, trusted practitioners or retailers. A design practitioner interviewed for the research put in like this:

If you research it on the internet you don't know if it's a valid source, and if you go to that company's website of course they're going to tell you it's the best thing since sliced bread.

Word-of-mouth and face-to-face communication still relevant

For both renovators and practitioners, face-to-face communication continues to be paramount. Various successful practices have been cited in the research: from day-to-day client engagement by designers and consultants involving 'sitting down to talk', through to the success of community-based initiatives such as so-called 'speed dating' sessions with experts organised by ATA or Melbourne Energy Foundation (MEFL), to the nation-wide Sustainable House Day event (2015) or industry exhibition shows. One home-owner observed reflecting on their SHD experience:

I'd like to have the opportunity to sit down with a professional and ask a question, like they do at Grand Designs Live. If you have already asked one question it can be quite intimidating if you want to ask another one if you are on a group tour of a house.

Another concurred:

Also face-to-face consultations on site with professionals to get a better idea of what's possible and realistic.

One of the issues faced by renovators is that design professionals and builders may not want to give too much free advice unless they know that the renovator is serious about proceeding and they are likely to sign up as a client. The focus groups of building practitioners

pointed to the problems in giving too much general free advice.

In this context, the value of face-to-face is not exclusive but often complementary:

Much similar information to what I read in Sanctuary but it is more readily absorbed when you are standing in the house rather than looking at words and pictures.

Some practitioners agreed with the relevance of face-to-face communication, which doesn't preclude them from embracing social media:

I think it's when people meet face to face it's normally more successful, for me and for our practice. We're only a small practice, and you know, through magazines sometimes. But I think it's a little bit like with our website, I did Twitter for five seconds but we do do Instagram and we do do Facebook and we do have a website and have Pinterest and Houzz as well. But I would suggest that all of those are sort of reinforcing another step. You know, there's a few cold calls from the internet but often they probably don't perceive how much things – you know, they might be buying for price but we're not going to win in price.

Generally, amongst the interviewed practitioners, some were keen to use social media sites such as LinkedIn for the ease of professional networking and as a way to circumvent traditional gatekeepers at organisations. Others rely on self-promotion through traditional websites and word-of-mouth referrals from past clients and equally access complementary trade expertise through the existing professional networks. A designer explained:

Sometimes it's just through the networks that I need a tradesman but consultants usually, you know, you try a few and you know which ones are good and you know which ones aren't so you tend to stick with the ones that either are recommended or that I've used before and I know that they will do a good job.

There are plenty of examples of successful multi-platform use of media by practitioners, including social media and e-newsletters linking 'everything back to [the] website' and also the recognised importance of building communities of consumers through offering free content, which is perceived to set them apart from retailers.

Close studies of key media types

Introduction

A number of media 'hot spots' were identified through our research. Sites of intensive renovation activity, these platforms figure highly when people are planning a renovation. These close studies drill down to illuminate the role of media in the everyday life of Australian renovations, their 'media worlds'.

The four close studies were selected to span traditional broadcast media platforms such as *The Block* and *Grand Designs*, the online discussion forum Whirlpool and finally the not for profit organisation, Alternative Technology Association and its 2015 Sustainable House Day.

The methodology for studying these various sites involves a three tiered approach that investigates the macro, meso and micro levels:

- Macro level - we offer a broad overview situating the particular platform within its historical and technological context; tracking its users through ratings and other measures; and by examining its economic impact on the renovation industry more widely.
- Meso level - we look for narratives and topics with particular attention played to stories of low carbon home renovations and sustainability.
- Micro level - provides granular descriptions of the media consumption activity of the site.

Data informing the close studies is taken from primary empirical evidence gained through survey work, focus groups, interviews and social media analytics supplemented by industry figures and economic data (for further information on sources and methods see Appendix 3).

Close Study 1: The Block

Macro Overview

IMPACT

The Block is Australia's longest running and most popular renovation program. First broadcast in 2003 by Channel Nine it consistently attracts viewer figures in the millions. In 2010 *The Block* drew an average of 1,235,000 nightly viewers peaking at nearly 1.8 million people tuning in to watch the renovated properties go to auction in the final episode. Maintaining this impact, the 2015 final garnered 2,054,000 viewers. Its closest free to air commercial TV rival, *House Rules*, reached 1,119,000 during the same period.

But it's not just about entertainment. Celebrating property as both an investment opportunity and a lifestyle aspiration, *The Block* is credited with fuelling Australia's 'renovation obsession'. One study estimates there is a \$251 billion boost to quarterly renovation expenditure when *The Block* is screened (Johanson 2011; Aggeli and Melles 2015).

The Block has won numerous Logie Awards and the format has been sold internationally to the UK, Israel, New Zealand and Belgium. However, free to air is only one aspect of its impact. *The Block* enjoys a vibrant social media footprint generating high traffic across multiple platforms including Twitter, Facebook, Instagram and Pinterest. Significantly, many of these conversations are instigated by the users rather than emanating through official advertising communications. So it is important to note that *The Block's* reach and influence extends beyond formal channels. However, apart from one season there has been little emphasis on energy efficiency so the potential to influence mainstream audiences has been limited.

PRODUCTION:

- Creators: David Barbour, Julian Cress, Matthew Dale
- Production: Watercress Productions (seasons 4–11) and Cavalier Productions (seasons 12–present)
- First aired 2003 for two seasons ceasing in 2004. Recommenced in 2010. Since 2013, two seasons have been shown each year.
- Major sponsors: Mitre 10, Suzuki, The Good Guys, Swisse, Aldi, Domain.
- Presenters and on air personnel: Scott Cam, Shelley Craft, Neale Whitaker, Keith Schleiger, Shayna Blaze, Darren Palmer, Julian Brenchley, Dan Reilly, Romy Alwill, Jamie Durie, John McGrath.

Meso Overview

FORMAT AND NARRATIVE

The Block has screened for 12 seasons. Each season focuses on a building site located in either Melbourne or Sydney. Contestants compete to achieve the highest resale value at auction by renovating the often uninhabitable property and participating in various challenges along on the way.

Extra narrative tension is generated because the contestants live on site while renovating, a situation that increases the stress both to participants and to their builders. Also adding to the drama is the extremely brief time frame which constrains the renovators and their trades. Our research found these deadlines led to unrealistic consumer expectation, a shortfall felt by industry practitioners whose clients demand the same results apparently achieved by the program. As one tradie put it:

They might subconsciously think a bathroom renovation takes three days, so they're like ... "What are you talking about? You can do it in 24-hours." ... That's just not possible. Yeah, there's some bad things coming out of that (MBA 200615).

While comments like these could point to the pitfalls of using *The Block* for renovation guidance, many of our respondents drew on it substantially for styling and product information. Some even expressed a desire to go on the show both for the possible prize money on offer and also for the adventure. One couple fresh from completing a renovation project explained they'd been bitten by the bug – renovations can be addictive and they wanted the chance to try again, this time competitively.

Despite the accolades however, *The Block* remains fairly silent about sustainability promotion. Only one of its 11 seasons has specifically targeted green renovation practice. 'Sky High', season seven, billed itself as 'the most sustainable ever' and partnered with Energy Australia as an official sponsor. Ultimately, sustainable renovation was shown as desirable but detrimental to the investment opportunities of the property (Aggeli and Melles 2015).

'Sky High' focussed on remodelling an old hotel as did 'The Blockathon', season 11 with both properties located in inner city Melbourne. Other sites have included:

- Apartment blocks located in Manly, Bondi and Vacluse (NSW) and South Yarra (Vic)
- Terrace Houses, Semi detached houses and Worker cottages in Richmond, South Melbourne (Vic) and Bondi (NSW)
- A disused office building in Prahran (Vic)
- An old warehouse located in Albert Park (Vic).

Micro Summary

So how does *The Block* figure in Australia's renovation practice? Here we highlight 3 key themes (see Appendix 3 for the complete list of themes identified in the project).

AESTHETICS

Style and aesthetics are key motivators for people's renovations. These also drive viewers to *The Block*. A dominant finding in our research has been how *The Block* (and *Grand Designs*) shape design decisions. One builder described *The Block* as 'extremely popular and influential'. Our renovators agreed. During a focus group one person shared:

We're big fans of The Block. And I think that happened when the finals were happening. We made the decision to put in the double shower and that was a direct result of seeing that everyone had a double shower. We were like, well we want a double shower. We've got the space. Why not? (#2 City of Yarra)

Interestingly, however, not everyone is willing to admit they use *The Block* for inspiration and information. Respondents often compared it unfavourably with *Grand Designs*, the latter offering a more realistic picture of the renovation process. Despite this, building practitioners told us that their clients routinely use *The Block* as a key source to guide their design choices and technical needs. Choices which often enrage and exasperate the builders and trades we spoke with. As one carpenter puts it, explaining the influence of the program on his clients:

I get it all the time especially design-wise, 'Oh I saw this, they did this on The Block'. They would even use words that they hear on The Block. So instead of calling it plaster they call it gyprock. The client will say, 'When will you be gyprocking the walls?' And you're like 'it's plaster'. (MBA 200615).

Key Learnings

The Block may have an image problem when it comes to offering an accurate picture of the renovation process but it remains a key touchstone for sourcing design ideas and products such as lighting.

COST/BUDGET

Cost and budgeting are key drivers in decision making about renovation. Here as mentioned, *The Block* provides styling and design ideas but consumers are wary of overt product placement so they use *The Block*, and its associated online shop and website, as a starting point. If they find a product they like, they won't buy it on impulse; they will do further research, compare prices, with an overarching objective to buy cheaper. One person recalled:

'I definitely went on there [The Block website] to see the styling ... and then it was about getting lux for less'.

Another person agreed. Sponsors of *The Block* provided inspiration rather than a direct product: 'we just get the ideas and then find it cheaply'. During a sustainability workshop, one of the participants stated that he did not feel comfortable watching the show because of the intensity of the marketing.

Key Learnings

The Block has high impact and influence but viewers are canny. Simplistic or obvious product placement and 'messages' won't necessarily work.

DOCUMENTATION

Sharing images of their renovation came through strongly in our research. Renovators are keen to document their own progress and are just as interested in looking to others for tips and information. People used a range of media to document and track their renovations. Photos figure highly and these are used both to post to social media to share with friends – 'because I'm proud of change', and also to document technical aspects which could then be discussed with builders and trades.

Utilising blogs, Facebook, Instagram and Pinterest renovators chart their journeys both for pleasure and investment purposes. One couple reported putting together a show reel to apply for *The Block*. Drawing on a 'before and after' trope they demonstrated their skills and, they hoped, appeal to the program by using the original real estate photographs of their property as a counterpoint to all they had achieved since. Sadly they were not successful but are determined to apply again in the future.

The importance of the documentation theme is that it shows clearly how *The Block* functions as part of the media ecology of renovation practice. In other words, by documenting and sharing people are using a wide

range of interconnected media to make sense of their renovations.

Key Learnings

The Block cannot be considered in isolation of other media forms. Instead, its significance and impact is the way in which it operates across social media instigated by its audience.

Close Study 2: Grand Designs

Macro Overview

IMPACT

Grand Designs is a hugely popular TV program documenting people's journey as they build or renovate houses of their dreams. Produced by Boundless Productions, it was first aired on Channel 4 in Britain in 1999, and since has appeared on TV screens in over 130 countries around the world, including Australia, France, Poland, Germany, Turkey, South Africa and New Zealand.

The British version is presented by a celebrity designer, Kevin McCloud, and includes 16 core *Grand Designs* series, as well as a range of spin-offs such as *Grand Designs Indoor*, *Grand Designs Revisited* and *Grand Designs Abroad*. The format has been franchised internationally, for example in Australia and New Zealand. Besides the successful TV program, the *Grand Designs* brand includes an official *Grand Designs Magazine* published monthly in print and digital versions, as well as successful industry exhibition *Grand Designs Live* organised in London, Birmingham, Sydney and Melbourne and featuring innovative building products and designs. These events generate a swell of media including media appearances by McCloud (along with other local *Grand Designs*' presenters such as Peter Maddison) and social media traffic.

McCloud himself has been an author of several guidebooks on home making, and the built environment (e.g. *Kevin McCloud's Principles of Home: Making a Place to Live*, 2010; *The Best of Grand Designs*, 2012).

Grand Designs (UK) has been frequently nominated for BAFTA awards, eventually winning in the 'Features' category with its production team in 2015. It was also voted as Favourite International Program (Season 10) by Australian TV subscribers at the 2014 ASTRA Awards: Subscription Media Australia.

In Australia, the program that airs on ABC attracted an average of 913,000 people in 2015 (*Grand Designs-EV / Revisited*). Its sibling, *Grand Designs Australia*, presented by architect Peter Maddison, has screened on Foxtel's Lifestyle Channel since 2010 (7 seasons in 2016), receiving 3 nominations for Logie Award for Best Lifestyle Program. It reached 31k average audience in 2015. *Grand Designs Australia* magazine launched in 2012, and *Grand Designs Live* shows opened in Sydney (2011) and Melbourne (2012).

PRODUCTION: GRAND DESIGNS UK

Production: Boundless Productions for Channel 4 (originally Talkback Thames); Distributor: Fremantle Media (seasons 1–16)

First aired 1999 (Channel 4, Britain), with one season per year; 2015 had 2 seasons

PRODUCTION: GRAND DESIGNS AUSTRALIA

Production: Fremantle Media Australia

First aired 2010 (LifeStyle Channel owned by Foxtel, Australia), with one season per year (7th season in 2016)

As demonstrated through ratings, *Grand Designs* is a significant TV program in the Australian media landscape.

The British version, that screens on free-to-air ABC TV, has a broader reach than *Grand Designs* Australia showing on Foxtel.

Social media presence: While there is no official Twitter account for the British *Grand Designs*, fan sites and parody accounts abound. Demonstrating the crucial pull feature of social media, these sites discuss, debate and joke about the social and aesthetic impact of the program. For example, *Grand Designs* @Grand_designz carries the byline 'A responsibly sourced parody' and has nearly 5,000 followers. From the official perspective, @GDLive_UK is attached to the industry event and @GrandDesignsAU started in 2010. Australian social media users regularly talk about *Grand Designs* using keywords or #granddesigns (over 12k mentions). *Grand Designs* has a vibrant Facebook community, with over 260k likes (GD UK), and 44k (GD AU); Instagram (*Grand Designs Live*) – 949 followers; and 28.2k followers for Instagram account attached to GD AU. Kevin McCloud has over 102k Twitter followers.

In our research, *Grand Designs* figures as a key TV program with a symbolic and practical impact on renovation practice in Australia. Its significance was reported by home renovators and industry professionals alike.

Meso Overview

FORMAT AND NARRATIVE

Each *Grand Designs* episode narrates the experience of home-owners, largely families, pursuing their dream of building or renovating their ideal house. As they reach for the sky, Kevin visits them to check in on the progress and to talk over decisions and challenges faced along the way. The home-owners often make emotional and financial sacrifices to see the project through to completion: they are shown to endure family separation, stress or discomfort of living on the project site; or confront arguments with employed professionals, bureaucratic and budgetary problems.

The title focus on '*Grand Designs*' is self-evidently about major and extraordinary architecture irrespective of financial means, although the large portion of houses do exceed the medium house prices. The show offers documentation of the building process (including drafted plans and products used), interwoven with personal accounts backgrounding the desire for the new home. The often painstaking execution of the build

is mixed in with entertaining conversations and Kevin's own opinions and monologues that occasionally have garnered audiences' critique for being 'overly lofty and verbose'. An important narrative framework is offered through capturing the whole process: the inception, implementation, the eventual completion of the house (see below).

Over the 16 seasons, *Grand Designs* has featured a spectacular range of locations (across urban and rural, domestic and abroad), house types (from a detached single family houses, to hotels roofs repurposed for penthouse apartments, through to commission housing), build types (conversions, new builds), materials and budgets.

Micro Summary

To explore the impact of *Grand Designs* on Australia's renovation practice we highlight 3 key themes (see Appendix 3 for the complete list of themes identified in the project): *Appealing Realism*, *Experiments and Innovation*; and *Generalist not 'Green' Niche*.

APPEALING REALISM

The program is valued by renovators and practitioners alike for its 'realistic' depiction of the building journey, which is perceived to portray 'factually' the challenges involved. This means not shying away from addressing the often 'blown out' budgets, or unrealistic expectations regarding time-frames, inadequacies of available expertise or problems with suppliers and/or building practitioners. While for some renovators we interviewed, the projects featured in the program can be too 'grand' and outside of their budget, the program nonetheless appears to be valued for maintaining a foothold in reality – unlike competition from reality TV.

The 'appealing realism' is achieved through the storyline that shows home-owners at different stages of their project over time (including after they have moved in so they can reflect and comment on the actual experience of living in the new house) and also by the selection of topics addressed. Across the various seasons these included the pressing issue of housing affordability, scarcity of space in urbanised centres such as London, and also a desire for life-style overhaul by, for example, moving away from a congested city to the country. For our participant renovators, the range of the featured projects as well as the broader socio-economic contexts within which there are set had a particular appeal.

EXPERIMENTATION AND INNOVATION

The show is appreciated for inspiring build innovations, including eco/energy efficient features, design and techniques – including for the practitioners we interviewed:

It's pushing the boundaries, like yes, things can be done and built that way, but yes, it's really going to blow your budget and you're probably

going to run out of money, but it's pushing the [envelope] and it comes back down to architectural design and that things are possible and you don't need to have your typical three-bedroom home [a master builder].

GENERALIST NOT 'GREEN' NICHE

The program doesn't position itself as a 'green' show but attempts to speak to the fundamental human desire for a liveable, beautiful home. Nonetheless, to an extent through the personal interest of its presenter, Kevin McCloud, issues related to energy efficiency achieved through particular products and techniques and the ideals of sustainability, including people's well-being, are quite visible.

Over the years, the program has addressed the ideas of sustainability through episodes that focus on eco designs (see Craig, 2016) (e.g. Series 5 Ep 19 The Cambridgeshire Eco Home – an oak and straw bale house); as well as specific green/energy efficient products and techniques such as water tanks or Autoclaved Aerated Concrete.

Importantly, the message about energy efficiency or sustainability is secondary to the ultimate aim to portray the human aspiration to create a comfortable, beautiful home.

Key Learnings

UK *Grand Designs* offers a source of building and design inspiration for home-owners and practitioners – especially for an Australian audience looking further afield for novel ideas and innovations in the built environment.

Grand Designs (UK) shows how generalist mainstream television approaches to housing can be successful in connecting the message about energy efficiency and sustainability to the key storyline focused on personal desires and experiences of making home a reality.

Grand Designs may be criticised sometimes by audiences for incorrectly represented details of building products and solutions, but overall it's seen as a fairly accurate picture of the home-building/renovation process.

Grand Designs' storytelling is appealing and entertaining. However, its offerings go beyond TV content and include a series of books many authored by McCloud or the popular industry *Grand Designs* Shows (in the UK and Australia). This multidirectional approach demonstrates how the conversations can be fuelled and sustained across different formats and engagement platforms, and across audience sectors which includes home-owners, practitioners and media fans. It demonstrates how the building practice and industry can be energised –also in a commercial sense – by showcasing novel products and techniques under the trusted brand that is *Grand Designs*.

Close Study 3: Whirlpool

Macro Overview

IMPACT

The Whirlpool Forum located at Whirlpool.net.au, is described as a 'fully independent community website devoted to keeping the public informed about the state of internet access in Australia.'¹⁶ Although the majority of popular discussion forum topics are related to the Internet, computers and mobile technology, overtime it has become the largest technology-related discussion forum with many conversations relating specifically to home renovations. The forum was established in 1998, supported by a non-commercial private company, through voluntary moderation of posts without the threat of censorship. The engagement based on usage in April 2016 included:

- 725,733 registered members
- 14,259 visited in past 24 hrs
- 1,247 members online now
- 1,738 guests visiting now
- 2,256,230 threads
- 50,002,729 posts
- 4,507 wiki topics

These users engage in forums using discussion 'threads' (or topical discussions) aligned with seeking answers, discussing products, or solving a problem. However, the forum owners' emphasis is that the discussions need to serve some useful purpose, preferably to the wider community and not just to the individual posting. The Forums are moderated with some criticising it as heavy moderation, although, the owners' highlight that the moderated approach simply supports operational transparency.

Meso Overview

FORMAT AND NARRATIVE

The forum users, reps and moderators create Wikis to answer various questions. These wikis tend to provide a basis for discussion within the forums that include forum categories, labelled as such. Three types of moderators, with over sixty in total, support the wikis based on a set of Community Rules, although all users have the option to anonymously report breaches. Breaches to the rules result in post or thread deletion, or penalties as set out in the Moderation FAQ. However, this rarely happens, so they warn, "*be careful what you post*"¹⁷. Moderators approved actions include:

- Hide and restore posts
- Move, rename, close threads
- Delete and restore threads
- Sticky/un-sticky threads
- Put users in the penalty box
- Institute forum specific bans.
- Clear inappropriate user details
- Perform moderation of the Knowledge Base/Wiki

All the discussion forums were analysed based on the last three years of topics related to renovations, including the specific topics of sustainable, green and low carbon renovations. The words in the most frequent discussions were used to take a closer look at some of the discussions in more depth to identify the details of the topics being discussed. The current popular discussion threads relevant to renovations include Life (Finance>Investing), Lifestyle (Entertainment & TV Shows), and Lounges (Gadgets, Home, Home>Real Estate, Home>Kitchen, Lifestyle, Green tech). The summary analysis describes the popular discussions based on the search criteria:

- Renovation; summary of the discussions based on this term is described in detail in the Micro Summary
- Renovation + Sustainability: topics typically referred to sustaining the renovation including costs rather than green buildings, materials or technology except cork floors, the number of batteries needed for off-grid solar, appliances – with a focus on reliability,
- Renovation + Green: topics typically related to television shows such as Selling Houses Australia, *Grand Designs* and Reno Rumble or topics related to where to buy a house, the National Broadband Network, shower head comparison, carpet or VEET approved LED installer.

¹⁶ The Whirlpool Forum, data sourced 21 Mar – 6th April 2016, source: <http://forums.whirlpool.net.au/>

¹⁷ The Whirlpool Forum Moderation FQA, 6th April 2016, source: http://whirlpool.net.au/wiki/wp_modfaq

- Renovation + Low Carbon: topics included issues related to carbon dioxide and sleeping based on the location of a bed, kitchen range hood recommendations, the significance of coal, formaldehyde in timber and bamboo flooring, VEET LED installer, point of diminishing return based on decreasing U-values - Glazing, cork floors, energy usage, plantation shutters, LED Downlight dimmers, soaring gas bill, ceiling fans – which brands good/bad.

Key Learnings

The language and topics used in the forum are not agreed upon and can vary widely based on the user(s) and the discussion topic(s), indicating that there is a low level of understanding of the terminology and little to no consensus or culture of sustainability, green or low-carbon in the general public when discussing home renovations or associated topics.

Micro Summary

Once the Meso level analysis was completed, the following topics were identified using thematic analysis as a summary overview of the top 20 'renovation' discussions in the last 3 years (Apr. 2016). The discussion topics are listed from the most to the least frequent based on the associated search terms described in the Meso Overview with unrelated search terms omitted from analysis.

BATHROOMS AND KITCHENS WERE THE HOTTEST TOPICS

Bathroom topics included a total of 5 as renovation discussions and 4 kitchen renovation streams listed in the top 20 alone. The discussions on bathrooms included questions spanning a broad group of topics related to what trades are needed, method comparison (do it yourself experiences, hiring a project manager or managing all the trades) and determining when a builder is needed. Topics also included demolition, hazards, safety, asbestos, stages/sequencing/scheduling trades, quotes, quality, material comparisons (particularly tiles and taps), stores/retail, approaches, costs, saving money on

materials or labour, typical timeframes, location, expectations, recommendations, referrals, where/how to cut costs, under floor heating, comparing real life renovation speed and problems to the speed of and 'ease' of renovation shows on television, scepticism about websites used to source trades given the good words are by word of mouth, and many posts warning others that 'you get what you pay for'.

The kitchen discussion topics were very similar to those in the Bathroom Renovation discussions, with these additional topics: designing a kitchen, online planning / design tools, comparison of stores like Ikea, Bunnings and Masters compared to a qualified cabinet makers and some of the positives and the issues in working with each.

RENOVATION FOR PROFIT

This was also of high interest based on discussions related to property investment and a genuine desire to openly discuss these opportunities with strangers who have had experience with the various approaches, costs, profits, investment strategies (interest, associated costs, cash flows, liquidity costs), taxes based on personal or business approaches, 'flipping' based on resale vs. retaining and renting options, examples and lessons learnt.

The remaining discussion topics include:

IDEAS

Individuals looking for suggestions, tips, painting ideas, house layout, the Renovator (gadgets), profit, bathroom, kitchen, neighbours renovation legal, costs, cost effective, help, issues, council compliance, advice on renovating or moving, renovating an apartment, renovating with trades people, renovations with builders, dealing with landlord during a renovations, sharing photos of renovations and links to website and understanding the issues or problems that arise.

RENOVATION SKILLS/KNOWLEDGE

Bathrooms, kitchens, renovation for profits, DIY compared to using professionals (when to use them, trust / quotes / quality / sourcing / scheduling.) based on costs, budgeting, financing, problems, time requirements, sourcing materials, etc., seeking renovation managers, investing, using superannuation to invest in a primary or investment property, difference and advantages and disadvantages of buying versus building.

COSTS/BUDGET

How much to expect, variation between locations, how to save money and renovating for profit advice.

MANAGING PEOPLE

The issue of trust was prominent as was how to work with trades, professionals, salespeople, suppliers, building surveyors/regulators, councils, financing, neighbours and landlords.

MATERIALS/PRODUCTS

Where to buy, how much to pay, differences in quality and prices, how to avoid immediate (demolition/hazardous materials, electrical/plumbing) and longer-term issues (waterproofing).

DISTINCTION BETWEEN THE 'WEEKEND RENOVATOR' AND 'PROFESSIONAL' TOOLS

This was related to the price of tools, including types usage, quality and where to buy, etc. based on the use of renovation power tools.

ENTERTAINMENT

A few streams were related to TV shows, *The Block*, *House Rules*, *Grand Designs*, and *Reno Rumble*.

Key Learnings

Discussions focused on gaining impartial advice during various renovation stages of planning, investing, preparation and conducting a renovation with individuals sharing their renovation experiences and results using photos and comparative discussions about outcomes and lessons learnt.

Based on the Whirlpool Forum, renovation discussions were mainly focused on getting impartial advice when planning, investing, preparing and conducting a renovation. However, there were discussions that concluded with individuals sharing their renovation results using photos on linked webpages, which then led to further postings and comparative discussions about outcomes and lessons learnt. As noted in the Micro Summary, the main types of renovations were bathrooms and kitchens and discussions by individuals looking to invest in housing and deciding when to renovate or not based on the potential profit. The remaining topics were focused on sourcing advice to gain insight into what to expect; sharing ideas / insight / knowledge / skills; learning how to prepare and manage key aspects such as costs/budgets, process, people, materials / products, and tool types by sharing and learning from the mistakes and successes of others.

Close Study 4: Sustainable House Day (SHD)

The intention of this Close Study is to contextualise the event and its significance as part of community-led green niche urbanism in Australia (Beatley & Newman 2009). Significant conceptual terms to this discussion are identified by italics. The study sets SHD in the general literature of eco-home open day events and then situates the data analysis in relation to this and the other sections of this report.

Macro Overview

Table 2: Mainstream and Open (Eco) Homes

	Bespoke Demonstration House	Eco-Open Home
Approach	Expert focus, information deficit approach	Visitor focus, accessible, sense making approach
Materials	Display and explained as exhibits; the technology is the story	Incorporated into building and daily lives; sometimes hidden; part of a story of domesticity
Learning Focus	Technologies: functions, efficiencies, savings, benefits	Process: visioning, research, decision-making, working with people, product choices, compromises, learning from mistakes as well as successes
Narrative	'Hero story', technology 'silver bullet'	'Learning story'

In the context of the drive towards low carbon living sustainable building and renovation, open eco-home events such as Sustainable House Day constitute a particular configuration in the Australian landscape of responsible citizenship and *ethical consumption* practices (Lewis & Potter, 2011). As Allon (2013) notes, 'practices of consumption concerned explicitly with reconfiguring everyday life and the home to make it less environmentally damaging, such as green home renovations, have become one of the primary arenas in which questions of ethical conduct and responsabilized citizenship are being worked out today' (Allon, 2013: 204). Analysing the previous Sydney-based Green

Homes 'eco-modernisation'¹⁸ programs, Hobson (2006) also observes that ethical consumption practices, however limited, emerge in conjunction with product use. Thus SHD constitutes inter alia an ideal event to study *eco-niche* transitions to sustainable living (Horne & Dalton 2014).

The low technology small footprint DIY ethos of the alternative technology movement (Smith, 2005), which is reflected by the ATA and SHD focus, contrasts with other Smart and Open Home events, where the latest technology and current middle class consumption habits and aspirations are on display. The differences between eco home open days and mainstream demonstration houses, as summarised by Berry et al (2014), are shown in Table 2.

More pragmatically, open eco homes are a particular mechanism to overcome the pervasive (so-called) *value-action gap* through 'community-based' social interaction and learning in sustainable development generally (Blake, 1999). Thus the 'nature of open home events can be contrasted with 'demonstration' buildings showcasing specific technologies and design ideas, but glossing over the process of decision-making, installation and operation ... Open home events can be seen as situated learning, embracing the 'power of storytelling' (Berry et al. 2014, p.423). To the extent that they promote social learning and interaction such events also adjust to the increasing focus on social practices of everyday life as the relevant framework for understanding green behaviours (e.g. Shove, Pantzar, & Watson, 2012). Wakkary et al. (2013) also note that co-design of sustainable living fictions with householders, including DIY, is supported by social practice theory and sustainable interaction design perspectives. Given the design focus of this project this is a significant observation.

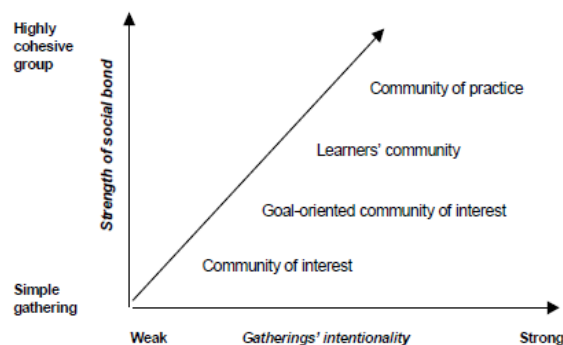
SHD was initiated in 2001 by the Australian Solar Council, and has been run since 2015 by the Alternative Technology Association (ATA). The event is advertised through its multiple (social) media channels including ReNew¹⁹, Sanctuary magazines²⁰ and (e)newsletters, and also through Twitter²¹, Facebook²², and YouTube event channels. Unlike other trade and industry channels these media sources elaborate a

more critical green rationale on product choice, activism and sustainable development than conventional green trade media (compare Gluch & Stenberg, 2006). The media channels and the SHD event have a strong DIY and holistic approach to sustainable living, e.g. incorporating permaculture, low technology solutions and affordability. Figure 4 illustrates a couple of community activist posts on Twitter.

Figure 3: Typical eco 'activist' posts on Twitterfeed



Figure 4: Community of interest to community of practice



In addition to identifying as a green niche community, as Henri & Pudelko (2003) note above, events such as SHD bring together a goal-oriented and learner oriented *community of interest* with degrees of goal orientation and (social) learning intentions (see Figure 5 above). The characteristics of this community are partly visible in the voluntary sample survey analysis below. By *reframing* the challenge of sustainable living as an achievable DIY retrofit, renovation or new build, SHD aims to overcome some of the current social, (perceived) material and psychological barriers to low carbon living (Hoffman & Henn, 2008)

¹⁸ Hobson draws on the contrast between ecological modernisation technologies, e.g. weak and mainstream sustainability, demanding limited political, material and social change, and other more radical strong sustainability approaches; a contrast common in the sustainable development debate literature (e.g. Baker, 2013).

¹⁹ <http://renew.org.au/>

²⁰ <http://www.sanctuarymagazine.org.au/>

²¹ <https://twitter.com/sustainablehd>

²² <https://www.facebook.com/sustainablehouseday/>

Meso Overview

The 2015 SHD event attracted over 16,000 visitors to 160 homes ranging across the housing typology spectrum from community gardens, housing complexes to individual homes both as new builds, retrofits and renovations. Henrikson and Foulds (2015) found in their study of similar events in the UK the effect of EcoHome Open Days (EHOD) that environmental concerns were not driving people to consider retrofitting their home; learning was an ongoing process; and that there were implications of attending EHODs for practical know-how of retrofitting. All of these findings were also echoed in this survey study. Retrofitting and renovation was not universally expressed in terms of a green ethos; participants were at different points on the decision journey; and many referred to the practical learning the event promoted within their decision path.

SHD homes and gardens are registered by owners who then commit to engaging visitors. In 2015 these 160+ homes were located predominantly in the postcodes of the coastal urban centres, e.g. Sydney, Melbourne, Perth, etc.²³ Individual house owners would register their properties and specify the features of their home across multiple sustainability dimensions (see Figure 6). Numbers for previous events have varied below and above the 2015 figures. Homes are currently being recruited for the September 2016 event and the overall typology and narratives match those of previous years. As noted above, the personal narratives of registered homeowners constitute a revealing portrait of challenges, personal journal, ethics, material choices, economics – for example:

Starting with a house that rated 1.6 stars, concrete block construction on a concrete slab with a flat roof, poor solar access and a Bushfire Attack Level of 29, we had a lot of challenges with this house. It was hot in summer, cold in winter and difficult (we thought) to update. We decided to make the most of our spectacular views and change the way we used some rooms. Our old lounge is now the master bedroom and the pokey third bedroom and living area at the back were extended by 20m2 and are now a large open living/kitchen/dining area. We raised the roof by 150mm and added a combination of high density polyester batts, Kingspan K10 soffit board and Aircell to achieve R values

between 4.5 and 6.0. We replaced most windows with timber framed double glazed units, making them smaller and framing the views. We also insulated all inside surface of external walls with Kingspan K17 insulated plasterboard, all of which has made the house so much more comfortable to live in. We got rid of the wood heater which cost us \$1,200 per year to run and replaced it with a Daikin US7 2.9kW split system which is sufficient to heat and cool the 70m2 living area and study. (SHD2016 registered user narrative segment

http://sustainablehouseday.com/home-profile-view/?house_id=25419).

²³ Future analysis will link postcodes of visitors and of homes to ABS SEIFA data on socio-economic status, e.g. <http://www.abs.gov.au/websitedbs/censushome.nsf/home/seifa2011> to generate a fuller picture of this community of interest.

Figure 5: Mapping of registered houses for Sustainable House Day NSW



ATA constitutes a socio-material network with a green energy orientation and a range of media channels. Among the social media channels, the most active channel is Twitter (n=1478 followers at time of writing) with followers across the spectrum of individual (activists) to small and medium enterprises (SME) in related areas. The characteristics and significance of these social media networks as constitutive of this particular community of interest are both virtual and real.

Micro Summary

The research team worked with ATA to develop a questionnaire for a survey which was to be completed online by registrants prior to the event (n=354). In addition to basic demographic information: gender, age group, postcode, and visitor status (new or previous SHD attendee), questions focused on motivations to attend and media sources used for renovation. A further survey was administered online to attendees after the day (n=504) with additional questions regarding media use. The respondents in both cases were split evenly between men and women. Given space restrictions and the fact that more detailed analysis is being undertaken – we illustrate here some of the general findings from the post SHD survey relevant to this publication.

Table 3 provides a first impression of the characteristics of SHD attendees who include both repeat visitors and new ones – a finding whose statistics contradict Berry et al (2013). Given, however, that this is a voluntary sample further generalisation is difficult although the sample size is similar to that of Berry et al (2013) – who also provide limited or no reference to the limitations of their sample.

Table 3: SHD Survey: Renovator Types

Types of Renovators	Percent
Renovating own home	22.4
Building a new house	14.7
Planning a renovation	16.7
Planning to build a new house	24.4
None of above	17.1
Not applicable	4.8

Source: Post SHD survey (n=504) with permission of ATA

The majority of visitors in the sample were reached through ATA based channels and also appeared to be influenced by the ‘situated’ social learning potential of the physical site and activities. Social media per se do not feature as significant for recruiting to SHD or for reporting experiences and learning while media generally, e.g. magazines, newsletters, online searches etc. do. Analysis by gender (not illustrated) show communicating with building practitioners was favoured slightly more by men more than women. Similarly an analysis of learning preferences showed overall desire to learn in the physical space or in face to face conversation (table below). Where social media played a role, there were more women in this situation than men; whilst more men were in communication with building practitioners.

Table 4: SHD Survey: Sharing Preferences

Types of Preferred Sharing	Responses		Percent of Cases
	N	Percent	
Face to face with family and friends	463	68.7%	91.9%
Via social media (family, friends)	55	8.2%	10.9%
Via social media (other people)	20	3.0%	4.0%
In communication with design professional	57	8.5%	11.3%
In communication with building practitioners	45	6.7%	8.9%
Other	34	5.0%	6.7%
Total	674	100.0%	133.7%

Source: Post SHD survey (n=504) with permission of ATA

As Berry et al (2014) note in their study, at such events ‘Visitors can identify, or compare themselves, with the storyteller (the homeowner) and why they made their choices. They can experience what the home is like (e.g. comfortable/uncomfortable; light and airy/dark and stuffy), see real-life examples of novel materials and technologies, and make a judgement of their own about all that they have seen, heard and experienced’ (Berry et al., 2014: 425). Attending SHD purportedly is very influential on action taken and analysis of qualitative comments on best ideas and other inspiration from the event show that visitors are at different stages of the renovation and building process and SHD visits can be important in making key decisions. Some of the learning preferences of SHD visitors are shown in Table 5.

Table 5: Preferred learning preferences

Preference of learning	Responses		Percent of Cases
	N	Percent	
Seeing sustainable homes	461	19.4%	91.8%
Conversations with design and/or building practitioners	345	14.5%	68.7%
Conversations with independent experts	262	11.0%	52.2%
Conversations with renovators/home owners	339	14.3%	67.5%

Magazines focusing on sustainable buildings	321	13.5%	63.9%
Online searching of sustainability sites	299	12.6%	59.6%
Online searching of home renovation sites	117	4.9%	23.3%
Online searching of building suppliers’ sites	98	4.1%	19.5%
Online searching of building retailers’ sites	62	2.6%	12.4%
Social media	45	1.9%	9.0%
Other (please specify)	24	1.0%	4.8%
Total	2373	100.0%	472.7%

Source: Post SHD survey (n=504) with permission of ATA.

Key Learnings

The SHD event and its social networks constitute a particular example of green urbanism in Australia that contrasts with more intentional high technology precinct level and smart home demonstrations in terms of the demographic and profile of the cohort attending and registering. In the drive towards promoting low carbon living in Australia a focus on such green communities, e.g. sustainability street (see Hobson 2006), is a necessary complement to other studies (including media studies of renovation and property

TV) to illustrate a particular interpretation of ethical consumption in this area. ATA's media and communication strategy for the event sought to generate multiple points of disseminating and sharing information – in 2015 this included discussions on ABC radio, and information sharing through a range of traditional, online and social media. There is also a designated SHD website that offers photos of featured houses and some energy efficiency ideas. The overall media and communication strategy is to involve a mix of media across local and national scales in an integrated, coordinated way – and to engender 'networks effects' (the more people involved, the bigger the impact), whereby home owners and visitors are involved in spreading information to their networks.

Social Media Analysis using TrISMA

An innovative part of the research was analysis of social media on home renovations and energy efficiency. This was possible for the first time through the development of TrISMA (Tracking Infrastructure for Social Media Analysis)²⁴. TrISMA is used to track the public communication of Australian social media users across Twitter, Facebook and prospectively Instagram (see references). The analysis drew on a customised TrISMA dataset and occurred between April and July 2016. The latest update of the findings was conducted end of July 2016.

TrISMA research: environmental sustainability and home renovations

The TrISMA research component has been designed to map the role of social media (starting with the Twitter platform) in public conversation and engagement with the broad topic of environmental sustainability and home renovations.

The analysis covers 2 main areas, and builds on our previous research including focus groups, interviews and online surveys:

- a) A general pattern of Twitter users' activity around the keywords of 'renovation' and 'sustainability' and hashtag use;
- b) A pattern of Twitter activity by identified key actors/intermediaries including key media organisations/programs, discussed in the following section.

Twitter activity pattern for renovation and sustainability

- 1 How many mentions of the term 'sustainability'?
487,960
- 2 How many mentions of the term 'renovation'?
239,071

²⁴This infrastructure was developed with funding from the Australian Research Council LIEF (Linkage Infrastructure, Equipment and Facilities) research infrastructure (LE 130100162) is part of a cross-institutional partnership between Queensland University of Technology, Curtin University, Swinburne University, Deakin University and the National Library of Australia. (see Bruns et al. 2015).

- 3 What's the most popular hashtag related to the sustainable renovation market?²⁵

#home	534,825
#solar	145,127
#sustainability	108,035
#environment	101,398
#renewables	46,884
#reno	31,304
#thrift	7,553
#ecofriendly	4,666
#savemoney	4,473
#greenenergy	2,506
#homedesign	2,269
#saveenergy	1,502
#lowcarbon	1,094
#sustainablerenovation	1

- 4 How many social media users visibly interested in 'sustainability' + 'reno'

608

The data set containing the keywords 'sustainability' and 'reno' includes a range of accounts by:

- individuals
- commercial organisations (e.g. RayWhite)
- government organisations and local councils (HeritageVic, krgcouncil)
- nfp/activist (e.g. PlanetHealing, ata_au)

²⁵The selection of hashtags for the analysis was identified through the preliminary analysis of key players' tweets and users' tweets; and calculated to include both lower and upper cases. However, it should be noted that the production of hashtags to mark specific conversations is flexible, and anyone can come up with a new hashtag (see e.g. Bruns and Burgess, 2011). We have searched what we believed to be the most common hashtags, which means that some hashtags pertaining to the conversation about renovations and sustainability aren't taken into account. For example, hashtags used by *The Block* former participants to tag their individual renovation projects but containing letters or words preceding 'reno' are excluded.

- professional associations (SCArchitects)
- media organisations (e.g. green_magazine, sanctuarymag, completehome associated with print mags such as Home Design, Grand Desings Australia; abcovernights)

Many tweets focused on the publicising of sustainable home renovation workshops, talks and events; sustainable products by businesses, with a few individual users sending inquiries about how to conduct eco/sustainable renovation.

Of note is a highly visible presence of accounts by local councils, promoting their own or directing information about sessions or speed-date events offered by organisations such as ATA. Individuals pass this information along.

5 Leading accounts for matching 'sustainability' and 'renovation' tweets

@yfhome – 29

@sustainvic – 20

Yfhome: Your Future Home is a website and blog dedicated to education about sustainable home. While the blog is pretty inactive, with posted content dating back to 2013, the website maintains up-to-date stream of retweets about green building associated with Australian Living initiative (www.australianliving.com.au), <https://yfhome.wordpress.com/>. The mention to it came also through our ATA online survey.

6 Number of accounts with 'renovation' in Screen Name

55

Top 5 accounts have tweeted about renovations relatively little (between 3200 and 1200 tweets), followed by a long tail of accounts with around 10 tweets sent out.

Top 5 accounts represent a mix of individual accounts sharing personal experiences and tips for living a 'simple' thrifty living (including cheap home improvement for accommodating family needs as well as for profit) and directing on to their blogs, Facebook and Pinterest, and YouTube, and also self-promotional accounts, with one connected to a private initiative offering online resources and face-to-face events on how to renovate for profit, and also an account with renovation in Screen Name but not really talking about renovation. A close manual verification of those accounts revealed also a closed account, which functions now under a completely different name.

Twitter activity by identified key actors/intermediaries

As a first step we identified a list of key actors/intermediaries in the home renovation and sustainability sector, drawing on our interview and survey research. The list includes:

- Celebrities associated with popular TV renovation programs (e.g. Scotty Cameron from *The Block*)

- Government (Commonwealth, state and local councils)
- Industry organisations (e.g. ASBEC)
- Building industry/trades (e.g. Hi Pages)
- Magazines (e.g. general real estate such as *Domain*; focused specifically on sustainability such as *Sanctuary*)
- Not-for-profit organisations and think-tanks (e.g. Alternative Technology Association)
- Retailers (e.g. Bunnings Warehouse)
- TV shows (e.g. general lifestyle such as *Better Homes and Gardens*, and specific renovation shows such as *The Block*)
- Websites (e.g. RenewEconomy; Your Future Home).

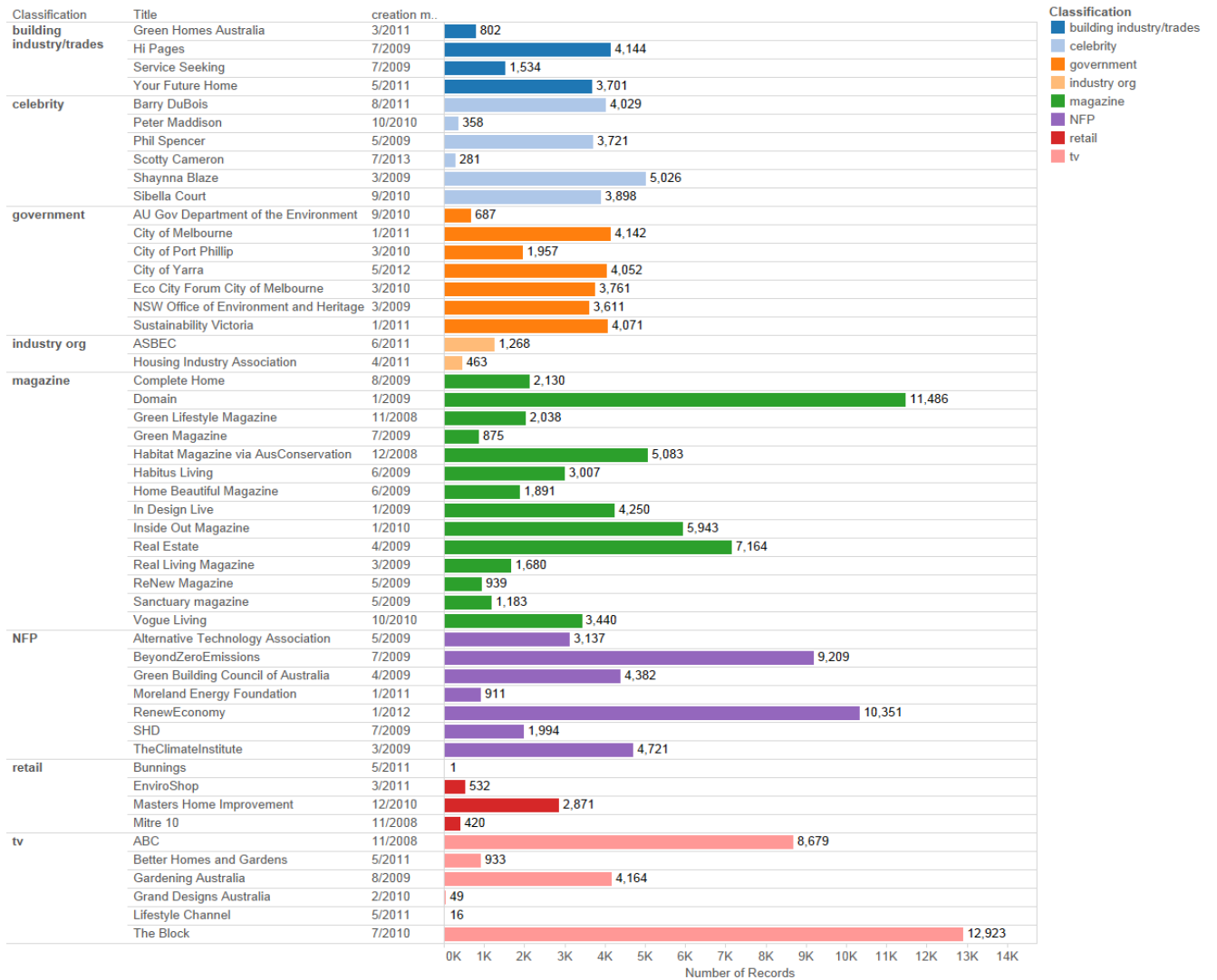
The 'Tweet count from known accounts' – provides an overview of Twitter activity (both original and retweets) by the identified accounts since the creation of their account. It is clear that @TheBlock9 is the most prolific account, with @Domain coming second (11,486), followed by @renew_economy (10,351).

However, the differences when specific accounts were created need to be taken into account to accurately interpret their Twitter activity. For example, @Domain was created back in 2009, followed by @TheBlock in 2010 and @renew_economy in 2012. This means that @renew_economy has emerged as one of the leading accounts in a relatively shorter time than @Domain.

RenewEconomy is an independent website owned and run by journalist Giles Parkinson, covering a range of topics about transition into low-carbon economy in Australia, <http://reneweconomy.com.au/>. The reference to *RenewEconomy* was also made in the online survey we conducted before and after 2015 Sustainable House Day in partnership with ATA.

Figure 6: Tweet count per known account & account creation date

Tweet count per known accounts

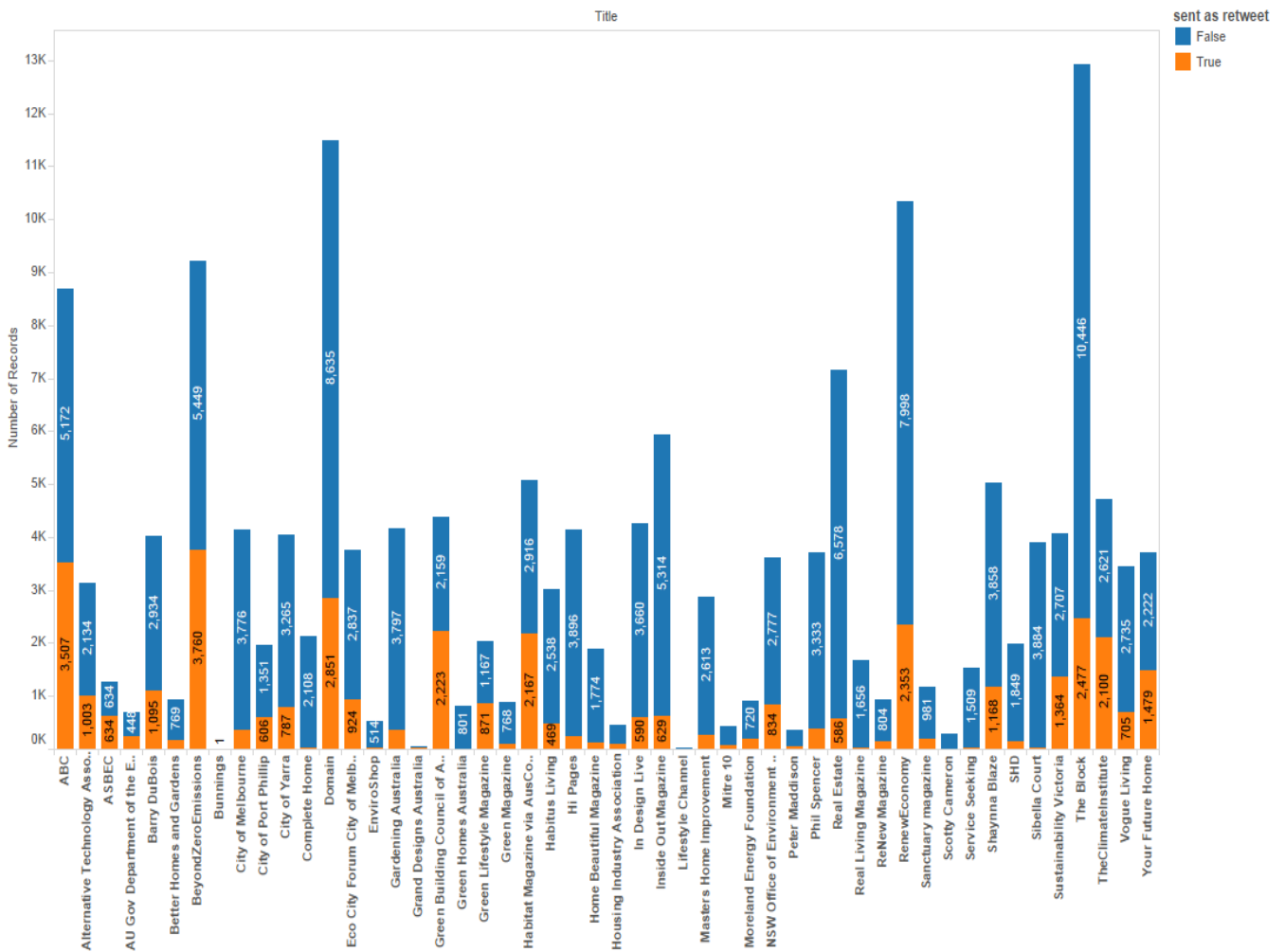


Source: Authors' analysis from TriSMA data infrastructure

Twitter is an important platform for disseminating information and so it is interesting to see that the majority of Twitter messages sent out from the identified official accounts are original messages rather than re-tweets. For @TheBlock9, this proportion is 10,446 (original posts) versus 2,477 (retweets). Comparatively, on the other side of spectrum, for Beyond Zero Emissions this proportion is more even: 5,449 (original posts) versus 3,760 (retweets). The considerable volume of retweets means that the Australian NGO think-tank is pushing existing messages further on, and pointing to other events, climate change talks and actions. Equally, Your Future Home account is largely re-directing conversation to other accounts and sites, including SEE Sustainable Experience, and the annual Green Building and Construction Product Showcase event <http://seesustainableexperience.com.au/>.

Figure 7: Percentage of original versus retweet per known account

Original vs RTs per account



Source: Authors' analysis from TriSMA data infrastructure Twitter replies.

This formatting is still a bit problematic

In the social media research, retweets are considered a good way for re-directing and spreading messages, whereas 'replies' mark more direct engagement 'response' to the message. Because of this, part of our analysis focused on 'replies' to Twitter messages.

One key message from this analysis is a comparatively high percentage of replies to media organisations, with

@TheBlock leading with roughly the ratio of 1 tweet / 3 replies (12,923 tweets to 30,727 replies); @ABC account

generating more replies than actually sent out tweets (8,679 tweets to 11,993 replies).

Other TV lifestyle shows such as Channel 10's *Living Room* and Channel 7's *House Rules* have drawn a substantial amount of replies to their accounts too.

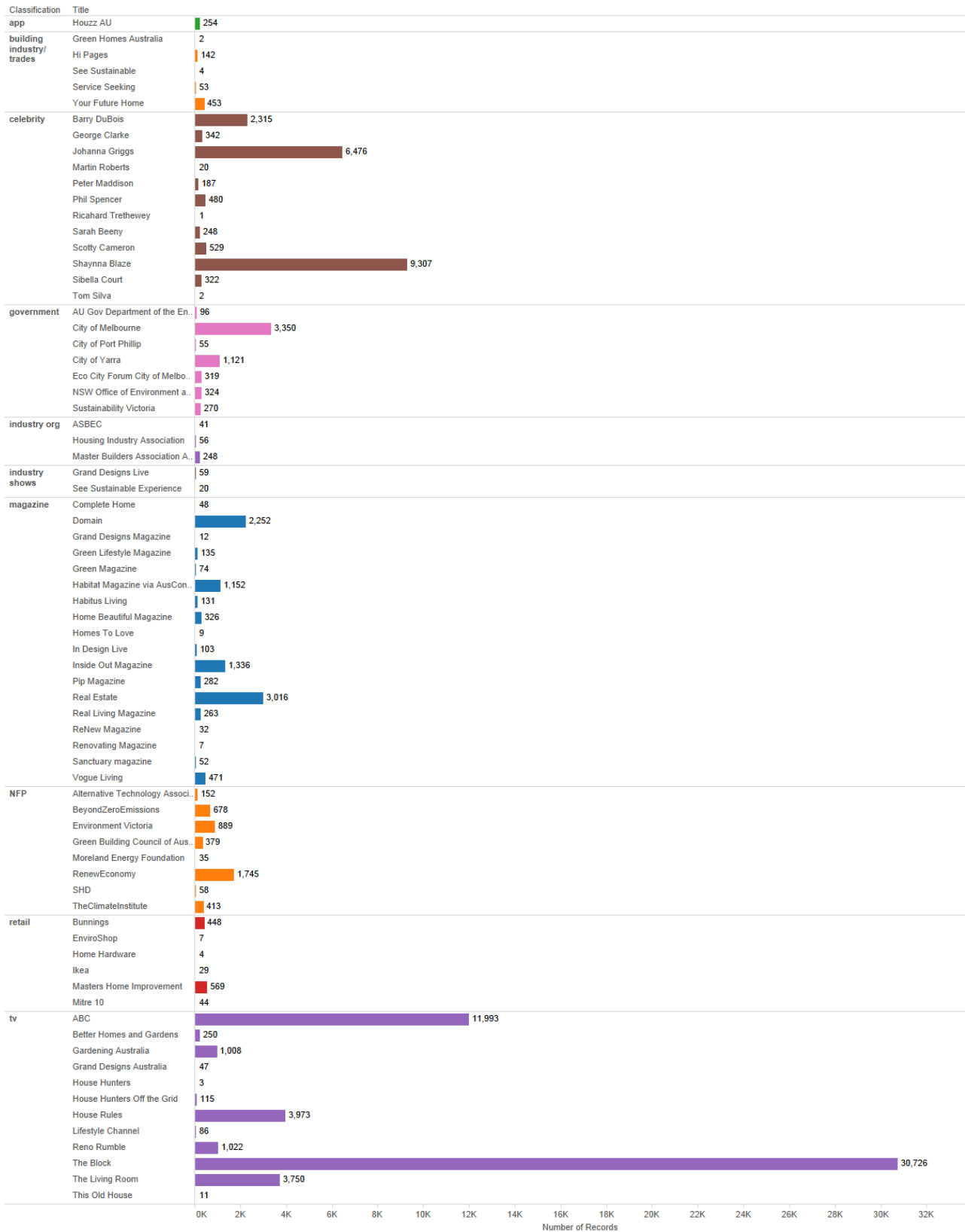
However, interpreting Figure 7 and Figure 9, it is important to note that some identified accounts such as @livingroomtv (created January 2012), Master Builder Association or Houzz AU are active but they weren't included in the original list of accounts tracked by TriSMA, and therefore unavailable for analysis at this point in time. The list is being updated so some of those limitations will be prospectively rectified. Only accounts created in the Australian Twittersphere are included.

The analysis of replies to the selected Twitter accounts provides more evidence to the previous social media research on the use of Twitter, e.g. related to in environmental crisis situations that found that established media organisations are 'amongst the most visible participants' because of 'the widespread retweeting of their messages' (Bruns, Burgess, Crawford and Shaw, 2011: 7). In our analysis, media organisations are not only visible because of the volume of tweets sent out but also the traction they are receiving through replies from Twitter users.

Also, TV personalities such as Shaynna Blaze, Johanna Griggs and Barry DuBois received many replies. Popular interior designer Shaynna Blayze (a co-presenter on *Selling Houses Australia*, and a judge on *The Block*) leads in the engagement category, but she tweets about renovations only sporadically (see Figure 9 below). Out of the key TV personalities identified, only @Baz_DuBois (a co-presenter on Channel 10 *The Living Room*) has any notable Twitter communication about renovations.

In contrast, government organisations have a quite low level of replies. For example, Sustainability Victoria with 3,517 tweets has attracted 270 replies.

Figure 8: Number of replies to identified accounts



Original analysis from customised TrISMA dataset search.

Example of Twitter activity by key actor in DIY / renovation market

What is perhaps the most interesting finding from the analysis into the customised TrISMA dataset is the non-existent Twitter activity by the icon of the Australian DIY warehouse Bunnings. Only 1 tweet has been sent out from what appears to be Bunnings' Twitter account. However, Bunnings doesn't seem to have an official verified FB account either – only fan-created FB pages such as: https://www.facebook.com/thebunningsfamily/info/?tab=page_info; <https://www.facebook.com/pages/Bunnings-Warehouse/109375645749013?ref=ts#>, created from Wikipedia, with 57,365 people liking it.

That Bunnings appear to have no social media presence is striking. What this highlights is an energetic and highly engaged audience operating despite the absence of formal social media strategies. We summarise further learnings from Bunnings use of social media below.

Table 6: Twitter activity by major retailer (Bunnings)

Bunnings	No of tweets
Sent out from what appears to be Bunnings account but remains unverified Tweet content: 'For products and store information visit bunnings.com.au ' (posted 2 Feb 2012)	1
Number of mentions of Bunnings (including #Bunnings plus accounts with 'Bunnings' in their screen name, and everything else configured as 'text')	81,553
Replies to the Bunnings' 1 tweet	448

Key Learnings

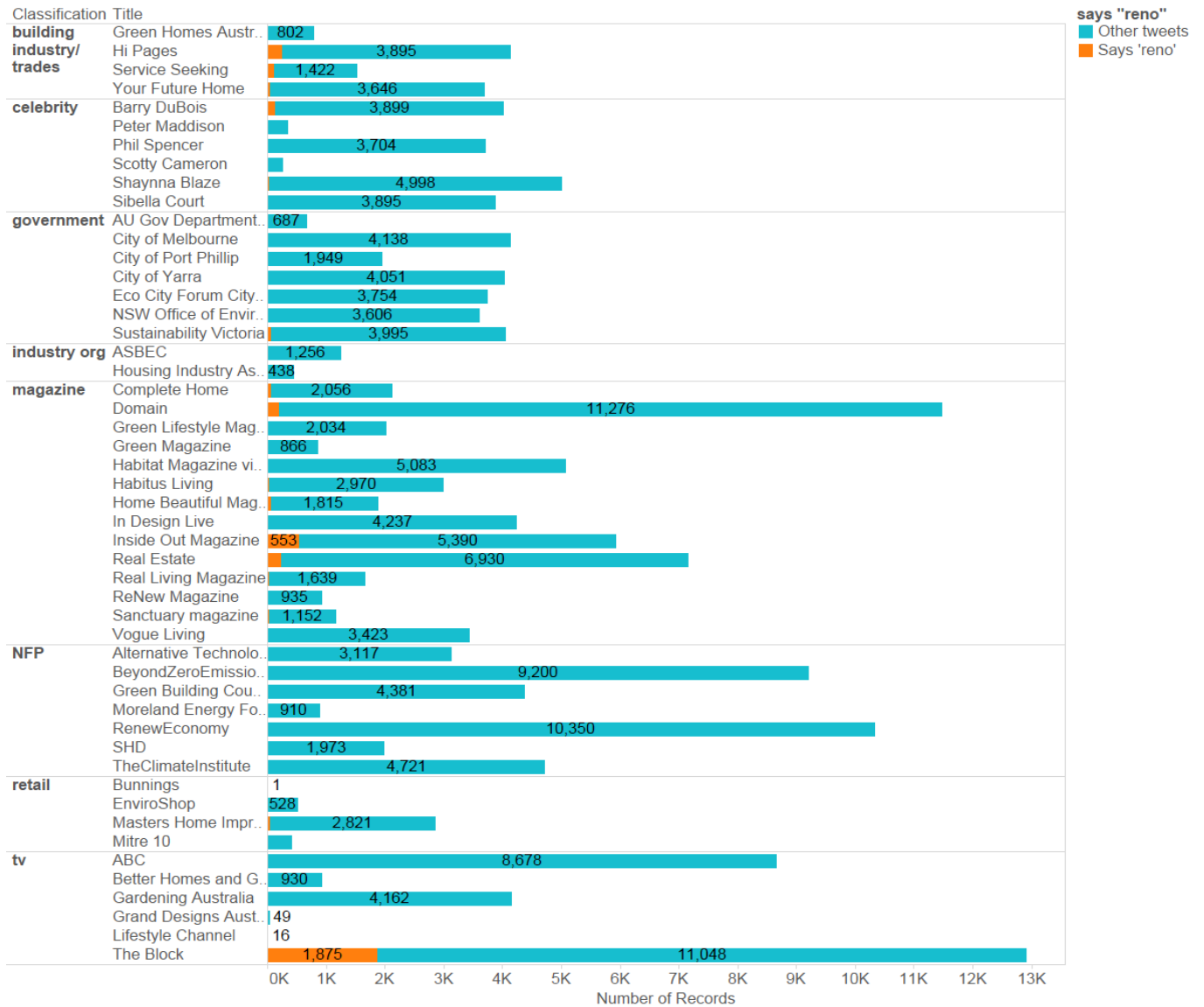
- Successfully engages Twitter users in conversation despite not having an official account or concerted Twitter strategy (1 tweet sent out)
- Relies on face-to-face engagement with everyday Australians and DIY hobbyists
- Points to Pinterest and YouTube from their website
- DIY Guides take you back to their website
- Relies on visual communication, 'how-to' and uses professional photos; and TV program sponsorship and commercials

To delve deeper into the level of conversation and engagement with the topic of renovations, we have analysed to what extent the identified intermediaries tweet about renovations. Figure 10 reveals low levels of activity,

with @TheBlock9 as a leading account²⁶, followed by the actors in the magazine category: *Inside Out Magazine* (584 tweets), and real estate publications such as Real Estate (236) and Domain (223). Barry DuBois is the leading celebrity tweeting about renovations (152 tweets), followed by Shayna Blaze (33), and Phil Spencer (17). Overall, this analysis shows little use of Twitter to talk about renovations by the identified selective actors.

²⁶ The original analysis that relied on the 'reno' search without exclusions revealed almost twice as high number of 'reno' tweets by @TheBlock9. However, upon manual verification, the majority of these tweets related to @RenoRumble, which is another Channel 9 renovation program, with @TheBlock9 engaging in cross-promotion. Despite the high volume, the advertising tweets generated little engagement through users' replies. The adjusted analysis rectifies this by excluding account names and also strings of words such as 'renounce' or 'renown'.

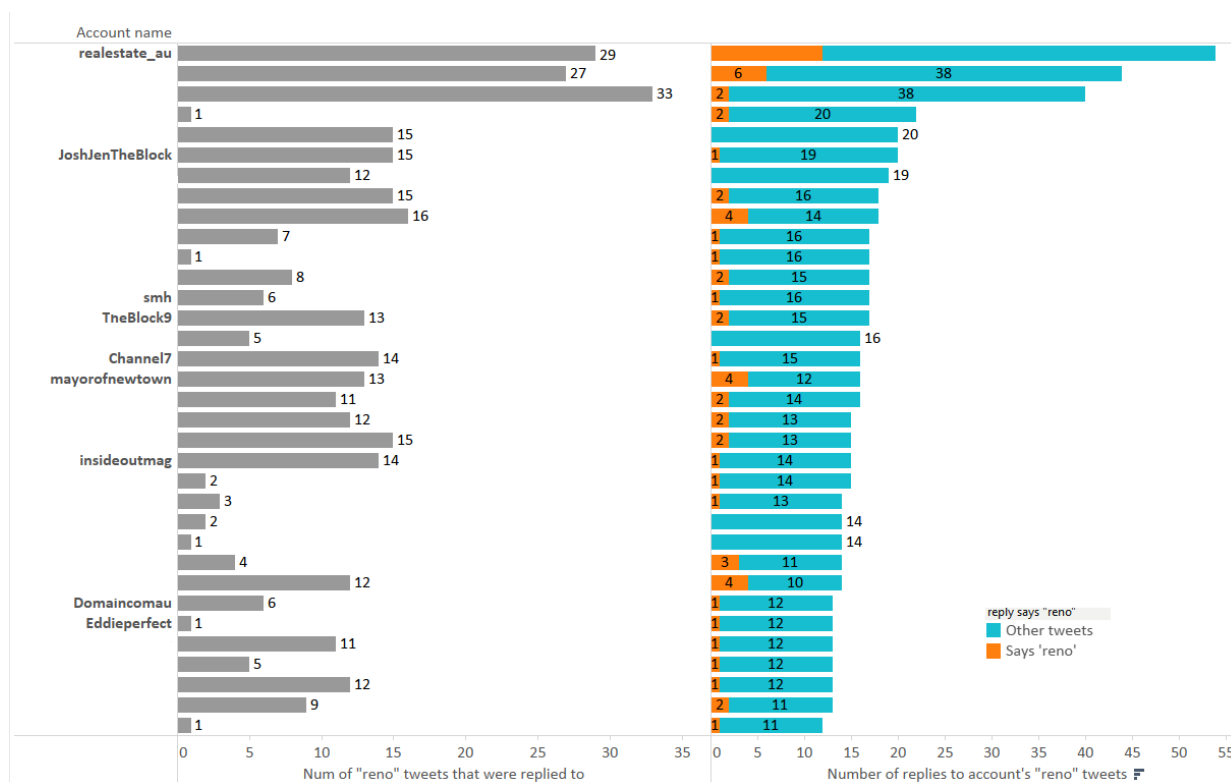
Figure 9: Reno tweets per known accounts



Original analysis from customised TrISMA dataset search.

The final aspect of the analysis looks again to replies as a measure of user engagement – specifically correlating reno tweets with replies received. Figure 11 (below) demonstrates key accounts sending tweets containing the term ‘renovation’ and receiving replies to them i.e. not all the reno tweets they have ever sent. We have included the examples of organisational and public figure accounts. For example, @realestate_au sent out 29 reno tweets with 53 replies – 13 of replies containing ‘reno’, which indicates a clear relation to the original reno tweet. @JoshJenTheBlock have 15 reno tweets with replies, but no reply contains ‘reno’. Public figure, musician and actor @Eddieperfect sent out one reno tweet receiving 12 replies.

Figure 11. Reno tweets with replies



Caption
Original analysis from customised TriSMA data set search.

The TriSMA analysis of Twitter activity shows little use of Twitter by the Australian public to talk about renovation containing the term renovation. Sustainability as the term in the Australian Twittersphere registers higher. Interestingly, public conversations using #solar are more prevalent than #sustainability or #environment that track much better than #lowcarbon or #greenenergy. We have also identified a visible use of Twitter as a vehicle to publicise sustainability events looking into the Twitter conversations containing the terms ‘renovation’ and ‘sustainability’.

In terms of the identified selective intermediaries their Twitter activity and engagement patterns vary greatly, with most engaging – unsurprisingly – accounts from within the established media organisations. Twitter communication by government organisations trails behind. Our analysis reveals also traction gained by some property tv celebrities (such as Shayna Blaze mentioned above) but not all.

The example of Bunnings offers an interesting illustration of some of the communication and engagement dynamics in the current media ecology. Bunnings’ Twitter account is inactive (as noted with only 1 tweet posted), and yet there is a copious conversation about Bunnings in the Australian Twittersphere. Also, it is clear that Bunnings invests more in visual communication with the public through its website and links to Pinterest and YouTube.

Key implications

The main implication that we can draw from the Twitter research at this stage is the media specificity of different communication forms and platforms. The contemporary media landscape is diverse, with different uses for different media. Two leading social media platforms Twitter and Facebook, for example, have fairly distinctive applications. Twitter use, due

to its short message form, is generally skewed towards raising attention about a topic or an issue (especially around the production and use of hashtags); directing and re-directing discussion to other platforms (through message posts/tweets and re-tweets); and registering popularity through 'likes'. Facebook, on the other hand, allows for registering attention and popularity as well, but it also offers a platform for discussion (through comments to posts) in the way that Twitter does not. We do know that some tweets about renovations were used to direct attention to Facebook content. Looking forward, the relationships between Twitter and Facebook and also other visual social media such as Instagram and Pinterest, remains something to be examined.

Conclusions and implications

Our study has revealed a high level of commitment, research and entrepreneurial work by renovators – both in terms of planning, decision-making and implementation – that goes into each renovation. This is particularly the case for homeowners who renovate to live in a home (the main focus of this report) rather than for investment. Even though renovators are an 'engaged' group, they have different levels of interest in, and engagement with, aspects of energy efficiency²⁷. It is also clear that opportunities are often missed in the renovation process to improve energy efficiency²⁸. This report highlights some of these missed opportunities by looking directly at media use during renovations. Through its focus on bottom-up practices and strategies for using media for home renovations, this report has revealed the importance of considering **the renovator's media world**. The power of media, in a changing media landscape, to inspire, entertain, inform home renovators is evident. Communication strategies which build on an understanding of renovators' media world provide an opportunity to take a 'pull' rather than 'push' approach to improving energy efficiency in existing housing.

Key messages and implications

The following is a distillation of the key messages and implications from the research which drew on a number of sources, as detailed in the Appendix, including interviews with renovators and experts:

i. Renovators use media in plural and context-specific ways.

The concept of 'media ecology' that describes the multiplicity of media use and frames our analysis is a blessing and a curse. On the one hand renovators use multiple platforms and therefore can be reached through many platforms. On the other hand, information from diverse sources is fragmented and hard to navigate by renovators. This means that there is no single channel, media format or type that can be isolated as critical for developing an effective media and communication strategy for sustainable renovations.

It is important to think about existing media formats as part of media ecology rather than a singular vehicle.

Instead, it is important to appreciate the intersections between broadcast and digital media, and their diversified, tactical and context-specific use by home renovators. A corollary of the media ecology is that trust is imperative, which permeates other findings and implications below.

ii. Mainstream broadcast media are an important site for inspiration and communicating cultural and commercial values

We noted the significant influence of mainstream and commercial broadcast media (see close studies). Property TV shows such as *The Block* or *Grand Designs* attract large audiences because of their content and entertainment. Irrespective of whether they frame renovation as a competition, financial investment or personal home-making, they are appealing because they focus on human experiences of renovation, representing the whole gamut of emotions, values and challenges that audiences can relate to. *Grand Designs*, for example, demonstrates some of the opportunities for popular education through the high-quality TV production and *general* audience appeal rather than a specific focus on the 'green' market. Beyond its confirmed popularity as an engaging media format – for both renovators and practitioners (e.g. architects, consultants, designers) – it has also been recognised for its successful industry shows (*Grand Designs Live*), reported as useful for communication and information sharing.

In the light of longstanding critique of technical and scientific approaches to promote environmental communication, our empirical study confirms that TV

²⁷ For example, we have previously noted the differences between those who seek more direct involvement in the process and those who are happy to have professionals manage their projects (Hulse et al. 2015).

²⁸ For example, according to the original market research data kindly made available to the Swinburne research team by Sustainability Victoria.

story-based and entertaining content needs to be taken seriously as an avenue for mainstream education and engagement.

iii. Digital and social media help access purposeful information and trusted advice

As the appeal of social media and social networking platforms derives from existing communities which it builds upon and expands, special consideration needs to be given to the nature and dynamics of informal communities, networks and their value.

P2P (peer to peer) networks as well as trustworthy intermediaries (e.g. non-for-profits) have a role to play to help renovators negotiate commercial imperatives to get best possible outcome and value for money.

Informal exchanges through media *and* face-to-face are critical to the organisation of the renovation practice. Digital and social media such as Facebook or Twitter extend local and face-to-face opportunities to seek targeted peer advice or to validate information through online communities such as Whirlpool.

iv. Systems perspective: Intermediaries and connections

The renovation market consists of multiple actors across public, private and not-for-profit sector – each of whom has different agenda and different media and communication profile.

Key systemic strategies:

Create links between different actors in the system;

Utilise government as an intermediary, particularly local councils; and

Foster stronger connections with existing local not-for-profit, social enterprise and civic initiatives.

Create links between different actors in the system; not only in the sense of media and communication strategy (between formal and informal) but more broadly agents of change (industry-government-not-for-profits-public). A message from expert interviews was to tap into the activities that are already being carried out successfully rather than 'starting from scratch';

Government as intermediary: the development of government-led communication strategies for specific programs needs to take into account what is the most likely communication channel, platform and device used by a specific group, in a specific context, how and why. Visual social media such as Pinterest or Instagram, for example, have women as a heavy user group. Differences in renovators' profiles, with socio-economic status and financial capacity are important selective variables that inform policy, program design and roll-out across various contexts²⁹. However, decisions about many owner-builder renovations are made collectively by couples or families³⁰ and therefore a crude segregation of 'the market' for media and communication purposes might not be as useful;

Foster stronger connections with existing local not-for-profit, social enterprise and civic initiatives. This harks back to the old model of community development mentioned by the expert interviewees, which recognises the contribution and ownership of grassroots and communities of practice, and lends itself particularly well to the network logics of online and social media;

There is an opportunity for local councils to play a stronger role in promoting energy-efficient, affordable renovations. This can be achieved through an award system, which a number of local councils already use to publicise best practice. A few experts suggested the value of short audio-visual formats such as a series of video clips showcasing renovation projects –

²⁹ Mallaband, B., Haines, V. and Val Mitchell (2013) in the UK.

³⁰ Mallaband, B., Haines, V. and Val Mitchell (2013) 'Barriers to domestic retrofit: Learning from past home improvement experiences', in Swan, W. and Brown, P. (eds) *Retrofitting the Built Environment*. Wiley & Sons, pp. 184–199.

and depicting not only final results but also challenges and how they were addressed along the way (i.e. *Grand Designs*). For example, the City of Yarra (in Melbourne) is currently experimenting with such clips.³¹

v. Media enabled social network: focus on the renovator

Our research demonstrates that discussion about renovations is occurring informally, amongst close social networks and also online communities. Media – from old formats such as emails to new visual social networking sites such as Pinterest – play a part in those conversations and peer-to-peer networks. The participant renovators were interested in the gains from the financial investment in cost efficient energy solutions resulting in lowered running costs in the context of improved liveability of a home, with comfortable temperature to ‘hang out at home after work’, more ‘spaces to socialise’ or being able to stay in a favoured community area. The centrality of emphasising a people-centred ‘liveability experience’ was reported by the participant experts as well. Work that is seeking to integrate these insights, while moving beyond the dominant strategy to promote a ‘single product or feature’ is currently under way through the 17 Things initiative.³²

Media opportunities include:

Interactive communication and engagement between professionals and peer renovators to share insights.

Contextualised information relevant to individual needs and circumstances.

Key messages shouldn’t address just costs and savings, but the value of comfort, sociality and community belonging.

Language must be simple with images and icons.

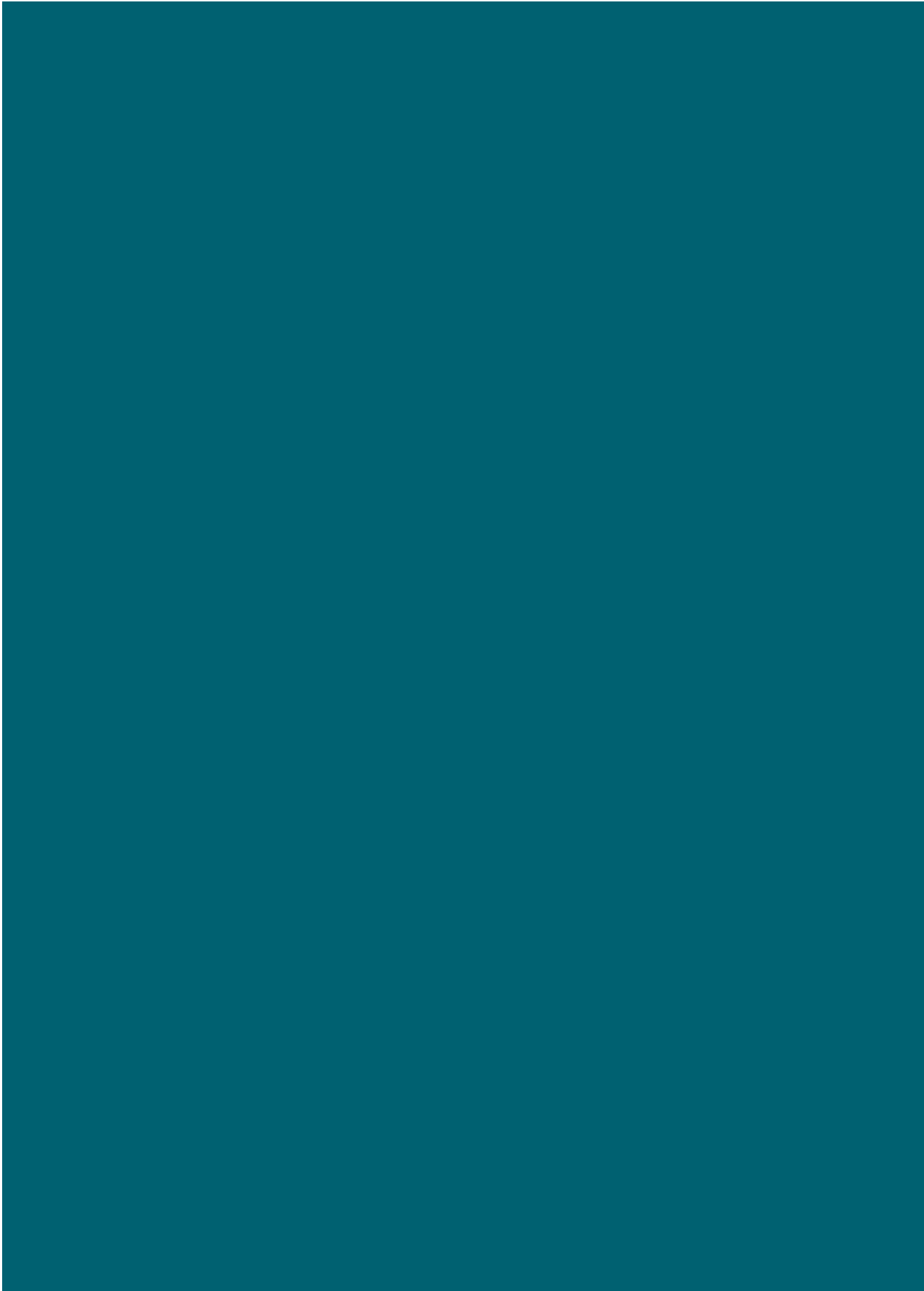
Future Research

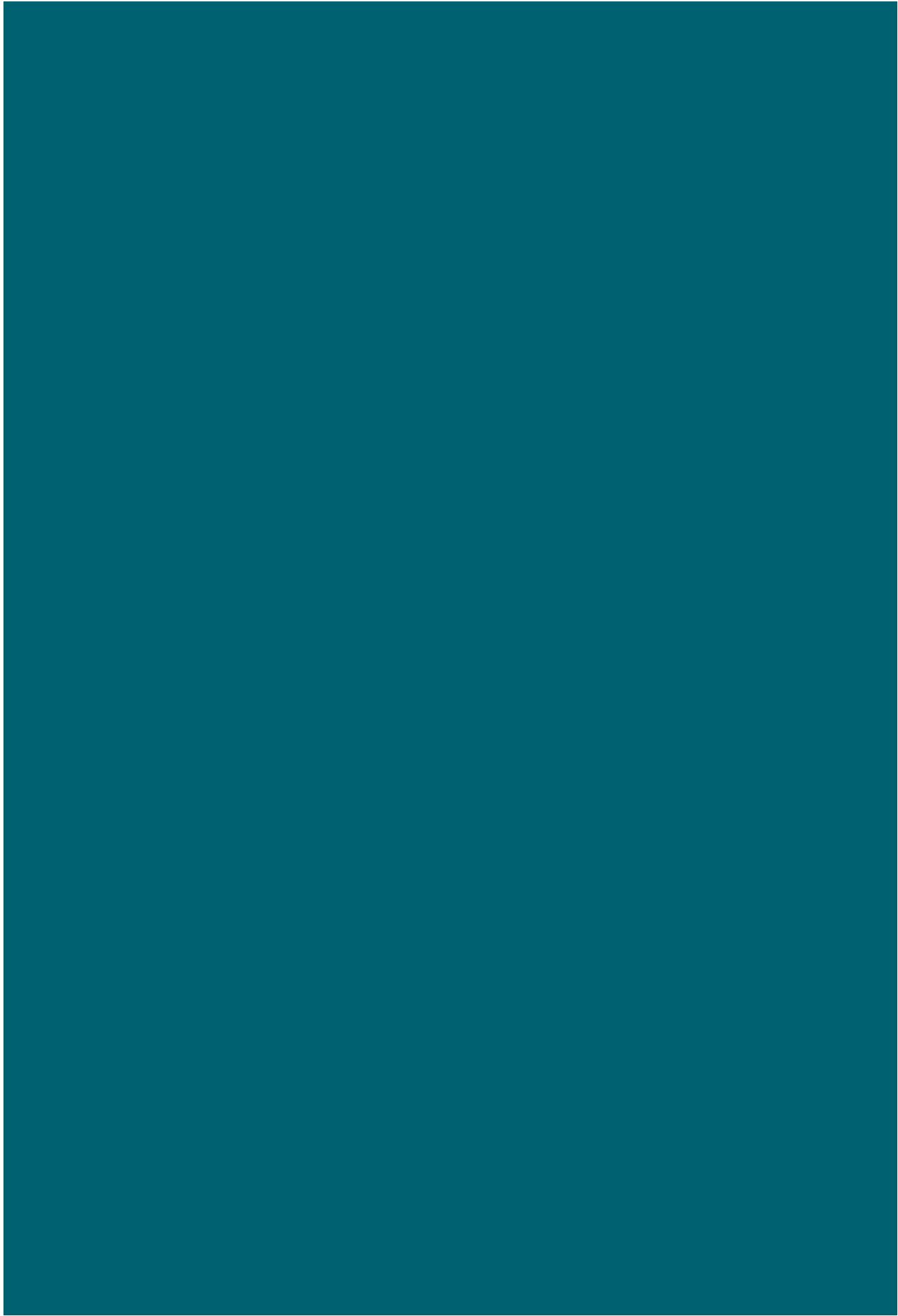
The project on which this report is based is ongoing in two respects:

- Further research is being conducted into social media use among renovators, including Facebook, Pinterest, Instagram, YouTube and also the connections between these and Twitter.
- Further research will be conducted as an interactive co-design process involving industry in which improved approaches to communicating about energy efficient renovations can be prototyped and tested.

³¹ <http://yarracity.vic.gov.au/planning--building/Environmentally-Sustainable-Design/environmentally-sustainable-design-case-studies/>

³² <http://www.liveability.com.au/>





Appendix: Details of Research Methods

This Report is based on the cumulative findings of a number of different research methods and data sources as outlined below.

A1: Surveys of home renovators

These surveys focused especially on internet based media which were more frequently used for planning and renovating:

- A customised survey of home renovators for this project (156 responses);
- A customised survey developed for ATA and administered before and after Sustainable House Day 2015 (354 responses before and 504 responses afterwards);
- Customised re-analysis of market research conducted by Sustainability Victoria (telephone survey of 1,026 people).

A2: Interviews and focus groups with renovators, building practitioners and expert informants

- Focus groups of renovators (5) and building professionals/practitioners (2);
- Reanalysis of transcripts of 8 focus groups conducted for Sustainability Victoria;
- In depth interviews with 9 industry experts including architects, designers, builders, real estate managers, communication directors and local council sustainability officers about means of encouraging more energy efficient home renovations;
- Observation of 2 sessions organised by Alternative Technology Association with in which renovators were able to ask questions of sustainability experts and observation of participants in Sustainable House Day, September 2015.

A3: Close studies

The following close studies were undertaken: *The Block*, *Grand Designs*, Whirlpool Discussion Forum and Sustainable House Day (SHD).

Similar to case studies, 'close studies' provide analysis of selective media and communication models used by key intermediaries in the renovation market identified through the research. The purpose of the close studies is to shed more light on the workings and impact of particular media forms to inform our findings and overall research implications.

The rationale for the inclusion of the specific close studies derives from our empirical research as outlined above (including online surveys, focus groups, interviews and social media analysis), which identified *The Block*, *Grand Designs* and *Whirlpool* as important types of broadcast and peer-to-peer media respectively used by renovators. In addition, SHD was selected to supplement the media-based studies because of its focus on face-to-face experience of home-visits. SHD is a popular nation-wide initiative to promote sustainable, eco-builds, allowing visitors first-hand experience of visiting houses and discussing the projects directly with home-owners. In 2015 it was run by Alternative Technology Association, attracting over 16,000 visitors around Australia.

Breakdown of methods for each of the Close Studies

The Block and Grand Designs

Our empirical material identified these programs as key sources for renovators' inspiration and conversations about renovation.

- As demonstrated through ratings and social media analytics, they are significant media platform in the landscape of Australian media consumption
- *Grand Designs* and *The Block* materially and symbolically shape renovation practice in Australia as shown through our research and by industry reports

To map how *The Block* and *Grand Designs* figure in Australian renovation practice we posed questions across surveys, focus group discussions and expert industry interviews. Discussion points and questions include:

- In the planning stage what media was the most important source for renovation ideas?
- Which home renovation shows do you draw inspiration from?

- Do you document your renovation projects and share with others?
- What media sources do you trust or find reliable?

Analysing and coding the results to these questions we identified the following themes:

- Cost/Budget
- Materials
- Products
- Knowledge / Skill / DIY /
- Professionals/ trust / quotes/ quality / sourcing
- Documentation
- Thrift
- Affordability
- Investment
- Aesthetics/updating
- Changing needs

References and Links for The Block close study

Australia's longest running property show: <http://www.smh.com.au/entertainment/tv-and-radio/back-for-11th-time-the-block-takes-the-crown-as-australias-longest-reality-show-20150828-gj96hf.html>.

<http://www.smh.com.au/national/the-block-unearths-home-truths-about-renovation-spending-20111104-1n030.html>.

<http://www.news.com.au/finance/real-estate/profit-on-chopping-block/story-e6frfmd0-1226073598839>.

References and Links for Grand Designs close study

On McCloud's monologues: <http://www.dailyedge.ie/kevin-mccloud-monologue-twitter-1698570-Sep2014/>.

<https://www.fremantlemedia.com.au/news/astra-wins-wentworth-grand-designs-uk>.

<http://www.media-ten.com/news/56-grand-designs-live-2011>.

<http://www.granddesignslive.com/>.

<https://www.fremantlemedia.com.au/shows/grand-designs-australia>.

https://en.wikipedia.org/wiki/Grand_Designs_Australia.

Whirlpool Forum

The Whirlpool Forum internet based discussion forum was investigated to gain a better understanding of how the forum is used in relation to home renovations and identify the type of information being discussed. This was a key source of information and support based on the findings from the early empirical analysis of the survey and focus groups.

The initial investigation identified the history and functionality of how the forum is used and what information related to renovations was being shared amongst the users. The next step included using the Whirlpool Forum search function, selecting

- 1 Forum: 'Search all forums'
- 2 Group: 'Any'
- 3 Search in: 'Title and body'
- 4 Period: 'Last three years'

The following search terms were used and analysis of each was conducted to identify the top twenty discussion topics in the 'Relevance View'. This was condensed based on similar topics, those that were no longer relevant (not posted in last year or more) or those that weren't applicable to the area of research being discussions about home renovations.

- Renovation
- Renovation + Sustainability

- Renovation + Green
- Renovation + Low Carbon

The initial reviews allowed the currently popular discussion threads relevant to renovations to be identified. The most popular topics related to renovations include Life (Finance>Investing), Lifestyle (Entertainment & TV Shows), and Lounges (Gadgets, Home, Home>Real Estate, Home>Kitchen, Lifestyle, Green tech), which were further analysed at the granular or meso and micro levels. A thematic analysis was used to identify the renovation topics and details being discussed most often by users and the results were summarised in the Whirlpool Case Study.

References and links for Whirlpool Forum close study

Whirlpool Forum: <http://forums.whirlpool.net.au/>.

Whirlpool Search Function: <http://forums.whirlpool.net.au/forum/?action=search>.

Example of the search results for 'renovation' in the 'Relevance View': <http://forums.whirlpool.net.au/forum/?action=search&q=renovation&p=yy>.

Sustainable House Day conducted by the Alternative Technology Association

The close study examines the SHD event. Findings are based on a modified post-event survey (n=504) conducted in conjunction with ATA who coordinate the event. Given space considerations other data also collected, e.g. exported data from a Twitter follower group (n=1434) qualitative analysis of SHD 2015 houses registered to the event (n=150), and comparisons with the VERD Project dataset panel survey (n=1000) are briefly alluded to.

A4: Social media analysis of Australian Twitter communications on home renovations using new TriSMA infrastructure

TriSMA (Tracking Infrastructure for Social Media Analysis) LIEF (Linkage Infrastructure, Equipment and Facilities) research infrastructure (LE 130100162) is part of a cross-institutional partnership between Queensland University of Technology, Curtin University, Swinburne University, Deakin University and the National Library of Australia. TriSMA has been developed to track the public communication of Australian social media users across Twitter, Facebook and prospectively Instagram (see references).

TriSMA's technical & analytic capacity.

TriSMA allows to track, store and analyse the public social media communication by Australians at large scale. This novel infrastructure for research purposes is being constantly developed and further improved:

As of end of June 2016, it assembled an archive of over 1b+ Twitter status messages or tweets from ~2.8m Twitter accounts of the 1b+ available. These identified Australian public Twitter accounts are regarded as being within the Australian Twittersphere (Bruns et al 2014). This list of accounts is based on Twitter data from 2013, so initially no accounts created since then are examined.

Due to the restrictions enforced by Twitter on the use of its API, TriSMA is not able to access more than 3200 tweets written prior to mid-2015. However, TriSMA is able to access any tweets sent by the listed accounts since then.

The majority of the analysis was conducted between April and June 2016, with final updates conducted late July 2016.

A5: Analysis of secondary materials

- Review of market research data from a variety of sources, including housing industry, government departments, and results of other on-line surveys including 'Your Behaviour and Position Towards Climate Change (DecarboNet, 2014).
- Audience rating data (2010-2015) provided by OzTam.
- Fieldwork at environmental information events such as Sustainable House Day and the 'Speed-Date a Sustainability Expert' function.