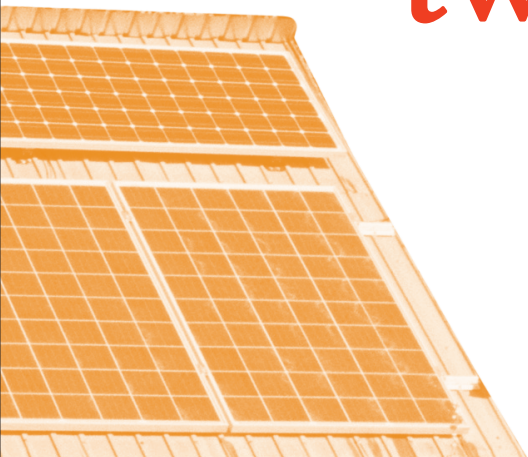




**Black
diamonds,
'green' gases,
and wood
that warms
twice**



Introduction

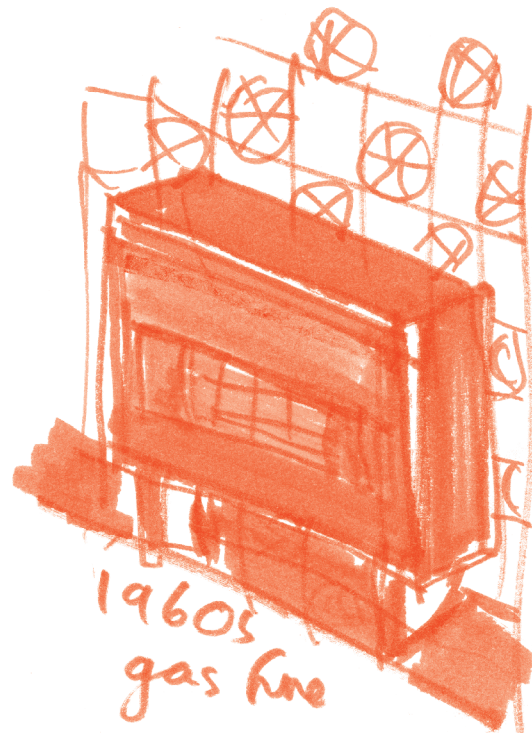
Welcome to *Black Diamonds, 'Green' Gases and Wood that Warms Twice* – an exhibition that draws together the work of four artists, Henna Åho, Denise Lobont, Ram Krishna Ranjan and Becky Shaw, who were part of the *Justheat: A Social and Cultural History of Home Heating* research project 2022–2025.

Keeping homes warm in colder countries is always a technical and economic challenge, but especially within a contemporary context of rising energy prices, social austerity, life-threatening conflict, and a climate crisis that demands different and less use of fuels. Decarbonisation policy 'falls' on this current unstable ground, trying to drive change, but always at the risk of jeopardising equal access to warmth. Contemporary decarbonisation initiatives interact with people's current experiences of injustice. However, they also interact with different time periods and historic experiences, including political and personal events, generational cultures, different life stages, class identities, displacement and the auratic afterglow of memory.

From 2022–2025 *Justheat* brought together social scientists, architects, a historian and artists to collect and explore oral histories of home heating change in communities in Finland, Sweden, Romania and the UK.

Our purpose was to explore aspects of personal, historic narratives of home heating and to share them with policymakers and decision-makers, so that they might also experience their social, emotional and cultural nuances. Home heating change is usually led by large-scale political, technological and economic directives, and rarely considers how experiences are specific to community, geography, time, and intertwined with ways of life and identity. We sought to pay attention to the ways that home heating is connected to the wider 'practice' of managing a home so that decarbonisation strategies can take these into account, making change more fair, sensitive, robust, popular and effective.

Seen together, the artworks capture different relationships between people and their fuels – whether it be the dirt of coal,



the weight of wood, the residue of oil, the rising currents of gas central heating, or the consistent heat of electricity. Distribution and access to warmth can be unfair, generating both lack and excess. Given this, heating is nearly always a result of our relationship with larger powers- governments, commercial providers, landowners and (in the case of coal) employers. It's not surprising, then, that heating can generate strong views and emotions including resistance, distrust, belonging or isolation.

The exhibition explores the complexity of carrying the thermal stories of others, through specific artistic practices. Warmth and cold as felt and experienced, are different to measurable temperature and far more complex than technical heat provision. Our thermal experiences are wrapped up in how we feel as individuals positioned within societies and cultures and how we occupy our homes.

Justheat is led by Aimee Ambrose Sheffield Hallam University, George Jigla, Babes-Bolyai University Cluj, Jenny Palm, Lund University, Sofie Pelsmaker, Tampere University, Sally Shahzad, University of Leeds and Becky Shaw as lead artist, Birmingham City University. Exceptional Researchers worked to support project delivery: Kathy Davies and Lindsey McCarthy Sheffield Hallam University, Anca Sinea and Andreea Vornicu Babes-Bolyai University Cluj, Jenny von Platten, Lund University Sweden, Sarah Kilpeläinen, Mari-Sohvi Mettinen and Raul Castana de la Rosa, Tampere University.

All photographs were taken by the artists, Jenny von Platten or Rezidenta9.



Artists and research in 'Justheat'

It's not unusual for an artist to be brought in at the end of a primarily non-art research project to visualise findings and to make an engaging display about the research for the public. In contrast, in *Justheat*, artists were fused in from the beginning. The project was not only focused on their final works, but on their process of working together with academic researchers. The artists were part of all the stages of the process, and the things they paid attention to through their artistic methods influenced what understandings were generated by the research as a whole.



Firstly, the four artists all accessed and absorbed the oral histories differently. Henna and Becky both drew their way through listening, the act of drawing being a way to literally process an understanding of actions and to instantly make decisions about what is most important in the drawing. That decision-making – 'to decide what is important' – is perhaps one of the most critical aspects of what artists do (and what they do in a research project).

An artist not only pays attention to what stands out when they hear a story, it is what really stands out to *them* – and this is inseparable from how they go about making art. So when, for example, Denise heard the stories, the things that stood out to her were connected to her thoughts about the places and ways she might take photographs. When Becky heard a very detailed description of a fireplace, she was already thinking about the delight in capturing the detail through drawing. When Henna visited people's homes during the oral history gathering process, she was already looking for tactile descriptions and

materials. In the same way, when Ram received his stories (through Jenny van Platten's descriptions), Jenny had also already decided what stood out to her to do this. Then Ram, when he listened, was already working with the images and narratives in his mind that he could translate into a visual diary. The artists are not listening to form conclusions or overviews or to analyse what a story might be 'about' – they are listening for resonances which they want to explore further. This could be because the story is emotionally powerful, because it reminds the artist of something else, because it is contradictory, challenging or because they are curious to pull it apart and play with its ingredients. In this sense what the artists did was equally analytical but not looking for resolution.

It's clear then, that the ways the artists process and make their works is steered by their existing sensibilities. In the process of oral history to artwork, there isn't an attempt to make accurate representations. Rather the artists listen to what 'glows', then take this into their own fictional material and spatial worlds to find a new form. At the same time the artists' insights fed into the analysis of the oral histories with the academic researchers. The *Justheat* team consisted of architects, social scientists and a historian, so their disciplinary differences were also operating, influenced by specific sensibilities and interests. The collective form of analysis, sought to bring together and amplify, but not homogenise the different viewpoints.

This mode of work is complex – it offers ethical challenges, and challenges to knowledge – what if we miss something important? Do the artists' sensibilities obscure or change aspects of the stories? How do the people who give the oral histories feel about the new form they take? At the same time the inclusion of artists is specifically effective at seeking out and expanding affective material – those aspects of the stories that are



personal, cultural and the emotional. *Justheat* sought to work with these strengths and be aware of the difficulties.



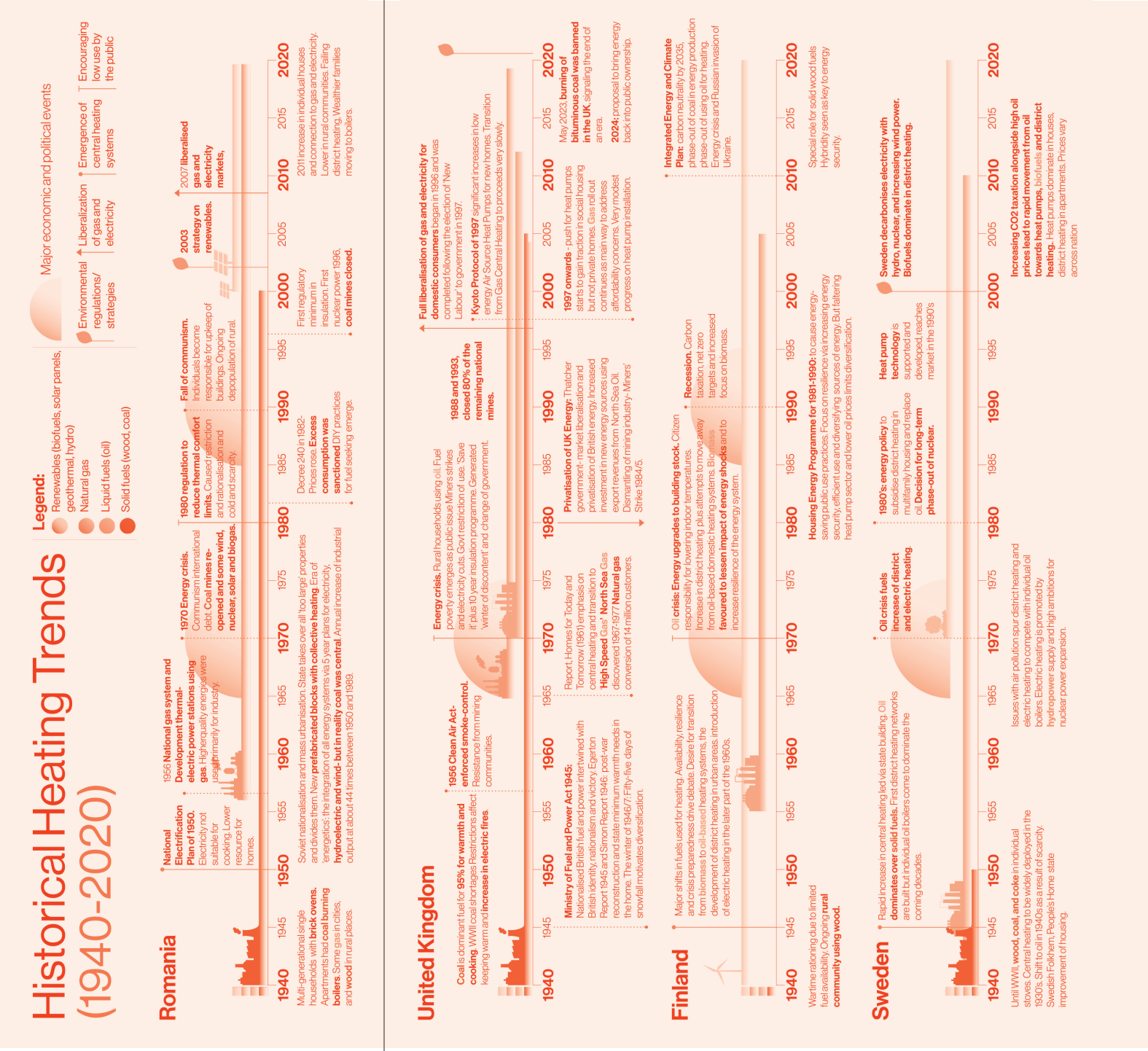
The artists' works were all developed into exhibitions in the local sites of the fieldwork in communities in Romania, Finland, Sweden and the UK. The communities who gave their oral histories were invited to share the works and to take part in public conversations. These events offered ways to reflect on the artworks. The exhibition space also provided a stage to bring communities and decision-makers together to critically reflect on differing perspectives on heating change implementation.



Heating histories infographic

by Edit Gyenge

This is the first infographic of its kind to represent the chronological heating decisions of the UK, Romania, Finland and Sweden in parallel. It allows us to see how decisions taken in the past have profound impact on people's experiences and our current and future heating landscape. For example, in the 1960s Sweden developed its electric infrastructure and district heating while in 1967 the UK began its wholesale adoption of natural gas.



Denise Lobont

(Romania)

The heating 'getaround': taking matters into your own hands

Oral histories collected in Cluj and Hunedoara county reflect the experiences of shortage, energy rationing and the violent collapse of communism in 1989, generating a painful legacy both for those who experienced it and the ongoing life of younger Romanians. This includes an enduring contemporary suspicion and resistance to policies which seek to limit heating use, or which appear to remove the autonomy of households.

The decades of the 90s and 2000s generated new patterns of heating. Most of the respondents remembered that their places became warmer in the 1990s. Those that were in school at the time, recall that the first years of the 1990's erased any practice of saving energy and classes were better heated, even sometimes too hot. The process of heating after the fall of communism was never linear and the experiences vary significantly after this point. However, district heating remained unpopular and the desire was strong to find better alternatives to offer adequate, reliable heat and affordability. After the fall of communism, and in the context of general dissatisfaction with the operation of the district heating system, a considerable number of people have chosen to disconnect from the system and rely on individual alternatives, mostly individual gas boilers. The process of transitioning to a market – oriented economy was the moment when most participants recalled (re)gaining control over their thermal comfort.

Through listening to oral histories and also visiting locations and households, Denise looked for specific moments and encounters that held tensions between historic and contemporary experience. One example was a series of stories and examples (dug out of wardrobes) about the 'Alaindelon' fur coat. This was a garment that became fashionably



Denise Lobont, *Noi Intre Noi (We Among Us)* Rezidenta9, Bucharest, 18 July – 4 August 2024

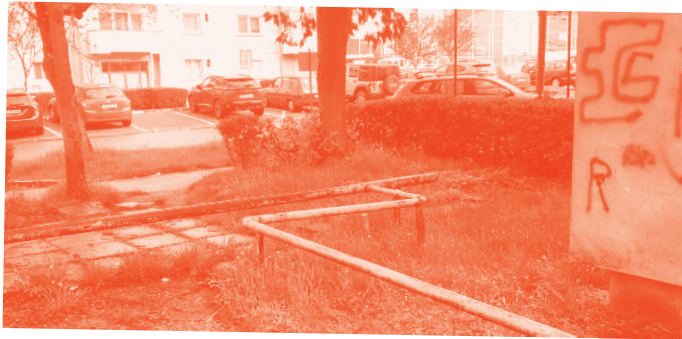


Denise Lobont, *People of Ursici* 2024. Print on polystyrene

Human-animal shared heating relationships

Western in the 1980s, inspired by the visit of the famous French actor to Romania and also very useful for keeping warm in cold Romanian winters. One participant modelled her coat for Denise.

This encounter led Denise to explore more ways that we keep warm through animal-human relationships. Field visits to rural locations involved taking photographs with communities capturing fascinating juxtapositions between chicken and goat farming alongside the commercial and personal use of solar panels.



In parallel, Denise explored the prevalence of 'get arounds' instances of individuals or companies taking matters into their own hands to generate warmth, when frustrated by lack of collective systems to address need. Examples included the adding of gas service pipes above the ground when the organisation of digging is too slow or held back by bureaucracy. Denise was fascinated by the common contemporary Romanian practice of self-insulating individual apartments, generating a patchwork of colours on previously uniform Soviet legacy architecture.

These 'get around' principles – that usually involve the insulation of smaller areas through coverings (including the apartment through architectural insulation foam, and the body with blankets) developed into a series of objects that generate unexpected encounters between commercial, state and individual interests and discontinuous clashes

Dreaming of Escape

between different time periods. In *Wall Carpet* Denise took this same material and carved it into a traditional Romanian wall carpet design – bringing a rural idyll into juxtaposition with the urban 'getaround'. *Turbo Capitalist Dreams Duvet* brings together keeping warm in scarcity with dreams of escape to a Western capitalist world (Turbo Gum was one of the few Western brands sold in Romania before 1989). Both works reflect on the relationship between keeping warm, scarcity, fashion and aspiration.



Denise (Romania, b. 1995, Deva) graduated at the National University of Arts in Bucharest. Her practice is motivated by a documentary approach towards restricted social groups, uncovering stereotypes and providing counter-narratives to question and expose established social constructs. She completed a residency at the Urban Nation Museum for Contemporary Art in Berlin and at Xarkis Festival in Agros, Cyprus where she explored the interdependence between man and nature. Her works have been exhibited at a range of venues including Torino Esposizioni, the Exhibition Room of the Academy of Fine Arts Vienna, and at Galeria Posibilă, Bucharest.

Ram Krishna Ranjan

(Sweden)

Sweden is a leader in sustainable energy, with a successful distributed electric heating system which can seem almost invisible. Apartment living is common and experiences of being cold are rare, even though owners are generally warmer than renters, where landlords control temperatures. Like in Finland, memories of wood fire use are common and very intense, being often associated with well-being and a more enjoyable radiant form of warmth. Many Swedes have wood fires in second summer homes where they merge with the experience of rural life.



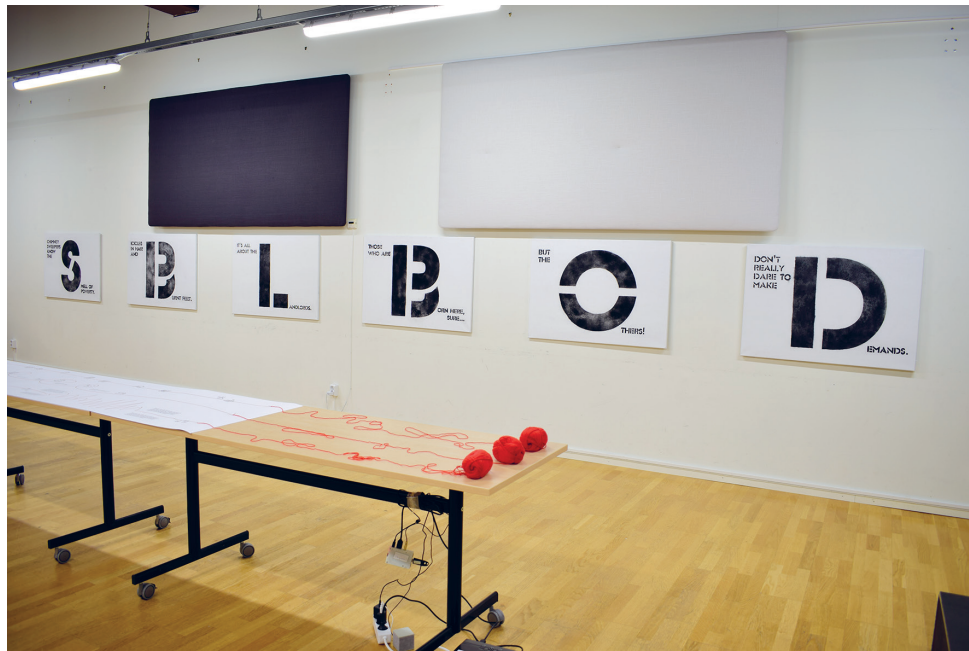
In contrast to the artists in the UK, Romania and Finland, Ram did not access the oral histories as recordings or transcripts but as mediated through researcher Jenny von Platten, who undertook the majority of the oral history interviews in Herrljunga, Enhörna, Lund, and Malmö. This method began as a way to manage a translation from Swedish into

English (as Ram is not a native Swedish speaker) but evolved into a dynamic collaboration. Jenny drew out aspects of the interview that she found especially compelling, then Ram developed a system of visualising the stories, first using photography and then visual video diaries narrated by him. This process developed into a fluid, interdisciplinary practice rooted in storytelling. Ram sees his process as 'fabulation' a method to reimagine selected narratives, or to materialise what might be considered as unrepresentable, emphasising emotional, sensory, and political dimensions.

Ram and Jenny shared their work through public conversations in a community space in Malmö. Here they wanted to reiterate the materiality of heating stories, and Ram developed a series of material experiments. These included multiple paper balls,

Iceicles in hair and burnt feet





Exhibition views: Ram Krishna Ranjan and Jenny von Platten, *Varma Minnen? (Warm Memories?)* Föreningscenter Nobel 21, Malmö. 2–5 December 2024

Warm and cold rent

a common means to make fuel in Sweden, and also a series of coal-printed textual pieces which give short glimpses into specific unjust heating circumstances. These were drawn together from many different stories and focus on a lack of control caused by rental arrangements, the experiences of chimney sweeps and views about 'others'. Rather than maintain any assumption of veracity to the original stories, Ram deliberately combines experiences of heating injustice from different times and spaces, dislocating the stories and proposing new hypothetical relationships, weaving connections between the oral accounts and his own experiences. For this exhibition, Ram presents six text panels made of coal dust and a heap of paper ball fuel.

It's all about the Landlords

Ram Krishna Ranjan (b.1985) works at the intersection of research, pedagogy and expanded film practice. He is currently a lecturer in film at HDK-Valand, from where he also received his PhD in 2023. Through moving-image-based practice, he builds conversations around place-specific issues of social, economic, and political justice. Drawing from a rich educational background in Economics, Media and Cultural Studies and Fine Art and professional experience in film production, he draws together long-standing interests in decoloniality, migration, gentrification, memory and nation, and the intersectionality of caste, class, and gender.

Henna Åho

(Finland)



Henna Åho *Entering/Raollaan* (2024) Tampere Architecture and Design Week

Controlling your heat source

Henna worked with *Justheat* researchers in Eno, Joensuu, Lahti and Tampere. Finland has an increasing use of ground source heat pumps, enjoying the energy security this gives. Given Finland's proximity to Ukraine and Russia, there is much focus on their need to have safe and uninterrupted supply. At the same time, Finland has a long history of burning wood – a practice which is deeply tied to relationships with nature, and sense of place and time in rural communities. Henna began *Justheat* by spending time travelling to interview locations with the academic researchers. As an artist with a long interest in the home, Henna felt it was vital to spend time in people's homes.



Wood that warms twice

Henna recorded her trips, capturing vast snowy landscapes and extensive timber supplies. Households shared their routines with Henna – showing her handmade knitwear, gloves and socks, as well as wood production tools. They also talked in detail about their year long routines of wood harvesting, production and drying, vital to keeping warm in remote locations. The households also shared some aspects of food production technology with Henna, reflecting how bread cooked with different wood produces different tastes. The cycles of labour to produce wood were also understood as part of keeping warm, noting that wood warms twice, once through the heat generated by labour to produce it and then through burning it.



Wood as fueliverse

Henna drew and painted her way through the oral histories, becoming especially interested in the systemic nature of heating – the ways it connects keeping warm, washing and eating in whole home systems. Henna then took all materials to her studio and began developing a large-scale four-part construction that sought to compress her encounters into one. This involved pulling together thoughts on labour, tools, hand-made processes, keeping the body warm vs networked systems, and also the remarkable changes in colour in the environment including Finland's blue nights. The construction includes both painted, drawn and found materials.

Given Finland's relatively small population and deeply spread out rural communities, the team chose two venues for a public conversation with Henna's work – a Design Festival and a community library. Henna noted that these two venues generated different encounters. At the Design Festival there was a more distanced appraisal of the artwork, whereas at the library there was a more intimate engagement from the communities who had been involved. The two experiences led Henna to reflect on the relationship between the *Justheat* artworks, those who gave oral histories and other audiences. She questioned whether the works could generate a dialogue both with those 'who looked for themselves' (i.e. their own oral histories) and those who might connect with a wider temporal and cultural narrative within the work.

Henna Åho (b. 1977, Raisio) is a multidisciplinary artist known for her large-scale material-based constructions. Her work demonstrates an interest in combining fine arts with folk art and with design – exploring colour, form, materiality; narratives, domesticity, the physical body, breathing techniques of yoga, poetic combinations, and neo-spiritual mysticism. Henna has received grants, residencies, and commissions from various organisations such as the Kone Foundation, the Finnish Cultural Foundation, and the Vermont Studio Centre. Her work is represented in the collections of prominent institutions such as the Saastamoinen Foundation, the Helsinki Art Museum, the Oulu Art Museum, the City of Turku, and the Finnish State Art Commission. Åho has been awarded the Henry Lönkfors Studio Fellowship for the period 2024–26.

Different fuel makes the food taste different

Becky Shaw

(United Kingdom)



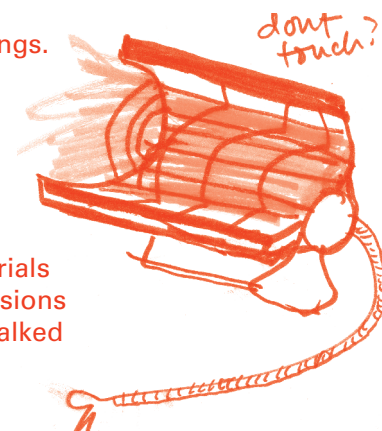
Becky Shaw, *Fourteen Heating Transitions*
Video still. Stamford Art Centre 12–25 January 2025 and
Clifton Park Museum, 11–14 February 2025.

Drawing at the speed of speech

Becky worked with the academic research team in Maltby, and Wentworth (near Rotherham) and Stamford in Lincolnshire. Currently the UK home heating landscape is a patchwork including majority gas central heating, some use of oil, small pockets of contemporary sustainable heating via air source pumps, and significant uses of solid fuel, mainly as a supplementary heat source. Up until the 1970s the UK dependency on burning coal was extremely high, with coal and mining communities being a very influential part of historic British identity. In our Rotherham locations Maltby Main colliery shut in 2013 so is part of recent life. The oral histories powerfully recorded coal as a centre of family life driving companionship and literal togetherness as families gathered in one heated room. Coal was also a source of inequality as mine workers received abundant free coal, but non-mining neighbours didn't. In Stamford, heritage architecture generated large challenges to keeping warm. In contrast to Rotherham, the people interviewed at Stamford had moved around more, across the UK and internationally, so there was a greater range of fuel source experiences, including oil, dung and a plethora of plug-in appliances. There were also accounts of student heating poverty and the joys and tribulations of maintaining comfort in hotter climates. Within the UK oral histories, the commitment to individual and tangible heating sources was deeply connected to a need for security and control.

While listening to the oral history accounts, Becky drew them at the speed of listening, a process of translation into movement and marks that added an additional way of experiencing the stories. Where people gave details Becky's drawings were slower, and where the narrative leaped across time and space, so did the drawings.

At the same time, Becky became fascinated with the potential to 'animate' the UK heating stories. This involved not only thinking about animating the drawings themselves but also connecting them up with materials that show the social and cultural dimensions of heating. Many oral histories stories talked



Putting your body back in the stories

about the importance of heating at key calendar events, especially Christmas. Becky collected a range of Christmas cards that contained images of the hearth – both ‘country cottage’ style but also contemporary and digital versions. This drew Becky’s attention to the complexity of our relationship with time. We often describe ages of transition – the age of coal, the age of gas etc, and yet change is never as distinct this. Rather, we live past (and many different heating fuels) in our present, and our experiences of the past are part of our culture. Also, despite accounts of distinct energy periods, in reality ‘new’ fuels often depend on ‘older’ ones, such as the extensive use of wood for props in mining. Fascinated by the way oral histories assemble different time periods, Becky experimented with methods where two or more times can be present together; making lenticular postcards, rotating ‘reveal’ paper wheels, and trying to make live performances mixed with the original drawings. These form a series of experiments into the nature of the moment of ‘transition’ included as a film in the exhibition.



Becky Shaw (b.1971, Dudley) makes social art works that explore the relationship between individual and society. Works have been commissioned by organisations including City of Calgary Canada, Amstelveen Art Incentive Prize Netherlands, Grizedale Arts UK and Cork Caucus Ireland. Becky has collaborated with water engineers, architects, nurses, building lawyers, sociologists, hospital estates managers, dementia care specialists, educators, fashion academics, midwives, forensic engineers, actors and palliative care specialists to make new works in public contexts. Between 2000–2006 Becky co-directed Static Gallery in Liverpool. She is Professor in Fine Art Practice at Birmingham City University.

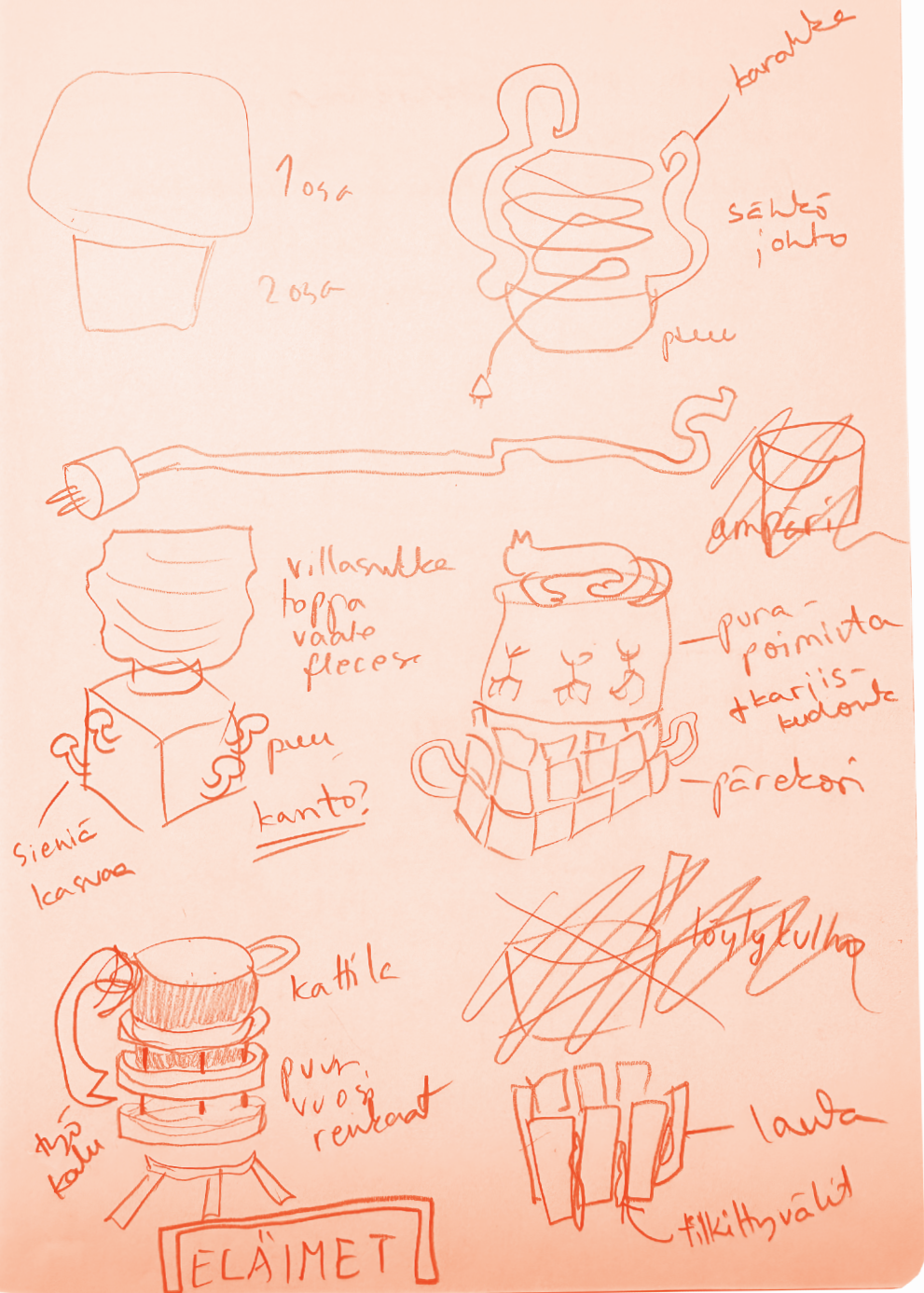
Thinking across our nations: Romania, Finland, Sweden and the UK*

Fueliverses

Our stories and artworks from the UK describe a 'fueliverse' where coal was interwoven with all aspects of life- heating, food, work and community. It was central to all aspects of life, to the extent that some feel quality of life has declined since mining stopped. The same fueliverse of coal was described in Romania, prior to communist industrialisation. This same integration of heating and a way of life was seen in Henna's work, which explores rural communities and the use of wood in Finland, where wood use structures time, space, family roles, cooking and heating. These deep connections to a way of life show why change is so difficult, but also give insight into the potential of heating to support a sense of community.

Fuel Romance

The eras of coal and wood are romanticised because they represent a time when participants were younger and more optimistic, and when local industry and the communities formed around them cared for you. We see this to some extent across all four countries. Participants in Sweden and Finland acknowledge though, that there is a big difference between chopping wood out of necessity and doing so more occasionally for pleasure, with the former being dangerous and exhausting.



Asynchronous ‘progress’

Our sense of progress in relation to heating arrangements is non-linear- either because certain heating methods, like wood burning in Finland maintain the same arrangements seemingly for centuries or because some communities (for example in Romania) are forced to resort to primitive methods such as makeshift stoves when district heating broke down or was decommissioned during the end of communism.

Bricolage/stacking of heat sources

Having multiple forms of heating and sources of heat (i.e. central heating, a solid fuel burner, electric heaters) creates a sense of resilience to uncertainty that has enabled survival over time. For example: being able to plug in an electric heater and heat one room, rather than the whole house (UK), or having a stove to burn things in, including furniture and clothes, when district heating fails or is decommissioned (Romania). Across the countries, we found that households value adding to the range of possible ways to heat and fear loss of control.

Thermal delight

In more privileged settings, having a variety of ways to heat supports the enactment of cultures (whether indigenous or borrowed) and enables pleasurable experiences that promote a sense of wellbeing. For example, using a wood burner to create a cosy feeling, cooking recipes traditionally cooked on wood, or using a wood fired sauna. Burning wood for pleasure is widely identified amongst those we spoke to in Sweden, Finland, and the UK (mainly amongst middle class participants). In rural Romania it is an absolute necessity, but still treasured. The prospect of even warmth throughout the home is surprisingly unattractive to some. This is because thermal delight (deriving

joy from warming the body) is achieved by going from the cold to intense warmth (i.e. coming in from the outside to the intense heat of a fire; moving from a warm fireside to a cool bedroom).

Affordability does not assure thermal comfort

Despite general satisfaction with district heating systems in urban Sweden, particularly under the ‘warm rent’ approach (where heating costs are included in the rent), there is a sense of lack of control over thermal comfort (the heating is activated on a specific date). This is especially the case when they do not have an individual thermostat in the home. Thermal comfort is not assured, even where affordability is not an issue.

*Drawn from: ‘Looking back to move forwards: a social and cultural history of heating in Europe – A summary of key findings across the UK, Romania, Sweden, Finland’ (2025). Ambrose et al. <https://www.shu.ac.uk/centre-regional-economic-social-research/publications/justheat-summary-of-key-findings>

List of works

Henna Åho, *Entering/Raollaan*

Photographic print of four-part wooden construction with paint, textiles and found objects, made in response to oral histories gathered in Eno, Joensuu, Lahti and Tampere, Finland.

Denise Lobont, *Wall Carpet*

Carved insulation material used by Romanians to independently insulate their homes. Design based on popular 1980s Romanian wall carpet pattern of rural idyll. Made in response to oral histories gathered in Hunedoara and Cluj, Romania.

Denise Lobont, *Photographs: People of Ursici, Hunting Dog, Fur Collection, Guarding Dog, Mrs Lia and her Alai delon*

Made in Ursici, Hunedoara, Gelari, Bucharest, and Cluj in response to oral histories gathered in Hunedoara and Cluj, Romania.

Denise Lobont, *Turbo Capitalist Dreams Duvet*

Construction that brings together traditional wool-stuffed duvet used to manage heating scarcity, with design associated with aspiration and excess from the West. Turbo gum was one of the only Western brands that was allowed into Romania in the communist era. Turbo gum gave out free collectible cards of desirable Western status cars. Made in response to oral histories gathered in Hunedoara and Cluj, Romania.

Ram Krishna Ranjan, *Gleaning Residues*

A series of six coal dust prints of graphic texts that either use or respond to oral histories gathered in Herrljunga, Enhörna, Lund, and Malmö, Sweden.

Ram Krishna Ranjan, *Soak, Shape and then Dry*

A pile of paper balls uses a traditional Swedish hand-made fuel technique. Made in response to oral histories gathered in Herrljunga, Enhörna, Lund, and Malmö, Sweden.

Becky Shaw, *Fourteen Heating Transitions*

Film including analogue and digital experiments with the visual and material process of change. Made in response to oral histories collected Maltby, Wentworth, Whiston and Stamford, UK.

Becky Shaw, *When does the past end and the future begin?*

Series of lenticular postcards exploring mythologies of change. Made in response to oral histories collected Maltby, Wentworth, Whiston and Stamford, UK.

Becky Shaw, *Heating Aggregate*

Fifty-piece installation of enlarged drawings and home heating advertisements on cardboard. Made in response to oral histories collected Maltby, Wentworth, Whiston and Stamford, UK.

Miles Umney, *Film of artists*

Drawing together footage of artists' workshop in Gothenberg, June 2024, and artists' and researchers' footage of works in progress.

Black Diamonds, 'Green' Gases and Wood that Burns Twice

presents artworks made in response to home heating changes since 1945. Four artists, Henna Åho, Denise Lobont, Ram Krishna Ranjan and Becky Shaw worked alongside social scientists, architects and an historian, making new works that explore 300 oral histories. These were gathered in Finland, Romania, Sweden and the UK as part of the Justheat research project.

Memories of warmth and cold are never only issues of temperature. The glow of remembered thermal delight has an odd habit of fusing with emotional and social experiences (such as feeling safe and cared for) and political and cultural identities. The intensity of our heating memories can make change hard, but, at the same time, taking our social, cultural and emotional attachment seriously could help us imagine different thermal futures.



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