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Mediatised practices

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Published in:

Digitisation and Low-Carbon Energy Transitions

DOI (link to publication from Publisher):

[10.1007/978-3-031-16708-9_9](https://doi.org/10.1007/978-3-031-16708-9_9)

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Publication date:

2023

Document Version

Publisher's PDF, also known as Version of record

[Link to publication from Aalborg University](#)

Citation for published version (APA):

Aggeli, A., & Mechlenborg, M. (2023). Mediatised practices: renovating homes with media and ICTs in Australia. In S. Sareen, & K. Müller (Eds.), *Digitisation and Low-Carbon Energy Transitions* (pp. 153-174). Palgrave Macmillan. https://doi.org/10.1007/978-3-031-16708-9_9

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Mediatised Practices: Renovating Homes with Media and ICTs in Australia

Aggeliki Aggeli  and Mette Mechlenborg 

Introduction: Home Renovation as a Transition to Lower Carbon Living

The upgrade of existing homes is imperative for the transition to a low-carbon society (Konstantinou and Knaack 2011; Kersten et al. 2015). Renovation of existing homes, combined with low-carbon changes, is less damaging to the environment than the demolition and construction of new homes (Konstantinou and Knaack 2011; Janda and Killip 2013; Owen et al. 2014; Sunikka-Blank and Galvin 2016). However, the

This chapter is based on the main author's doctoral dissertation: Aggeli, A. 2021, *Renovating with media: An interdisciplinary exploration of renovation practice towards lower carbon homes in Australia*, Swinburne University, Australia. Mette Mechlenborg was an associate supervisor of the thesis at Aalborg University, Copenhagen, Denmark.

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transition to lower carbon homes will not be achieved unless the socio-cultural, political and techno-economic challenges of their upgrade are considered simultaneously (Aggeli 2021).

Recent renovation literature displays a diverse picture of interdisciplinary nature for the residential renovation processes. Some studies point to renovation as a decision-making process (Haines et al. 2014; Mjörnell et al. 2014; Abreu et al. 2017; Wilson et al. 2013), others as a socio-technical transition (Horne and Dalton 2014; Willand et al. 2019; Killip et al. 2014; Kerr 2018), as cultural expression (Rosenberg 2011; Head et al. 2016) or as social practice embedded in everyday homemaking, to which this chapter contributes (Maller and Horne 2011; Maller et al. 2012; Bartiaux et al. 2014; Gram-Hanssen 2014a, b; Judson and Maller 2014; Judson et al. 2014; Abreu et al. 2017; Hulse and Milne 2019). People renovate their homes to respond to complex issues which include emotional, practical, technical and socio-cultural matters (Podkalicka and Milne 2017). Renovations are therefore complex processes that involve much more than the technical upgrade of homes (Hulse et al. 2015; Podkalicka 2019; de Wilde and Spaargaren 2019). In addition, renovation can be considered as both a product and a process (Hulse et al. 2015), which can range from a one-off event to a long-term and ongoing engagement of a household.

There are therefore two departure points for our chapter. The first one relates to the nature of renovation, as an ongoing socio-cultural practice that takes place along the ordinary homemaking in the household. The second point relates to the consideration of people's engagement with media in their triple articulation, as material objects, texts and contexts, within the broader digitalisation of everyday life. These two points are explained in more detail below.

Various terms are used to define home renovation, such as refurbishment, modernisation and retrofit. Each term can reflect the size of work performed with renovation pointing towards larger and more structural alterations to a home (Wilson et al. 2015)—as well as the focus of a project (Thuvander et al. 2012). Renovations can occur as a one-off event or as a long-term process, particularly in the case when low-carbon amendments in the house are the focus (Fawcett 2014). In our work, renovation determines mid- to large-scale home alterations, regardless

of their focus (i.e. if they are intended to be low-carbon). We start by considering renovation as a practice that extends the materially engaged periods when the structure of homes is amended. In their majority, the cases presented in the chapter have undertaken renovation as a long-term process, even if there are defined periods of construction activity. The chapter therefore regards renovation practice as an extended process embedded in the households' mediatised homemaking practices.

Furthermore, our work recognises and discusses media as a 'complex, multi-purpose, and networked communication process and cultural context' (Podkalicka 2019, p. 2). Digital technologies and the extensive use of internet in everyday life at home, is shaping (and is being shaped by) our everyday practices (see the Introduction in this book, and DeAngelo in this book). At the same time, the ongoing digitalisation of everyday life, offers opportunities for renovators to engage in new digital platforms and services, connecting and interacting with others, generating and facilitating new networks of learning and new communities of renovation practice.

We therefore ground our analysis in the triple articulation of media (Hartmann 2006), which suggests that media can be perceived and studied as: (1) Object, e.g. media devices like mobile phones, televisions, computers; (2) Text, e.g. media content of social media posts, television programmes, internet articles, videos and (3) Context of media consumption, meaning the specific situations in which media is used and practised. By focusing on the role of media and ICTs in renovation and on the basis of media as object, text and context, this chapter makes three main contributions: (1) it identifies media as an informal intermediary of renovation which shapes householders' meanings (of a good home and of low-carbon living) (2) it highlights media as an increasingly important material object of renovation and (3) it determines media as co-creator of communities of renovation practice. Through these three findings, we highlight the central role that media play in people's everyday lives and stress the importance of their contribution to the shaping of low-carbon visions and narratives for homes of the near future.

Methodology and Profiles of Participating Households

Our methodology is a blend of design and ethnographic qualitative methods. Design methods have been used alongside visual and sensory (short-term and visit-based) ethnography. The data collection methods included home visits, semi-structured interviews and a participatory workshop. During the undertaking of all three methods, audio and video recording took place, alongside discussions, touring of homes and working in groups (during the workshop). By visiting people at home and recording their stories, we identified collective patterns of their everyday practices, repetitions and relationships with material objects involved. This enabled discussions of past and present practices and allowed householders to imagine the future, if they were at the beginning of their renovation journey. Additionally, the workshop enabled a collective vision to develop (Brandt et al. 2012) by combining the perspectives of the two groups of renovation actors (householders and professionals). It therefore enabled an immersion into the latent and tacit knowledge of people's practices.

The participating households were based in Adelaide, the capital city of South Australia, home to 1.3 million people. Approximately 75% of Adelaide's housing stock is detached homes (ABS 2016). Participants were recruited from both professional and 'ordinary' homeowner—renovators to reflect the range of actors of home renovations. Although socio-economic and cultural diversity was our priority, this has been challenging to achieve, mostly due to the snowballing effect of the participants' recruitment, which meant that householders recommended other participants who belonged in their close networks. The households in our study are owner-occupied and have engaged in home renovation recently (in the past three years), were currently doing so at the time of the study or were about to set off on a renovation project. There were 13 households and nine building professionals (builders, architects and planning professionals) involved in the study.

Furthermore, the householders' profiles range across different characteristic typologies, such as families with children, households with no

children (sometimes empty nesters), single households and intergenerational households (households with more than 2 generations living together). Their houses comprise mostly detached or semi-detached homes and on some occasions units (terraced homes.). Table 1 presents the profiles of the participants presented in the chapter. The focus of the original study was not necessarily low-carbon renovations, but renovation practice within everyday life. However, many households have adopted low-carbon changes to their homes as a consequence of a structural alteration or as a result of modernisation that brought about a low-carbon benefit to their home.

The Mediatised Home

The concepts of home and homemaking have recently been permeated by literature examining the implication of digital technologies and the overall digitalisation of everyday life (Maalsen and Gurran 2021). Our work positions home renovation within the ongoing digitalisation of services and processes of everyday life at home, arguing that media, in their triple articulation, are significant actors and intermediaries in the shaping of renovation practice, as well as of the social and cultural practices of householders overall. Before discussing media as intermediaries of renovation, we elaborate on the transformation of home by and through media, using the concept of mediatisation.

Media and communication technologies are interwoven into the household environment and have adjusted themselves to its daily practices (Nansen et al. 2009; Chambers 2016). Furthermore, these technologies and the devices through which they manifest themselves are in turn shaping household practices and routines, making homes into 'nodes' of connectivity (Nansen et al. 2009, p. 185). These extensive uses of ICTs in the household are building a 'new normality in everyday life' (Christensen and Røpke 2010, p. 233), while they are in some cases so embedded in it, that they are imperceptible to their users (Pink and Mackley 2013). The term mediatised home captures the extent to which media have permeated everyday living practices, suggesting that media is

Table 1 Profiles of the participating households, showing house typologies, and general characteristics of the householders' renovations

Participant name(s)	House typology	Profile
Cheryl	Detached house	Cheryl is a homeowner living in a detached home with her partner and two children. Their renovation involved the modernisation and extension of an older property, which they inherited from family. Their intentions were to include low carbon amendments to their home, and considered adaptations such as passive cooling and shading. Their challenges included the coordination of family expectations for the result, since the home was representing the family history and continuation
John	Terraced house	John lives with his partner and son in a terraced home in Adelaide city built in the 1880s. His renovation has been taking place in different stages, initially involving the modernisation of the interior and at a later stage the installation of solar panels on the roof as well as a PV battery. John's primary focus is to turn the house into both an energy efficient home and a smart home. His initial low carbon alterations have given confidence to John to consider further low carbon changes such as the installation of rainwater tanks. John has been following peer forums such as Whirlpool in order to keep up to date with other renovators
Henry	Detached house	Henry lives alone and has been renovating his home using through both DIY and professional builders in an ongoing basis for a few years. He has a big interest in architecture and design and has invested a lot of time learning new skills, such as drawing and sketching (by hand and through computer programmes) in order to be in control of his renovation. His previous experience in many different rental properties in which he had limited ability to change things, have given him the motivation to modernise and upgrade his current (owned) home and turn into his desired, personalised and efficient place

Participant name(s)	House typology	Profile
Anna	Detached house	<p>Anna lives alone and has recently quit her job in order to renovate homes for a living. The property she currently renovates is a large detached family home, which has previously been extended. Anna has attended a hybrid renovation course (partly online, partly face-to-face) in order to gain skills as a DIY renovator. She self-manages the renovation work, which involves primarily aesthetic alterations and some internal re-arrangement of spaces, some of them performed by her as DIY work. Anna uses social media platforms as her primary source of inspiration and go-to place for learning new skills and seeking advice from other communities of renovators online. Low carbon changes were not necessarily on her original agenda, however, as she is moving through, a lot of changes have resulted in low carbon choices, particularly if they are related to lifestyle related issues (such as recycling or repurposing materials for constructing internal surfaces, which are inspired by Anna's encounter with similar changes in recent media publications)</p>
Sophie	Detached house	<p>Sophie lives with her husband and two kids in a detached home. Her renovation was performed as a one-off project and included the addition of a floor as well as the internal modernisation of the house, including new kitchen bathrooms and windows. The renovation was performed and managed by a building contractor, who put priority in the quick delivery of the final product rather than low carbon choices, and communicated progress to them through an mobile app. Sophie's renovation reflects the need to quickly amend a home to respond to the needs of a growing family and its obligations (e.g. space for accommodating guests and spaces for growing children to socialise away from adults)</p>

(continued)

Table 1 (continued)

Participant name(s)	House typology	Profile
Mark	Detached house	<p>Mark lives in an intergenerational household, including himself, his two children (who stay every other week) and his mother. Mark has had some changes in the family status, which resulted in his decision to extend his home to accommodate and care for his elderly mother. His renovation involves the addition of a granny annex to the back of his detached home, the addition of a second floor, and the subdivision of the house into two semi-detached properties. Mark's renovation has been a family matter, with his brother (an architect) designing the renovation and both brothers performing some DIY building work themselves. Mark's home carries the history, memory and current needs of a growing family and reflects the complexity of the practical, personal and socio-cultural implications of changing a lifetime home</p>
Kate and James	Terraced unit	<p>Kate lives with her partner James in a unit (terraced, single floor home). They are both architects and have been actively engaged with the design of their home. Their alterations have primarily involved interior modernisation (new kitchen and floor alterations), since shared ownership rules (Strata) prevented them from doing external alterations. Kate and James are focused on producing an efficient and sustainable home, focusing on ethical choices of materials and services and rejecting the fast pace of construction which often involves choice of short lifespan materials or the disposal of surfaces/materials which can be maintained. They have been using Gumtree, an online platform for selling or giving away household items, to give away fittings and fixtures that they don't need or desire, trying to minimise waste. Despite their keen engagement with the upgrade of this property, they both suggest that they soon dream to be able to sell it and move to a detached home with external space, which they define as their own 'Australian dream'</p>

no longer supplementary to, but constitutive of what home is. Considering this, it is important to understand the contribution of media in the different stages of renovation (i.e. dreaming, planning, performing and sharing with others) in order to assist with the integration of low-carbon visions through and with media (in their triple articulation).

Home is experiencing a continuous technological transformation with media (Chambers 2016, p. 8), linking the private space of the household to the wider macro-level of society, shaping and being shaped by the prevalent culture (Silverstone 2005). In a society where 'everything is mediated' (Livingstone 2009, p. 2), across all domains of life (e.g. politics, environment, family, social institutions), the significance of digital media is of great importance (Lunt and Livingstone 2016, p. 463). Mediatisation (or mediatization) is a term that emerged in the 2000s, to express the 'wider transformation of social and cultural life' through media (Couldry 2008, p. 376). The concept of mediatisation articulates that these transformations of the social are made in complex ways, rather as consequences of media's agency or innovation (Hjarvard 2008). Through the ongoing immersion in digital media, households are embedded in a global community, rather than just a physical one, and are therefore part of wider (and partially virtual) communities of practice of renovators and home enthusiasts. Our study suggests that the symbolic space of renovation is now global rather than local. Therefore, this progressive movement of interactions from physical (through face-to-face communication) to digital (through presence in virtual communications) interaction is transforming the way that households conceptualise and perform their renovations. Householders' participation in collaborative and visual media platforms enables the digital dreaming of making homes and contributes to the shaping of a newly developed co-creation between people, through and with media.

Media as Informal Intermediaries of Renovation

The term 'intermediaries' implies mediating individuals or organisations between actor groups; however, the interpretation of their function can

be different depending on the disciplines involved (Moss et al. 2009). In recent renovation literature, intermediaries are usually defined as technical experts, such as architects, builders and other building professionals with specialised experience on home design, construction and maintenance (Karvonen 2013; Owen and Mitchell 2015; Horne et al. 2014). In addition to building professionals, recent studies highlight media celebrities, websites, television programmes and non-profit organisations as key intermediaries in the renovation process (Podkalicka et al. 2016; Aggeli 2021). These 'non-traditional' intermediaries, help with the interpretation and integration of information (particularly this sourced online) to everyday understandings, which are culturally and socially embedded in householders' everyday life (Podkalicka 2019). Our chapter adds to the concept of renovation intermediation by identifying media as informal intermediaries. We consider informal intermediaries to be the social networks, media and material objects, which have an ongoing presence in mediatized households, rather than relating to experts who engage in a specific renovation process (Aggeli 2021, p. 216). Informal intermediaries enable the generation and sustainment of networks and communities of practice relevant to homemaking and renovation. Along these lines, our work presents media as 'informal intermediaries' of renovation.

This informal intermediation sometimes reduces the need for formal, or professional intermediation, as householders often find what they (think they) need on media platforms. Our chapter highlights the roles and contributions that media make in the renovation practice, as actors that shape renovators' competences and meanings (of a good home), as materials of the practice, and as co-creators of renovation communities of practice. The next section presents examples of this and explains the implications for the transition to lower carbon homes.

Finding 1: Media as Informal Intermediaries That Shape the Meanings of Renovation

Living with media, according to our findings, involves dreaming with media. This can take place in different ways: through the mediatized practices of households, through the ongoing use of mobile digital media

devices, which enable engagement with relevant content in and out of home, and through the rich renovation-centred texts that householders use to make sense of their everyday practices. We have found that householders spend large amounts of time, often undetectably, browsing renovation media content, through mobile devices. This might be expected when households perform a renovation. However, their immersion in media before they even consider renovation, during a period of dreaming about it, indicates that their media practices contribute to the building of meanings of a good home and life, and to the development of unique ways of navigating relevant content.

During the dreaming stage of renovation, people often imagine or generate more abstract visions of what their ideal home should be. Media content, such as social media boards or postings, helps them to build a more concrete image or an embodied version of their imagined narratives. Making the imagined into a visible and more concrete experience for householders, is important for their perception of the need to integrate low-carbon amendments to their homes. This observation is similar to the way that young people's experience of climate change in Norway explains their tendency to appreciate the urgency to act through measurable data or concrete experiences rather than imagined visions (see Lautrup, "[Overcoming Abstraction: Affectual States in the Efforts to Decarbonize Energy Among Young Climate Activists in Stavanger, Norway](#)" in this book). The continuous use of media in everyday life presents an opportunity to enable the visualisation and explanation of the need to upgrade home efficiency. This is especially important in the period of dreaming about and planning a renovation, to help households develop an understanding of how to bridge their abstract visions with a concrete idea of what a low-carbon home looks and feels like. This conversion or communication of the meanings of low-carbon homes are sometimes invisible or difficult to detect in popular media as discussed by our participant Cheryl below. Therefore media, in their triple articulation, allow people to narrow the gap between the imagined futures they have developed for their households with present narratives and concrete examples of how this could happen in the present.

Furthermore, media help to strengthen the association of various homemaking practices, such as preparing meals and housekeeping,

with renovation practices which could transform these to lower carbon versions. For example, Pinterest boards on kitchens and bathrooms support daily dreaming, by sustaining interest and visual reference. However, householders suggest that they don't only 'want to see' how houses could be renovated (Hulse et al. 2015, p. 19), but also to understand how to adopt low-carbon practices. As Cheryl suggests, low-carbon renovation amendments to homes are often invisible when these are presented on visual social media. While media's contribution to the construction of new meanings (of low-carbon living) for a global audience of households is promising, it is important to have appropriate local interpretations for renovators, such as interactive platforms, to help them contextualise these meanings. These tensions between the usability of online media platforms and the interpretation of the meanings they carry to householders, can become opportunities to bring formal (professional) and informal (media and social contexts) intermediation in closer dialogue through media (texts and objects) and physical interactions.

Our participants have confirmed this interactive interpretation of meanings through their regular use of Whirlpool forums, a peer-to-peer online platform frequently used by renovators in Australia (Aggeli 2021; Podkalicka et al. 2019). The majority of them participate in social media groups and communities, such as Whirlpool forums and Facebook groups, informally and regularly, to research their renovation. As John and Henry suggest, their engagement is mainly to observe conversations, however, their presence in these platforms can be so regular that it saturates their daily routines. The length of interaction that households have with media is proportional to the contribution they have as meaning-making agents. Even though householders' skills can take years to develop, the meanings of renovation—which can lie dormant—can be consolidated very quickly with an input from a source of intermediation. The context of renovation is therefore expanded from the physical environment of home to symbolic and digital manifestations, and intermediation needs to respond in order to support this. It is important to consider the substantial involvement of media, as informal intermediaries, in the process of renovation as it contributes to meaning-making during the process. An important implication of media as informal intermediaries is that they contribute to the evolution and progression of

meanings of what constitutes a 'good' or 'sustainable' home, and thereby assist the transition to lower carbon versions of the renovation practice.

Finding 2: Media and ICTs as Important Materials of the Renovation Practice

Our work has highlighted that technology and media devices contribute as meaningful materials in the process of renovation. They become the 'orchestration nodes' (Hand and Shove 2007, p. 79) of the renovation practice by preserving its rhythms (e.g. through media devices), by bolstering communities of practice, (through sharing online) and by coordinating the imagined and functional requirements of the renovated home.

An example of this are the ways in which home renovators document and coordinate their renovation process, using media devices as the equivalent of scrapbooks and physical folders, such as boards created in Pinterest or Instagram. Anna has found Facebook to be a coordinating tool:

Once I found it (...) my world changed! Because you can also save files and make photo albums (...) excel spreadsheets and pins and pages (...).it's like a project management tool

Home renovators access content mostly on their smart phones or tablets. Householders, who document their renovation in these ways, feel that they also create a record of the value of their home, which they can then share in the future, especially if they plan to re-sell the house. Furthermore, media devices such as phones, are important tools during the performance of renovation, for the purposes of monitoring or managing the progress of the work, for example through regular updates of contractor's apps or other applications. Anna, for example, suggests that her devices follow her everywhere in the home and outside:

[I use] Anything, anywhere, anytime. I move into the bathroom with my phone or whatever... my tablet...I use it [phone or tablet] everywhere

Services, such as mobile phone applications, are highly welcomed and appreciated by time-poor family households, as Sophie suggests. The benefit of using mobile media devices is that renovators can use them anywhere and anytime, while at work or anywhere outside the home (Hunter 2019). This particular finding displays how embedded media and ICTs are in the renovation practice throughout the whole process of dreaming, planning and performing it.

Therefore, media can act as orchestrating, and homemaking agents, contributing to the material re-arrangement of homes, through their use as tools or devices for doing things and through their contribution as space-shaping actors during renovation.

Finding 3: Media as Co-creators and Connectors of Communities of Practice that Shape Renovators' Competences

Our study has shown that the dominant presence of social media in everyday life and the frequent absence of immediate social networks (in real life) to support home renovators, contribute to the formation of closely knit digital networks with online communities of practice, who inspire and support their practices. These mediatised environments transform people's engagement with renovation daily and therefore help to develop a process co-created with media.

During the planning of renovation, home renovators research possibilities, getting other people's opinions and experiences online, and engaging with the pragmatic and logistical matters of their renovation. They use media texts and devices to educate themselves about practical issues, for example, learning new skills, such as sketching and making spreadsheets, and understanding the process further. Media help to cultivate an interest in transitioning to low-carbon, through the association of appropriate renovation practices, such as re-using and re-purposing materials and resources, to already established routines (such as everyday recycling and/ or re-purposing of household stuff). As an example, Anna, Henry and Mark, all DIY home renovators, suggest that their regular engagement with platforms such as YouTube helps them to build their

technical skills and collect useful 'how-to' advice from others across the world, and supports them emotionally and practically in the process of change. Media communities are therefore important for home renovators with regard to their technical, emotional and managerial competences. Furthermore, by educating themselves through media, home renovators feel more confident and informed to discuss issues with professionals, as they have already started to develop the language through which they can communicate their needs and possible changes. Many of our participants suggest that Facebook groups or pages are spaces in which interaction between renovators and professionals help to establish trust and common understandings of the work performed. This highlights an opportunity for co-creation in the design and construction of renovation projects with appropriate partnerships between professionals, amateur experts and media platforms. We have found that media platforms, particularly interactive ones such as forums, allow the interpretation and domestication of low-carbon installations to everyday practices at home, such as learning how to synchronise daily showers or dishwashing with available energy in households' solar batteries. Such examples showcase how social media platforms extend the technical appreciation of technologies into meaningful everyday actions. Therefore, media help to coordinate social learning processes as well as consolidate the collective meanings of a practice in context.

Additionally, social media platforms, such as Facebook, often act as 'replacements' of the casual neighbourhood chat. As Kate explains:

It's almost that [Facebook groups] have replaced the neighbourhood (...) you might have a chat (...) say I'm trying to do this (...) someone down the street replacing something (...) that doesn't happen much these days

Since socialising is also moving online, the context of renovation extends further than the locality of the household to a virtual community of renovators and homemakers. A similar example is the partial replacement of support networks by traditional media texts, such as television property shows. Home renovators are keen to 'learn about the process (...) although it's not realistic but can relate to the pressure' (Cheryl).

Television shows like *The Block* and *Grand Designs*, act as emotional supports during the time households plan and perform their renovation.

John, another participant, also suggests that media's space for 'shared stories' brings together communities of homemakers and renovators, therefore connecting their meanings and competences with the material objects of the practices. Our findings evidence that rather than only share the 'pleasures and rewards of co-operation' (Hesmondhalgh 2012, p. 138), online media can also intensify competition between professional and amateur producers.

Conclusion

Our chapter has discussed some of the ways in which media (as texts, objects and contexts) act (1) as informal intermediaries of renovation, who shape householders' meanings, (2) as increasingly important materials of the practice, and (3) as co-creators and shapers of communities of practice, reinforcing renovators' competences and know-how.

Media help to facilitate the challenging of professional expertise and to support its merging with amateur experience, both of which are important for the transition to lower carbon homes, as ways to integrate the tacit knowledge of home renovators with the technical experience of professionals. Additionally, interactions with professionals offer opportunities for collaborative renovation practices, between householders, professionals and media.

One of the major impacts of media as informal intermediaries on the consideration and adoption of low-carbon renovation practices is their long-term involvement in households' everyday life, where they shape, connect and accelerate their practices. Householders' ongoing engagement with media, within the digitalised and mediatized home, throughout all the renovation stages and through participation in various communities online, results in a smoother translation and normalisation of the meanings, competences and materials required for the transition to lower carbon homes. Furthermore, media help to generate a more concrete or quantifiable understanding of what low-carbon changes look

like, thereby shaping householders' abstract vision of a future home to more pragmatic matters.

However, intermediation is not just about the translation or mediation of information and expertise regarding the technical and financial performance and accomplishment of renovation, but a wider socio-cultural meaning and competence making process. Media's capability of interpreting and contextualising meanings from global to local environments and vice versa can lead to a more successful embedment of low-carbon renovation practices of mediatised households. Therefore, we suggest that media (in its triple articulation, as texts, objects and contexts) need to be included further in research on renovation as a social practice and its implication in the twin transition of households to a lower carbon and digitised future. Exhibition Fig. 9 follows this chapter.



Exhibition Fig. 9 Displays of iconic electric bus rollouts exhibited within the museum (Source Rune Egenes and Norwegian Petroleum Museum [used with permission])

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