



# Memory in energy transitions: individual agency through historical narratives in the energy transition to gas and electricity in the Dutch household

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Received: 6 April 2023 / Accepted: 28 August 2023  
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## Abstract

Authors adopting socio-technical frameworks to study energy transitions argue that individual behavioural change and the uptake of social and technological innovations on higher-level scales are both imperative for sustainability transitions to come about. However, the way individuals are embedded in the larger system has remained largely unclear. To better understand individual embedment in energy transitions, this paper enriches sustainability transition research with the insights of memory studies. During energy transitions, social actors that enact these transitions change their identity. A core premise of memory studies is that individual and collective remembering cannot do without each other in the constitution of identity. To illustrate the role of memory in energy transitions, this paper conducts a historical case study of the role of housewives in the energy transition to gas and electricity in the Dutch household. By adopting a narrative approach, the historical narratives across the Monthly Magazine of the Dutch Association for Housewives (NVvH), published between 1913 and 1942, are explored. The results show how the master narrative prescribed the guiding principles of the historical narratives that emerged in the energy discourse. However, as part of the flexible nature of memory, a varied ‘menu of stories’ came forward that enabled individuals to identify with different historical narratives, incorporating differing energy sources and drawing on the transformative nature of memory by imagining different energy futures. It is concluded that individual agency in energy transitions moves beyond choices of use and consumption. It rests in the individuals’ ability to identify with a historical narrative that adheres to the way the individual makes sense of the world.

**Keywords** Sustainability transitions · Memory studies · Narratives · Identity · Household · The Netherlands

## Introduction

Authors adopting socio-technical frameworks to analyse energy transitions argue that behavioural change of consumers and social and technological innovation cannot do without each other in the coming about of sustainability transitions (Kaufman et al. 2021; Hölsgens et al. 2018; Geels et al. 2018; Schot et al. 2016; Geels 2012, 2005; Moloney et al. 2010). Behavioural changes, social innovations and

technological innovations need to associate, interact, connect and link up with each other for socio-technical transitions to come about (Hölsgens et al. 2018). However, the study by transition scholar Paul Upham et al. has pointed to a lack of understanding of the role of individuals that goes beyond their role as users and consumers (Upham et al. 2020). They argue for the adoption of concepts that bridge the individual and the collective side of socio-technical transitions. One of the particular concepts that is pointed to in this respect is the analysis of identity, because studying identity is held to provide for ways to explore social influences relating to individual factors (Bögel and Upham 2018; Fielding et al. 2008). As such, addressing the role of processes of identity formation and change increases the understanding of the interconnectedness of individual and collective processes in socio-technical transitions (Bögel and Upham 2018).

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In this paper, the methods of memory studies are adopted to address the role of identity in the interconnectedness of individual and collective processes in socio-technical transitions. Memory studies is an academic discipline that is particularly affiliated with the interplay of the individual scale and higher-level scales in processes of identity formation and change. The defining premise of memory studies is that individual remembering occurs in ‘social frameworks of memory’ of what has come to be called social, cultural or collective memory (Laanes and Meretoja 2021).<sup>1</sup> Memory becomes collective through artefacts with symbolic value that mediate between individuals. In doing so, it creates a sense of communality among these individuals, functioning as a networking agent between them and a collective (Erlil and Rigney 2009).

Although there are multiple points of connection coming from both strands of research, sustainability transition research and memory studies have been scarcely engaged with each other. It was only very recently that transition scholar Giuseppe Feola et al. made a case for sustainability transition research to account for the role of collective memories to counterbalance the strong future orientation of sustainability science and transition studies (Feola et al. 2022). By focusing on collective memory as a social activity that expresses and forms group identity, Feola et al. align to the collective memory tradition coming forward from the sociologist Maurice Halbwachs. Halbwachs coined the term ‘collective memory’ in 1925 and stressed that individual remembering is structured by social frameworks (Halbwachs 1925). Particularly from the early twenty-first century onwards, memory studies have developed into another direction and boomed as a highly interdisciplinary academic brand of thought. One of the influential proponents of this direction, memory scholar Aleida Assmann, brought the distinction between individual memory and collective memory forward as insufficient to account for ‘the complex network of memories in which humans participate’ (Assmann 2006). People are part of memories of multiple groups, such as the family, the neighbourhood, their generation, state and culture. These memories differ in scope and range, overlapping and intersecting within the individual who incorporates them in several ways (Assmann 2006).

Memory scholar Manuel de la Mata et al. adopt the concept of master narratives as particularly privileged tools to understand the lives of individuals. Master narratives, so they argue, account for the bidirectional relation between personal and cultural narratives (De la Mata et al. 2022). Individuals construct and reconstruct the stories of their life, i.e., their identity, by adhering to the ‘menu of stories’ that

culture provides. These stories are constituted within the cadres of the master narrative that is both descriptive and prescriptive, representing cultural ideals regarding ‘good’ behaviour. Master narratives offer culture-specific stories individuals can identify with or can resist to identify with. Therefore, individual behaviour is not entirely structured by the social context, nor do individuals act entirely free from the social context (De la Mata et al. 2022). Similarly, transition scholar Lukas Hermwille argues that individual agency lies in the individuals’ freedom to choose and spread the narratives it accepts or to reject them when they do not conform with the way the individual makes sense of the world (Hermwille 2016). As such, individual behaviour both constitutes and is constituted by the structures in which the individual operates.

As historians of technology and sustainability transition studies, pioneers Johan Schot and Frank Geels state, during socio-technical transitions, social groups enacting these transitions change their identity (Geels and Schot 2010). Identity is indeed very fluid. People constantly evaluate their identities, especially in times of great social, political and cultural changes (Rantala 2019). The influential memory scholars Aleida Assmann and Linda Short pose a similar argument in their study of the transition of totalitarian regimes to democratic regimes. Assmann and Short show that memory has the ability to be at the core of transition, because of its flexible and transformative nature (Assmann and Short 2012).

In this paper, the flexibility of memory is considered to lie in the aforementioned multitude of memories of social groups that people are part of. The transformative nature of memory is considered to be the result of its ability to simultaneously consider the past, present and future (De Saint-Laurent 2018). Based on the perceived consequences of past affairs, people imagine what might be the consequences of present affairs and adapt the way they behave to better prepare for what they think will happen in the future. As such, memory transforms the present by stimulating people to change their perception of the course of history (De Saint-Laurent and Obradovic 2019; De Saint-Laurent 2018).

In the subsequent sections, memory studies is adopted to research the embedment of individuals in processes of identity formation in the energy transition to gas and electricity in the Dutch household. Women conducting household tasks were core actors in this energy transition in their role as ‘housewives’ (Feenstra and Guet 2021; Slebioda 2013; Bervoets and Oldenzel 2009; Van den Boogaard 2003; Van Overbeeke 2001; Van Overbeeke 1998; Van Otterloo 1988). By excavating the historical narratives on the housewife that were constructed in the ‘Monthly magazine of the Dutch Association for Housewives’, published between 1913 and 1942, the prescriptive structures of the master narrative are studied. Also, the ‘menu of stories’ that emerged, enabling individual women to make their own choices within these

<sup>1</sup> Historian Stefan Berger offers an overview of the development of memory studies (Berger 2021).

structures by accepting or rejecting to identify with a variety of historical narratives, is analysed. Furthermore, the way the flexible and transformative nature of memory were related to the master narrative and the menu of stories is researched. The main question the paper aims to answer is: to what extent did individual women acquire agency through memory in their role as housewives in the Dutch energy transition to gas and electricity?

### The energy transition to gas and electricity in the Dutch household

In the upcoming sections, the role of memory in the energy transition to gas and electricity in the Dutch household is studied by conducting a historical case study of the historical narratives of the housewife that were constructed in the monthly magazine of the Dutch Association for Housewives (Nederlandse Vereniging voor Huisvrouwen, NVvH).

The Netherlands is studied because it has had a big environmental impact, reaching back at least as far as the seventeenth century (Smits 2018). It has been brought forward as being per capita the sixth responsible country for global warming (Matthews et al. 2014). The modernization of energy use has been an important factor in this respect. It was characterized by a great growth of energy consumption and the transition from coal and oil to gas and electricity (Van Overbeeke 2001).

Authors studying the Dutch modernization of energy use generally award women a prominent place in this development through their role as housewives in a 'consumption junction' (Slebioda 2013; Bervoets and Oldenziel 2009; Van den Boogaard 2003; Van Overbeeke 2001; Van Overbeeke 1998). These authors mainly represent the role of women as consumers of gas and electricity by using modern technologies that were held to relieve them from the burden of house making. Therefore, this story of Dutch housewives provides a valuable case to study the embedment of individuals in energy transitions beyond their role as users and consumers.

The Monthly Magazine of the NVvH is a valuable source to study the historical narratives on the housewife during the modernization of energy use, because the NVvH was the most prominent of the women organizations that became active from the beginning of the twentieth century onwards (Boter 2019). The NVvH coalesced to energy companies and spread instructions on the adoption of the use of new technologies, together with instructions on how to be a good housewife, through its magazine (Bervoets and Oldenziel 2009). The mechanization of the household was accompanied by the professionalization of the household, together with changing the perception of the household. Being a housewife came to be seen as a true profession for which women could feel pride and honour. With the help of household devices that were fuelled by gas and electricity,

women were enabled to have a professional career at home and encouraged to be a good wife and mother at the same time (Slebioda 2013).

In the course of the Dutch energy transition to gas and electricity, energy companies discovered housewives as a specific target group to sell gas and electricity to Van Overbeeke (2001). Contemporary policymakers generally assume that the energy policies of industrial countries need to be gender neutral, based on the free market economy and laws against discrimination. Nevertheless, the rare scientific publications dealing with gender and energy policy conclude on the contrary (Feenstra and Guet 2021). Women and men have different energy preferences. According to transition scholars, Marielle Feenstra and Rachel Guet, the contemporary energy transition is focused on men and shows a limited recognition of the energy needs of women. Therefore, studying how women were targeted in the energy transition to gas and electricity offers a valuable source of inspiration for the contemporary energy transition (Feenstra and Guet 2021). In this paper, the role of women in the Dutch adoption of energy technology fuelled by gas and electricity is studied, because it is held to broaden perspectives with regard to 'engendering' the energy transition contemporary society is facing.

### Materials and methods

One of the practices of memory studies is the exploration of the way narratives travel across cultural spheres and media (Rigney 2012). Narrative approaches perceive storytelling as crucial regarding the way individuals and movements make sense of themselves and the world outside, i.e., in the building of identity. Narratives that create a sense of collective history are especially powerful in this respect (Daphi and Zamponi 2019). These historical narratives order events into meaningful sequences by plotting the beginning, middle and end of a sequence of events into a coherent story (Daphi 2017).

In this paper, the construction of historical narratives by individual women that were part of the NVvH during the energy transition to gas and electricity is studied. Between 1913 and 1942, these women spread their views in 352 editions of the monthly magazine of the NVvH. Of these 352 editions, seven have been lost in the oblivion of history. In this paper, the 345 editions that are digitally available on Delpher are excavated by studying the historical narratives that emerge in them.<sup>2</sup> On Delpher, searching through these

<sup>2</sup> Delpher is a search engine on which millions of historical texts that have been published in Dutch newspapers, magazines and books have been digitized: <https://www.delpher.nl>

**Table 1** Share of energy-related historical narratives on the housewife in the studied paragraphs of the NVvH magazine

Element of analysis	#
Paragraphs containing 'In former times', 'past' and 'history'	931
Historical narratives	254
Historical narratives dealing with the housewife	130
Historical narratives dealing with energy	44
Historical narratives dealing electricity	23
Historical narratives dealing with technology	20
Historical narratives dealing with household devices	19
Historical narratives dealing with gas	18
Historical narratives dealing with other energy sources	12

publications is enabled through optical character recognition (OCR). OCR is a software that recognizes letters in digitized pages, making it possible to search through the scanned texts quickly. Across the volumes of the monthly magazine, historical narratives on the housewife have been found in reports on gatherings and lectures, opinion papers, advertisements and letters submitted by NVvH members. These narratives were constructed by household experts, household teachers, politicians, board members and 'normal' members of the NVvH.

To distinguish the historical narratives that were brought forward in the magazines, the Delpher search engine was used to search for the words 'history' (Geschiedenis), 'in former times' (Vroeger) and 'past' (Verleden). The search engine suggested historically spelled words with the same meaning. These words were added to the search.<sup>3</sup> 961 passages were found in which the searched for words occurred. Each of these passages was analysed by reading the paragraph it was part of. If the paragraph contained a perception of the past, the entire article was read. If in the article, the perception of the past was accompanied by a beginning, middle or end that was together plotted into a coherent narrative, it was labelled as part of a historical narrative.

In the 961 passages that were analysed in this way, in 254 passages perceptions of the past came forward that were accompanied by a beginning, middle or end and plotted into a coherent whole, i.e., 254 historical narratives were found. Of these 254 historical narratives, 130 were historical narratives about the housewife. These 130 historical narratives were analysed for their similarities and differences with the aim of deducting the prescriptive elements of the master narrative and the menu of stories that emerged. Particularly,

the role of energy in the narratives was scrutinized. In 23 of the 130 narratives on the housewife, electricity was incorporated and in 18 of them, this was the case for gas. In total, 44 of the 130 narratives incorporated energy in one way or another, either by dealing with electricity, gas, technology, household devices or other energy sources (Table 1).

As will be handled over more particularly in "Results", the 130 historical narratives on the housewife reflect master narrative prescriptions with regard to the 'revolution in the household' that drastically changed the role of the housewife, the increase of responsibilities that were accounted to housewives and the increase of social groups housewives were held to belong to. When during the search based on the word 'past' no new variances were found, with regard to the prescriptive elements or with the way energy was incorporated in the menu of stories, saturation was held to have occurred and the analysis was put to an end.<sup>4</sup>

In the following sections, the results of the analysis of the historical narratives will be presented. The first section shows how the revolution in the household, bringing household devices fuelled by gas and electricity into the household, was widely prescribed as the beginning of the historical narratives on the household. However, the similar beginning evolved into different middles and ends, providing women with a menu of stories they could identify with.

The second section scrutinizes how new values and energy sources were incorporated in the several narratives. In this respect, these narratives were similar by prescribing an increase of the responsibilities of housewives, but differed by the way energy sources and values were incorporated to adhere to these responsibilities.

In the final section, the historical narratives are analysed for the memories of social groups to which housewives were held to belong. In the course of the energy transition, the social groups housewives belonged to extended from only their own family to other groups, attesting to the flexible nature of memory. It is brought forward that, by identifying with these historical narratives, individual women imagined the future of the energy system by drawing on the transformative nature of memory.

<sup>3</sup> The search words for 'history' were: 'geschiedenis, geschiedenis. The search words for 'in former times' were: vroeger, vroegere, vroegeren, vroegre. The search words for 'past' were: verleden, verledene, verlijden, verleeden, verlee, verleed, verleedt, verleje.

<sup>4</sup> Benjamin Saunders et al. define saturation as the criterion on the basis of which data collection or analysis can be put to an end, because going on with it does not add information or knowledge to the research (Saunders et al. 2018).

## Results

### The constitution of the historical narrative: a revolution in the household

In the first decades of the twentieth century, women started organizing in women organizations to increase their control over the household as a professional domain. In 1912, the NVvH was established as a union for housewives (Oldenziel 2001). To serve housewives, it aimed to contribute to the solution of the servant question, a hygienic and simple construction of houses, limiting household expenses and using virtuous household tools as much as possible (Maandblad, January 1913, p. 2). To legitimize its aims, as well as the foundation of the association, the NVvH used the past as a resource from its very foundation onwards. Already on the first page of the first edition of the Monthly Magazine, D. de Groot-Beins, President of the NVvH, countered the ‘countless questions and concerns’ following the foundation of the NVvH as follows:

*‘I ask the elderly among us, to think back along with me to the household of approximately 40 years ago. Since then, a true revolution has taken place in the household, that however gradually caused a lot of friction in the household families. Outside of school hours and school work, the girls helped in the household and after leaving school or boarding school, the help of grown up daughters could not have been done without. Knitting and sewing (machines for that did not exist or were hardly known) were done at home (...). Although the concerns for taking care of a household rather increased than decreased, the need for labour force decreased strongly. (...) In the meantime, the in the household educated girl of former times would not be able to meet the demands of the present. The striving for a more purposeful nutrition, the conservation of provisions, but especially the higher demands of hygiene have made it imperative to acquire multiple knowledge and in the end made the need of a full education appear.’* (Maandblad, January 1913, pp. 1–2)

This quote shows that the first thing the NVvH drew upon to legitimate its foundation was memory. President De Groot-Beins constructed a narrative of the housewife that started with the memory of ‘the elderly’ who had witnessed a revolution in the household. By arguing that machines for knitting and sewing were hardly used 40 years ago, De Groot-Beins suggests that they were by the time of writing. However, it stands out that De Groot-Beins frames these tasks as being performed outside of the house, rather than in the house. Indeed, during the 1910s,

the NVvH experimented with collective solutions for the conduction of household tasks (Cieraad 2015). The narrative ended with the legitimation of the NVvH, because the establishment of household education was historicized as insufficient to meet the increased demand of knowledge. The historical narrative of the NVvH, in which the housewife was the central actor, was born.

The revolution in the household that De Groot-Beins referred to was the household elaboration of the Industrial Revolution that had taken place in Dutch society in the second half of the nineteenth century. In the middle of the nineteenth century, the stove had entered the household after which a separation of functions and household spaces occurred and a specific device came to be attached to each space and function. Traditionally, only the higher classes could afford this functional separation (Oldenziel 2001). It was only after the ratification of the Housing Law of 1901 that the functional and physical separation of the house became widespread. Now, single-family homes would change drastically as well. One of these changes was the separation of rooms in the kitchen, the living room and the sleeping room. The concept of the kitchen as a location in which the housewife performed characteristic practices emerged. Cooking was from then on performed in another space than the living room and cooking and heating were now functionally separated making room for new artefacts. Previously, the petroleum or coal heater served as the tool for heating and cooking, but in the small and separate kitchen the temperature rose too high. Gas and electricity companies started to develop devices that met the requirements of the newly designed home (Van den Boogaard 2003).

The revolution in the household was either implicit or explicit, the starting point of the majority of the historical narratives that were found in the Monthly Magazine. However, its consequences were interpreted in different ways. The NVvH first treasurer E.A. de Jong-Johns stressed in the following poem the time that was saved as a consequence of the technological development:

*‘We no longer spin and we no longer weave  
Our sewing work is done by the machine (...)  
No longer we struggle with the tinder box  
It is replaced by the gas burner  
What remains there to be done for the housewife,  
The housewife of nineteen hundred?  
About grandmothers’ hand-knitting and cleaning  
Grand-daughters now stand in wonder  
Where in the past the help of servant, daughter and  
niece  
Could not provide the housewife with rest  
Today there even remains next to housewife duty  
Time for bond and association life’*  
(Maandblad, August 1913, p. 60)

In this poem, De Jong-Johns presented the introduction of the sewing machine and the gas burner as the providers of rest for the housewife. Next to the time for rest that was acquired by these gas and electricity-fuelled devices, time had become available for housewives to bond with each other through a flourishing association for life. Here, modern household devices were framed as a blessing that helped housewives to overcome their problems of the past.

In other occasions, the revolution in the household was rather referred to as the beginning of an increase of hardship. In a report on a radio lecture of someone that was named 'Famke', a writer and lecturer who in later editions of the magazine was revealed as a woman by the name of Veen-Brons, 'Famke' is quoted:

*'One might superficially think, that because of the electricity with her great comforts, such as the vacuum cleaner and iron, etc., and furthermore because of decentral heating, that integrates increasingly (...) in short because of all the beautiful improvements in the technology of the household, for the housewife, now an ideal-comfortable time has arisen. However, the contrary is the case. Several factors erase the technological advantages, being: 1. The servant question, because one good, firm caring servant remains of much more value than a vacuum cleaner or sinks, or what more 2. The longer study-time of girls, who in former times when mother turned a bit older, came to help. Instead of caring along, she still has to be taken care of. 3. Life has become so much more busy, hunted, joyful. (...) [T]he downsides hereof manifest themselves to no one so clear as.... to the housewife, the houseMOTHER.'* (Maandblad, April 1928, p. 125)

The writer brought forward the great comfort of electricity in particular and technological progress in the household in general, but argued that these improvements were overtaken by the contemporary problems of the housewife. Housewives were considered to have less help, while more was demanded from them, making life harder than it had been in the past.

The quotes of De Groot-Beins, De Jong-Johns and Famke illustrate how the master narrative prescribed the 'revolution in the household' as the beginning of the historical narrative of the modern housewife. The revolution in the household was characterized by bringing in modern devices that were fuelled by gas and electricity taking over household labour. Nevertheless, the consequences of this starting point were perceived differently, providing for a menu of stories individual housewives could identify with. As such, whether individual housewives experienced the merits (De Jong-Johns), downsides (Famke) or both the merits and the downsides (De Groot-Beins) of the revolution of the household, they were offered a historical narrative in which gas and

electricity as the fuels of modern devices were incorporated. It was up to the individual woman with which historical narrative she identified.

### **The evolution of the historical narrative: the increase of housewife responsibilities**

In the first decades of the twentieth century, for most people, household devices fuelled by gas and electricity offered a window to the future, rather than a realistic possibility for their own home (Van Overbeeke and Verbong 2000). During and after World War I, electricity and gas companies started to direct their attention to households with the aim to increase energy consumption. These companies discovered housewives as consumers to whom gas and electricity could be sold (Van Overbeeke 2001). In the 1920s and 1930s, this resulted in a fierce competition between gas and electricity companies (Van Overbeeke 1998).

Women organizations like the NVvH intermediated between the energy companies and housewives. The NVvH had close connections to producers and communicated the experiences of housewives with the technologies back to them, increasing the receptivity of the target group (Grin 2018). The NVvH, however, stressed its impartial position in the battle between gas and electricity companies. The adoption of gas and electricity was propagated as the energy sources of modernity, as illustrated in a report on a Safety congress in which NVvH President Brauns was quoted:

*'After all, gas and electricity have increasingly conquered a place in the household and many new inventions (gas hearths, geysers, electrical heaters etc.) contribute to the increase of comfort and the simplification of household work. This is undoubtedly a happy occurrence; we housewives righteously rejoice this progress, but sometimes forget to consider, that inseparable new groups of dangers emerge, that remained out of sight in former times. (...) It is definitely part of the task of the housewife to make sure, that the chance of such accidents is prevented; after all, for the family it is mandatory, that the house is not just a cozy, but also a safe place.'* (Maandblad, April 1926, p. 118)

Gas and electricity were brought forward as having conquered the household. However, with the introduction of household devices that were fuelled by gas and electricity, new dangers emerged in the household that did not have to be accounted for in the past. The housewife was considered to not only being responsible for cosiness, she became responsible for the safety in the home too. The adoption of gas and electricity in the household gave rise to new possibilities, but was accompanied by new responsibilities for the housewife as well.

Although the NVvH declared its impartiality, the historical narratives often reflected the preferences of the writers of these narratives for one or the other energy source. Gas and electricity were often handled on separately. For instance, in an article titled ‘A new gas stove’, that was published in 1923 and signed with ‘Red.’, referring to the redactors of the magazine, it was stated:

*‘The conviction that gas is the designated fuel for the kitchen gains ground increasingly; a consequence of the fact that three prominent factors: frugality, cleanliness and comfort, are fostered through its application. With regard to the first factor, it is undoubtedly due to the saving burner (...) that the in formers times legitimate judgment “gas is expensive” has been replaced by the conception, that this fuel is the cheapest if used adequately, although it must be acknowledged, that very many housewives have neglected, to get to know the correctness of this conception.’* (Maandblad, March 1923, p. 64)

Here, gas was propagated as both the cheapest fuel and the fuel that adhered to the Dutch cultural values of frugality, cleanliness and comfort. However, housewives had been reluctant to take notice of the asserted fact that gas had become the cheapest fuel. The authors drew upon the responsibility of housewives to inform themselves with regard to the merits of gas as an energy source, so that housewives would profit from the ‘cheapest fuel’ and conformed to Dutch cultural values.

Under the influence of the efficiency movement that rose from the 1920s onwards, the traditional civic norms of frugality and thoughtfulness were translated into ‘rationality’ and ‘efficiency’ as terms of modernity (Wilke 1998). Because of the servant question, the housewife was considered to have more tasks to fulfil and needed to organize these tasks efficiently to save time and effort. The differentiation of household tasks was accompanied by the wide variance of products that were used by the housewife. This contributed to her image as a professional, since she had her own tools in a similar manner as every labourer. To these tools, now, some innovative electrical devices belonged (Wilke 1998). In the historical narratives, the increase of household tasks was historicized by attributing an increase of responsibilities to the housewife as an inherent part of the course of history. In a report on a radio lecture of A. Loeff-Bokma, named several times across the editions of the monthly magazine as a lecturer, Loeff-Bokma was quoted:

*‘Efficiency is little known as a working method in the household and yet there are many overtired housewives, whose lives could be relieved by efficiency, whose suppressed personality could lead to more consciousness. One the one hand has technology made*

*the activities of the housewife simpler and lighter; on the other hand however the busy life seizes her with so many demands and asks so much more of her than only being a housewife, that many women don’t know how to combine the very divergent duties. The life of the modern housewife has become so complicated and although she feels that the caring of her home is a precondition to family happiness, conducting the household is no longer a goal in itself to her, like it was in formers times, but merely a part, no matter how important, of her rich tasks as a wife, mother, housewife and living human being in the full societal life. That’s why it’s so important to her and her family that she finds ways to conduct her household work as good, maybe better in much less time. (...) She will try to take possession of those electrical tools, that will lead to saving time or powers, possibly both. (...) She must indeed expect help from efficiency in the first place.’* (Maandblad, March 1928, p. 81)

In the quote above, the life of modern housewives was brought forward as characterized by such an increase of complexity that many of them no longer knew how to fulfil their increased duties. Loeff-Bokma argued that housewives had to find ways to conduct the household labour with the same or higher quality in less time. Efficiency and the adoption of electrical tools were proposed as the way to do that.

The historical narratives in the Monthly Magazine show a pattern of assigning new responsibilities to the housewife, i.e., the master narrative prescribed the increase of housewife’s responsibilities. The narratives varied with regard to the energy source and values that were incorporated into the historical narratives to live up to the increased responsibilities. As such, rather than choosing for one energy source or the other, housewives were able to identify with one historical narrative or another. Again, it was up to the individual woman with which historical narrative she identified.

### **The evolution of the historical narrative: the increase of the sense of belonging**

The members of the NVvH mainly came from the middle class. Nevertheless, the association aimed for the transcendence of the societal pillarization in the Netherlands by teaming up with the technical elite of modernizers that were on the rise. As the consequence of the NVvH interest in shaping technologies for household use, a plurality of cultural, ideological and institutional sources came together in the organization. A wide variety of women that were labelled as housewives and that contained multiple and sometimes opposing identities had to be addressed (Bervoets and Oldenziel 2009). The NVvH did so by explicitly advocating its political and religious impartiality across the editions of the

Monthly Magazine (e.g., Maandblad, December 1928, p. 389, Maandblad, October 1937, p. 280). As such, it was able to address a plurality of social groups.

Before the NVvH did so, another current that aimed at influencing the development of technological products had come from the domestic science discipline. Starting in the 1880s, household professionals established the housewife as a professional with the kitchen as her own physical space and cooking as her body of knowledge. Household schools were founded with the aim to educate both household teachers and household servants. In these schools, students were taught how to deal with the newest innovations, such as gas irons, and how to critically judge the usefulness of new products (Bervoets and Oldenziel 2009). Household experts formalized the informal knowledge that had been transferred from mother to daughter for generations and translated scientific knowledge to the daily practice of housewives (Oldenziel 2001). In the years that the NVvH fulfilled its prominent role, the complexity of modern household technology was generally considered too high to be taught from mother to daughter (Feenstra and Guet 2021). The modern housewife was defined as belonging to a new generation of housewives. In what is called an advertisement in the Monthly Magazine that was signed by the board of the Dutch Electrical Association for Women, electricity was propagated as the energy source of the modern generation of housewives:

*‘When one compares the household life of the present and the way labour is conducted to the condition of half a century ago or even shorter, a great difference is noticeable regarding the time that the contemporary housewife spends on her household, compared to her grandmother. In the past, the household captured the entire span of attention of the household, she was herself, be it or not aided by personnel, busy almost the entire day and there hardly was any time for her personal interests. Now, this has changed substantially. Electricity and other modern tools have loosened the cuffs of the housewife as the slave of the household, which is not to say that her household task can’t be designed more easy and simple. Many housewives do not fully realize how much the electricity can help her with that. Electrical cooking, electrical provision of heated water etc. are not used increasingly without a reason; they provide the housewife with ample time to dedicate to the spiritual well-being of herself and her family.’ (Maandblad, November 1932, p. 312)*

Here, the focus lies on the hardship of the past of earlier generations, proportioned to the improved circumstances of the present generation, but the latter being declared reluctant to value the full potential of electricity. Electricity had ‘loosened the cuffs’ of past slavery, but, so this narrative holds, women in the present did not fully profit

from its merits. However, it argued for the housewife to fully embrace these merits in order to ensure the spiritual well-being of both herself and her family in the future. A future was imagined in which the merits of electricity were fully appraised.

Next to belonging to their generation, across the monthly magazine, housewives were considered part of a community of housewives. This community was formalized with the establishment of the NVvH. The NVvH actively constructed a historical narrative of its own emergence with which it started on the first page of the first publication of the Monthly Magazine (as referred to in “[The constitution of the historical narrative: a revolution in the household](#)”). Also, in 1921, with its 10th anniversary coming up, NVvH secretary P.J. ten Bosch-van der Tak published the book ‘Short History of the Dutch Association of Housewives’ that was edited and extended with the history of each past year until her death in 1924. After her death, the book was advertised for in several editions of the magazine between 1931 and 1938. Furthermore, in the editions celebrating the 10th and 25th anniversary of the NVvH, special attention was awarded to the history of the NVvH. But historical narratives on the NVvH did not only appear on special occasions. When the size of the Monthly Magazine was extended, there was an article on the first page of the new edition, signed by the main board, in which it was stated:

*‘In the past years, our Association has increased in size extraordinary quickly and with the growing number of members not only the administration but also the area to which the main board had to shift its attention extended (...). The modern housewife can no longer consider her task like her mother and grandmother, like earlier genus. She has to work with less living forces and therefore has to make use of the mechanical tools, that technology has brought within her reach (...). [A]nd therefore, she is thankful, that she has an Association, of which the main board can help her with searching for ways, to fulfil her fourfold task as a wife, mother, housewife and societal worker as good as possible in order to prevent (...) her to perish physically or mentally because of the excessive effort, that is asked of her.’ (Maandblad, September 1929, p. 1)*

In this quote, the generational memory of the modern housewife was connected to the growth of the Association in the past years. The author linked this growth to the use of modern technology that was impinged upon the housewife of the present. Luckily for the housewife, so it was stated, through the NVvH she had become part of a community of housewives. The NVvH was there to help her to find future ways to use modern technology properly to meet the extensive demands of modernity.



In the Netherlands, as well as in Great Britain and the USA, a generation of women had taken stage that argued for the liberation of women by grabbing a political role (Bervoets and Oldenziel 2009). After winning the right to vote in the early years of the Interbellum, the women movement would change its battle ground to the household in which initiatives and activities emerged in large quantities (Van Otterloo 1988). In their roles as housewives, women were awarded political influence, like in a history of the housewife by the name of ‘The Housewife in the National Household’ signed by the redactors of the magazine:

*‘The circle of people with which the housewife comes into contact, keeps increasing; the material that goes through her hands, keeps taking more forms. In the old times, she burned wood or peat, now she must distinguish the heating power and economical value of several means of heating (...) and she must in all cases consider the national interest and too in this respect, as with many other things, clearly consider the political consequences; she has to account for whether her ideal is a trading state that produces itself what it needs (then she must burn German coal). If she strives for international relations, then she must buy English coal. (Of course in peace time)’ (Maandblad, February 1916, p. 11)*

Although the above quote deals with coal (heating would only be modernized after World War II), it shows how housewives were considered part of the political nation. Moreover, it illustrates how they were considered core actors in the energy system. A line was drawn from the past housewife, only dealing with wood and peat and the home sphere, to the present housewife dealing with coal as part of the political nation to an ever increasing material going through her hands and an ever increasing circle of people that she is coming into contact with. As such, a future was imagined in which the societal role of the housewife increased further for which she was considered to be able to distinguish the economic value and heating power of the energy carriers of modernity.

In the twentieth century, the housewife became part of the memories of multiple social groups. The master narrative prescribed the increase of social groups housewives belonged to. This increase fitted the flexible nature of memory, enabling individual women to act in their personal environment as part of a generation of housewives, a community of housewives and as part of a political nation. This increase was not only framed as something that had happened in the past, but as continuing towards the future as well. Futures were imagined, such as those in which burden relief was offered by the use household devices fuelled by gas and electricity and a promise of an increase of societal influence of the housewife through energy choices. As

such, the transformative nature of memory enabled women to act in accordance with one of these futures. By choosing the historical narrative with which she identified, the individual woman contributed to shaping the energy system of the future.

## Discussion

Socio-technical frameworks have proven to be valuable concepts to research how social and technological innovation facilitate sustainability transitions. However, the role of individuals in these transitions has remained largely. In order to acquire a more comprehensive understanding of the way sustainability transitions come about, this paper has adopted memory studies to research the extent to which women had individual agency through memory beyond their role as users and consumers in the energy transition to gas and electricity in the Dutch household. A narrative approach was used to explore how the historical narratives with which individual women could identify, emerging in the monthly magazine of the NVvH, structured and were structured by the interplay between the master narrative of the housewife, the flexible nature of memory, the transformative nature of memory and individual women.

The paper has shown that the historical master narrative on the housewife prescribed the revolution in the household bringing in household devices fuelled by gas and electricity, the increase of housewife responsibilities as a consequence of this revolution and the increase of the sense of the social groups housewife belonged to, as guiding principles of the historical narratives. Still, the flexible nature of memory thrived to give rise to a menu of stories. These stories varied by the way the outcome of the revolution in the household was valued, the energy sources and values that were incorporated as the way to meet the increased housewife responsibilities and the plurality of social groups housewives were considered to belong to. The transformative nature of memory allowed for a variety of energy futures to be imagined as part of these historical narratives. Individual agency rested in the ability of individual women to identify with one of the historical narratives and the accompanied imagination of the future to which they adapted their behaviour.

This paper contributes to sustainability transitions by bringing memory forward as a concept that bridges the individual and collective side of energy transitions (Upham et al. 2020). It has shown that the memory perspective contributes to understanding how during energy transitions individual identity formation is structured by the collective side through the prescriptive structures of a master narrative. However, individuals influence the master narrative themselves as well since it can only operate as such if individuals widely identify with the narratives that adhere to its

prescriptions. Moreover, individuals are ‘empowered’ by the menu of historical narratives that are constructed within the cadres of the master narrative. Individuals identify with the historical narrative that suits the way they make sense of the world and imagine an energy future that goes together with this narrative, to which they adapt their behaviour in the present.

The limitations of the adopted methods and studied material rest in their scope. Next to magazines, historical narratives on the housewife were constructed through a range of other media, such as household guides, cooking books and literature, as well as non-textual media like monuments, rituals and houses a buildings. These materials have not been accounted for in this study. Furthermore, other strategies of narrative construction and identity formation than historical narratives have not been dealt with. Although historical narratives have been brought forward as the most powerful narratives with regard to identity formation (Daphi and Zamponi 2019), the extent to which they influenced the identity formation in relation to other narratives and strategies has remained unclear.

Another limitation is that the NVvH was a middle-class organization that did not comprise a group of members that represented the average of Dutch society. The studied historical narratives were predominantly constructed by white, urban, elitist and liberal women. Although the NVvH managed to address a wide variety of women by stressing its religious, political and commercial impartiality, e.g., immigrants and women living on the countryside were hardly addressed in the historical narratives.

To further exploit the role of memory in energy transitions, a wider range of sources and social movements should be studied together with the exploration of additional methods to analyse them. Herewith, the extent to which the results of this study have been influenced by the Monthly Magazine of the NVvH as a type of medium and the NVvH as a type of social movement can be assessed. Furthermore, through the adoption of quantitative methods in addition to the qualitative methods that have been adopted in this study, i.e., a mixed method approach, the influence of historical narratives on the identity of individuals and social groups in energy systems can be ‘measured’. In this respect, socio-technical configuration analysis (STCA) comes forward as a fruitful method. STCA maps the combination of concepts and actors as configurations through qualitative analysis of a selection of textual documents. By coding the network ties between these configurations, STCA provides for a method to quantitatively map the way emerging configurations are proportioned, both to each other and to vested configurations. By researching how this composition of configurations evolves through the course of time, the development of emerging configurations into dominant configurations can be mapped (Heiberg et al. 2022). As such, STCA offers the

possibility to follow the development of historical narratives as concepts from periphery to centre. Also, it makes it possible to map configurations that adopt historical concepts and configurations that do not, to study the extent to which memory influences the socio-technical transition under study.

## Conclusion

This paper was written to contribute to the increase of understanding of the embedment of individuals in sustainability transitions beyond their role as users and consumers. A yet unexcavated method to study the interconnectedness of the individual and collective side of energy transitions was adopted in the form of memory studies. More particularly, a narrative approach was adopted to research the role of historical narratives in the energy transition from gas to electricity in the Dutch household. Hereto, the Monthly Magazine of the NVvH, published between 1913 and 1942, was scrutinized.

The research has shown that the extent of individual agency of women mounted to their ability to identify with a variety of historical narratives that incorporated gas and electricity as energy sources in multiple ways. The flexible nature of memory was an important component by giving rise to a plurality of often contesting narratives of the past, providing women with a range of historical narratives with which they could identify. The energy source that was propagated differed among the narratives. As such, the adoption of one or the other energy source was part of the process of identification. Moreover, different energy futures were imagined in the narratives. The identification with an imagined energy future was part of the identification process too. By adapting their behaviour in the present to this imagined future, individual women drew on the transformative nature of memory.

Nevertheless, individual agency was limited by the prescriptions of the master narrative. The master narrative prescribed the revolution in the household bringing in household devices, the increase of housewife responsibilities and the increase of a sense of the social groups housewives belonged to, as the guiding principles of the historical narratives. In spite of these limiting features, individual women influenced the master narrative themselves too. After all, the prescriptions of the master narrative could only guide the historical narratives because individual women identified with them.

Clearly, the results of this study do not offer a blueprint that can be transposed to other historical contexts, let alone to the present. Nevertheless, historical treatises have the tendency to encourage their readers to think in directions they would not have thought in otherwise. In this respect, with this paper, it is aimed to broaden the perspective of

its readers on the contemporary energy transition. In the contemporary energy transition, households are generally targeted as homogenous entities. In the studied energy transition, the housewife was targeted as a distinct actor and was offered a wide range of historical narratives she could identify with together with a range of futures she could imagine.

In the Dutch political debate, both in general as in relation to the energy transition, an often heard call is made by politicians to ‘offer perspective’ to citizens. If this call is followed upon by an attempt to formulate such a perspective, it often remains limited to general and abstract formulations that neglect categorical differences such as gender, class, race and geography. Although the equality of rights for every human being is considered here as one of the foremost ethical values, accounting for the differences between people is held to be imperative to transit the contemporary energy system in a sustainable way. In this respect, the way women were approached in the energy transition to gas and electricity provides a source of inspiration. Both contemporary policymakers and other individuals should include the past in the energy transition debate that has hitherto mainly handled the present and the future, to give rise to a variety of historical narratives that incorporate a variety of values, present consequences, imagined futures and energy sources. Offering perspective to citizens starts with offering them a past they can identify with, not by erasing the differences in the name of equality but by accounting for them in a celebration of plurality.

**Data availability** The data that support the results of this paper are available on request from the corresponding author. The data are not publicly available due to user conditions of the owner of the data (for more information, visit: [delpher.nl/over-delpher/gebruiksvoorwaarden](http://delpher.nl/over-delpher/gebruiksvoorwaarden)). After a request is made for the data, the author will consult the owner of the data for permission to share the data.

## Declarations

**Conflict of interest** The paper was written as part of an external PhD candidacy at the Technische Universiteit Eindhoven. The candidacy started in 2021 while the author was working as the head of the Business Intelligence Department of Winst uit je woning, a company operating as an intermediary between constructors, municipalities and home owners for the sustainable retrofitting of houses. A settlement was negotiated between the author and the company in which the author was allowed to work on the research for 1 day a week. It was agreed that if the author would stay employed for four more years, no refund would be charged. After the author left Winst uit je woning two years after the settlement was negotiated, a sum of € 6000 was charged. The new employer, the Vereniging voor Nederlandse Gemeenten (an association that serves the interests of Dutch municipalities), paid for half of the sum. The author paid for the other half. While there has been no interference of any kind on the content of the paper by the colleagues or board of both of the employers, the content of the job at Winst uit je woning was a source of inspiration to research the NVvH as an intermediary organization in the energy transition to gas and electricity. To mitigate the risk of a biased transposition of the daily af-

fairs of the professional practice to the researched energy transition of the past, differences between the researched past energy transition and the present energy transition were taken as a point of departure, as reflected upon in the introduction section. Also, the author has remained hesitant to jump to conclusions regarding the present energy transition on the basis of the researched energy transition, as reflected upon in the conclusion section.

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