

Proposal for emPOWERing All: Just and Inclusive Transitions Task Phase 2

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Executive Summary

As phase 1 of the emPOWERing all Task is coming to an end three main insights have emerged; There is an exclusion of certain users in policy, governance and implementation design. Based on intersectional discrimination there is an exclusion of users from knowledge around energy transitions and a wide range of users are not perceived as 'knowers' of their own experiences of energy use. Consequently, stereotypical norms of users are reproduced through new technologies envisioned to drive the energy transitions, which in turn might have caused the unexpectedly slow uptake of new technology.

As a response to these challenges phase 2 will develop new methods for user surveys in order to get more diversified data. Researchers will widen the scope of research to an intersectional understanding of users in a socio-technical and relational context of everyday energy practices. What stands out in the emPOWERing all is the norm-creative design focus which will incorporate the research at the forefront of gender, intersectionality, masculinities-nexus with energy transitions, into prototypes of new low-carbon technologies. This cross-disciplinary knowledge hub will actively promote collaborations with other TCPs.

For policy makers and regulators

The research insights and practice-based results from this task will be formulated into policy briefs, as well as developed into method guidelines that can be used to facilitate immersive workshops and dialogues that can unlock new transformative policy and planning strategies, anchored and co-created with a broader base of citizen groups and perspectives.

For businesses

The task will provide opportunities for learning and improving leadership for transition as well as concrete fine-tuned education material to be used in workshops etc. By exploring new actor constellations, roles and business opportunities, the practice-based insights will be of direct relevance to both incumbent and new niche actors in the energy sector.

For researchers

For academia, the task will further consolidate an emerging transdisciplinary field engaging social sciences, humanities and design in energy-related topics. Anchoring the work in the participating academic institutions will have a potential to also influence education of the next generation of professionals to work for an energy transition with a broader repertoire of perspectives and tools to usher a just societal transformation.

The emPOWERing all proposal, phase 2, at a glance

In order to facilitate the overview of the insights of phase 1 and the proposal for phase two, we provide a short summary of both in this first section. For a full background along with an elaboration of the main task and subtasks, see the following section.

The Task, often referred to as the Gender and Energy Task is in reality called **Empowering all: Gender in policy and implementation for achieving transitions to sustainable energy Task**. In line with IEA's own focus on "People-Centred Clean Energy Transitions", Phase 2 of the Task wants to emphasise the inclusion of all in the coming energy transitions regardless of gender, age, physical abilities, economic status and ethnicity. We second the notion that "[p]utting people, and inclusivity, at the centre of all clean energy transitions not only improves people's lives, but is also key to successful implementation of energy and climate policies."

In order for the Task name to reflect the broadened focus on intersectional aspects rather than simply focusing on gender it will be called **emPOWERing all: Just and inclusive energy transitions** in phase 2. In the following text we will use the name emPOWERing all for phase 1 as well as for phase 2.

Phase 1 Insights and Recommendations

These are the results of the synthesis of the work done in phase 1 of the emPOWERing all: Task, summarised briefly. Three categories of insights have emerged on which the work in phase 2 will be based. For a full version see the forthcoming policy report. The insights highlight three challenges in relation to users and the energy transition:

1. Stereotypical norms and framings of users are drivers of exclusion

- Lack of insight of dominant norms in the energy sector and their consequences
- Current understandings of users in the energy sector rest upon implicit social hierarchies and norms, including gendered ones

2. Drivers of exclusion in policy, governance and implementation design:

- Policy siloing, e.g. a lack of possibility to handle interrelations between the social and energy.
- A gap between state decisions/sector decisions and user practices.
- Users' needs are not being met/considered in policy and technology design.

3. Drivers of exclusion from knowledge and as knowers and experts

- A male / homogeneous dominance in the energy sector.
- A lack of data, in particular disaggregated, critical and power aware data.
- Overreliance on quantitative data not complemented with qualitative data.

Phase 2 - emPOWERall: Just and inclusive energy transitionsTask

The three main challenges identified through the synthesis of the work in phase 1 of the Task are the basis on which the three subtasks in phase 2 build.

Phase 1 Challenge: Stereotypical norms and framings of users are drivers of exclusion.

Phase 2 Subtask 1: Re-framing just energy transitions

Phase 1 Challenge: Exclusion in policy, governance and implementation design.

Phase 2 Subtask 2: Scaling just energy transitions: Closing the gap between users and policy.

Phase 1 Challenge: Exclusion of users from knowledge and as knowers and experts

Phase 2 Subtask 3: Reimagining just energy user transitions: Prototyping inclusive interventions and technologies.

Main task: Formulating policy recommendations for just and inclusive clean, effective energy policy, implementation and technological interventions.

The overarching aim of the Task is to provide impartial, reliable and authoritative research, guidelines and recommended practices to policy/decision makers and implementers based on international comparative evidence which contributes to gender-sensitive energy transitions which also considers intersectional aspects of exclusion.

Phase 2 will be divided into three subtasks correlating to the challenges identified in phase 1 plus the development of a knowledge hub helpdesk as a fourth subtask. It will gather, synthesize and distribute knowledge created in three subtasks outlined below. These subtasks are intended to be mutually reinforcing and contribute to the main task.

Main task deliverables:

Policy briefs

- How to support just and inclusive energy transitions
- Provide examples of best practices from research on how to formulate policy to enable change.

Dissemination

- Popular Dissemination
- Opinion pieces
- Newsletter reporting on the Task research
- Webinars
- TCP Academy webinars
- Infographics and 2-pagers

Subtasks Phase 2 of emPOWER all: Just and inclusive energy transitions

Subtask 1 – Re-framing just energy transitions

Motivation:

Today the energy sector is male dominated and struggles with technocentric norms and stereotypical and static notions of the users of the new technologies that are envisioned to support energy transitions. However, the uptake of these technologies have been slower than anticipated. In response to this, subtask 1 aims to re-frame the notion of the user into a more diversified, just and inclusive one. In the Task, energy use is understood as a socio-technical phenomena that needs nuanced understandings of users in their social and relational context.

Aim:

- Methodological development of data collection and interpretation.
- Produce intersectionally diversified framing of users based in various social contexts and everyday activities.
- To formulate policy recommendations that support nuanced and inclusive understandings of users.

Methods:

- Comparative studies between regions and countries
- Develop survey methods sensitised to gender and intersectionality.
- Historical studies of policy work relating to welfare and energy.
- Desktop studies of polarisation relating to energy transitions.

Proposed deliverables:

- Academic case studies of in/justice in the energy transition in the Global South/North
- Policy recommendations with focus on justice and inclusion.
- Good practices of justice and inclusion aspects on energy transitions in Global South/North
- Peer-reviewed articles
- Innovative governance approaches advancing gender and energy transitions - particularly at the local level in the Global South/North.

Subtask 2 – Scaling just energy transitions: Closing the gap between users and policy.

Motivation:

In order to achieve robust energy transitions, a reliable framework to support actors and users must be developed. This framework should cover all levels of the energy system and be aware of gender, intersectional dimensions and justice.

Aim:

The aim of this subtask is to explore user needs at all levels of the energy system in order to support policy makers in building a framework that sustains just and inclusive energy transitions.

This framework works two ways:

- Institutional support for energy transitions and solutions which are inclusive, just and sustainable.
- Institutional support that empowers users to navigate different energy transitions.

Method:

- Case studies of SMEs (Small and Medium Enterprises)
- Case studies of Energy Communities
- Case studies on women/men in the fossil extraction sector and their transition to green technologies.
- Collection of good practices of how just transitions are happening on the ground in local settings for example in the Maldives, Bangladesh, Sweden and India
- Methodological development of how local experiences and knowledge can be transferred to other places and contexts.

Proposed deliverables:

- Game (like the executive board game developed in phase 1)
- Synergy workshop at the conferences held 2 times/year by 75inQ
- Conference presentations/papers
- Peer-reviewed articles
- Briefing paper for policy makers.
- Continued participation in the IEEE GESI group, developing new standards for Gender, Equality and Social Inclusion in new digital energy services.

Subtask 3 – Reimagining just energy transitions: Prototyping inclusive interventions and technologies.

Subtask 3A - Beyond 'smart grids' - towards new understandings of smartness in relation to energy citizenship

Subtask 3B - Prototyping Low-carbon sufficiency lifestyles in the built environment

Subtask 3C - Prototyping gender sensitive energy engagement tools.

Motivation:

There is a need to turn empirical research into more concrete images of what transitions to just and inclusive low-carbon energy futures could look like. The current technocentric focus on 'smart grids' and 'smart' solutions seems to have difficulties with public acceptance and might have to be reconsidered to cater for users' diverse and changing needs. Norm-creative and speculative design is well suited to reimagining energy futures, building on gender and intersectional perspectives of justice. It produces scientific knowledge alongside concrete prototypes. These prototypes identify current challenges, visualise them, and finally produce illustrations and prototypes of more just and inclusive ways of organising energy production and use.

Aim:

- To reimagine the smart grid beyond its current gendered focus.
- To produce and test prototypes for energy planning in the household which challenges current gendered roles.
- To produce prototypes for low-carbon energy communities built bottom-up.
- Suggest policy recommendations based on the prototypes and their production and implementation.

Method:

- Norm-critical and speculative research through design processes.
- Interventions with prototypes.
- Collaboration and workshops with stakeholders

Proposed deliverables:

- Prototype(s) of the Energy Planner
- Prototypes of low-carbon technologies supporting vital resource flows
- Reimaginings of smart-grid approaches.
- Policy recommendations based on the prototypes
- Peer-reviewed papers
- Conference presentations
- Educational materials and guidelines

Subtask 4 - Pilot for a Knowledge Hub Helpdesk

Subtask 4A - Building an infrastructure for match-making between TCPs

Subtask 4B - Providing collaborations in various forms.

Motivation:

During the first phase of the Task, the Users TCP Gender and Energy Task has built a global hub for knowledge and expertise on the intersection of gender and energy technologies. Our Task brings together leading academics and consultancies working in this field. We have the potential and the willingness to collaborate with other TCPs on the gender issues relating to new technologies.

Aim:

The aim is to contribute to more just and inclusive technology development that facilitates the uptake of new technologies.

Method:

- Norm-creative and speculative design processes
- Industrial design processes

Proposed deliverables:

- An infrastructure for collaborations
- Prototypes of just and inclusive technologies (depending on funding available and the type of collaborations).

Background

The emPOWERing all Task is a global collaboration gathering experts on gender and energy use, approved by the Exco in April 2020. After an establishment phase, the task research work started in January 2021. We are currently in a synthesising phase, which will continue until the end of 2024. The aim of the original task was to gather state-of-the-art research of gender and energy use and find best practices while developing ways to counter organisational and institutional inertias and to design inclusive, just and efficient technologies. Although the assumed gender neutrality of energy policy and energy institutions has been questioned by researchers over several decades, the problems of gender-blind energy policies persist. In addition, social science research on user adoption of energy technologies, including gender research, is often ignored when designing new energy interventions. This international collaboration set out to bridge that gap between research and practice.

During our first phase, we have created a strong network with researchers in six countries who are at the forefront of research and policy work in the field of gender and energy. This group has done significant work in three subtasks. The first focused on knowledge transfer between different regions with a focus on the exchange between the Global North and Global South, including a global research overview on gender, energy use and policy. The second subtask focused on barriers and inertia hindering gender-aware energy policy formulation and implementation, and the third on developing gender-aware user technologies.

The motivation to continue this task comes mainly from three directions. The first one is to further strengthen the long term knowledge hub of expertise and momentum that has been built up in and around the task. During the past years, our work has increasingly attracted attention from stakeholders, from for example the EU (our members were main authors of the gender analysis of the Fitfor55 program), the IEEE, as well as from policy institutions in the participating countries. We have also engaged with energy companies, energy advisors and user organisations (Swedish examples include the Gothenburg municipal energy company and the organisation for Swedish energy Communities), and we hope to be able to build on these connections. Thus, we notice an increasing interest as our first phase draws to a close, and consolidating the knowledge hub would be a valuable foundation to build further work on.

The second motivation is that we have identified gaps in research and policy interventions that need further investigation. The third motivation is that we believe that we can play an important role internally for the UsersTCP structure. The gender and energy task has from the beginning adopted a broad intersectional gender perspective, centering issues of power and systemic justice and injustice. Starting from this perspective, we have interrogated how current power structures affect different user groups, for example women and men, as well as how they affect the kinds of solutions and interventions that are considered and the ways in which these solutions work. Such a systemic perspective is of vital importance in the transition to clean, efficient, and secure energy system(s) in order to ensure just and equal

access. We may work as a “helpdesk” making sure that knowledge about gender and energy is easy to reach within the organisation.

Gender aspects are increasingly considered in other UsersTCP tasks as well, and this is a welcome development. This means that there are overlaps, in particular with the Hard-to-Reach Energy Users Task as well as with the License to Automate 2.0 Task. The focus on just and equal access to energy that is the hallmark of the HtR Energy Users Task is echoed in the Gender and Energy Task. “Social License to Automate 2.0” explores the role gender and diversity factors play in consumption flexibility. However, the particular competence of the Gender and Energy Task is an understanding of structural and systemic power and the ways in which energy systems and related technologies can mediate power, developed in gender studies, STS and feminist technoscience. These kinds of power relations might be expressed in the technocentric values and large-scale eco-modern approach to efficiency that guide the energy sector and that leads to user needs being neglected, in the norms that guide user behaviour, and in the very way we perceive energy. To exemplify, our work complements the work of “Social Licence to automate 2.0” on gender in acceptance and use by zooming out looking for gendered patterns in the premises for ‘smart grids’, and how these gendered patterns affect users (Breukers 2022). We believe that as gender and justice issues become more prevalent in the UsersTCP as a whole, our work to understand both the roots and consequences of structural inequalities becomes increasingly important as well. In the next phase of the Gender and Energy task we would like to act as a hub for foundational knowledge about gender and serve other tasks that are embarking on the journey of integrating gender in their work.

Empower All Task Phase 1 outputs and insights

During phase 1 of the emPOWERing all Task, in addition to creating a network and becoming a hub for knowledge in the field of gender and energy, we have done significant work in our three subtasks. This work includes several academic publications, as well as reports on case studies from Austria, the Netherlands, Sweden and Zanzibar.

Subtask 1 has produced a global overview of the state of the art of research in the nexus between gender, energy use and policy and subtask 2 has developed a policy assessment framework. The tasks have also gathered good practice examples from all over the world. In subtask 3, except for case studies, we have created a fact sheet for energy developers to help the development of inclusive technologies, as well as developed a prototype of a household planner that incorporates research on gender and energy use.

We have also held three internal workshops, as well as several external workshops with stakeholders, users, policy makers and technology developers as part of our work. Our conclusions and insights are currently being synthesised in one policy report covering results from subtask 1 and 3, one briefing paper from subtask 2, and one or two policy briefs from the task as a whole. These insights will serve as stepping stones for phase two, and below we will explain how the new phase relates to and continues the work that has been done in phase one.

Responses to the challenges of just energy transitions

Phase 2 of the emPOWERing all Task takes place in a rather different landscape than phase 1. Since the introduction of phase 1 in 2020, the world has seen several severe shocks which have caused great disruptions including in the energy sector - the Russian invasion of Ukraine, the Covid pandemic and an accelerating climate crisis. These events have led to instability in the globalised supply chains and caused soaring energy prices, spiking up the cost of living of households. This has had asymmetrical effects with gendered and intersectional dimensions, widening the gap between different groups. This polarised landscape might impact the acceptance for necessary energy transition along with other climate-related transitions.

In terms of research on the energy and gender nexus, the extensive global overview produced in phase 1 of the Task demonstrates similar tendencies in how users are perceived. Here we see a difference in the framing of the user between men and women, users in the Global South and the Global North, a lack of understanding of intersectional aspects such as class, race, educational level etc, and a lack of consideration of indigenous perspectives and livelihoods (Ahlborg et al., forthcoming).

Research on masculinities in the Western energy sector by one of our NEs demonstrates that male-coded technocentric norms of large-scale innovations and technological rather than social solutions dominate (Anshelm and Hultman 2014, Veraart, Åberg and Vikström, 2020). Resistance to sustainable transitions is often motivated by such norms (Hultman et al., 2019). Furthermore, these norms are visible in user framings in the energy sector as illustrated by Strengers who put forward Resource man as a conceptualisation of the consumer imagined by engineers - a tech-savvy man who is devoted to energy saving measures. Solutions are therefore not likely to work for real users (Strengers, 2014; Breukers et al., 2022). Notably, the uptake of smart home technologies has been much lower than anticipated, especially among women (Nilsson et al 2018; Strengers et al., 2018; Wester, 2022).

Along with other scholars (Daamgard et al., 2022, Groves et al., 2021 and Bell et al., 2020), our researchers argue that just and inclusive energy transitions need re-envisioning of current understandings of energy as abstract, technocratic and individualistic (Wågström & Michael, 2023) and move towards more relational understanding of energy, centering people's lived realities and everyday experiences. This gender and intersectionality - energy nexus requires policy attention and research. As researchers have pointed out - the deeper our understanding of the various aspects of polarising effects of inequality becomes the greater our chances of realising energy transitions.

1.Framing just energy transitions

The extensive global overviews of how the 'user' is framed in energy related research that were executed in phase 1 of this task suggests that current inequities in energy sectors worldwide shape how energy transitions are envisioned, defined and steered. Unless there is deliberative transformative work done to engage with unequal power relations along the entire decision-making chain - from policy to energy production and use - inequalities and injustice will be reproduced and lead to new harms and exclusions (Ahlborg et al., forthcoming). Based on our research, we believe energy transitions will involve behavioural and cultural change, adoption of new technologies and new skills and that there will inevitably be a tension between empowerment and dominance in these transitions (Ahlborg et al., forthcoming). This subtask therefore aims to focus on re-framings of users which can contribute to more equitable and just energy transitions.

1.1 Disaggregated data

As our researchers have pointed out in their report to the FEMM committee (Feenstra et al., 2024) disaggregated data is crucial to incorporate gender mainstreaming and an understanding of intersectional aspects such as class and race into the policy-making process. However there is a general lack of gender disaggregated energy use data which leads to policy making which thus risks being gender-blind. There is even less disaggregation in terms of intersectionality across social groups. Energy policy documents also show a lack of understanding of gender, using sex and gender interchangeably (Clancy et al., forthcoming). Data on household level treats the home as a 'black box' i.e. an entity whose internal parts are hidden and not understood, thus leaving stereotypical notions of the nuclear family unchallenged (Clancy and Feenstra, 2019).

Disaggregated data collection is complex and methodologically challenging. Quantitative data tends towards generalised claims. Group level data does not account for certain patterns, nor if and how they can be addressed in order to achieve just energy transitions (Ahlborg et al., forthcoming). Scholars therefore argue for a combination of quantitative data and a qualitative data analysis in order to avoid path dependencies (Middlemiss et al., 2020). Our researchers argue for the development of mixed methods and relational approaches that study gender as a dynamic and social category and focus on how stereotypical behaviours and norms may change in relation to new technologies and patterns of energy use (Ahlborg et al., forthcoming). One example of methodological development in phase 2 of the Task is the generation of a survey instrument for Sweden, sensitised to gender and intersectional aspects of households and their energy use.

1.2 Re-framing users

The group of researchers involved in phase 2 have a diverse set of interests and competencies in relation to gender and intersectional perspectives on energy and energy users. Gender studies often have a focus on 'women' and their vulnerabilities which has been criticised by researchers with an intersectional perspective for being one-dimensional. Therefore this subtask will focus on broadening and deepening the research to accommodate diversity.

The Gender and Energy Task has and will continue to deepen understandings of masculinities and how they shape the discourse on energy transitions. These norms are persistent and powerful within the energy sector and inevitably affect the polarisation we see in relation to the energy discourse, production and use across the globe. Groundbreaking work on identifying and mapping out masculinities has been done by NEs in the Task (Hultman and Pulé, 2018) and continues with a focus on how to move from polarising masculinities to caring forms of masculinities which actively supports and promotes transitions to sustainable energy systems. This includes world-leading research on climate change denial that directly affects the landscape of energy and hinders the development of renewable and geopolitically stabilising energy sources and infrastructure.

We will include indigenous perspectives which are particularly relevant in relation to the changing energy landscape where extractive activities affect traditional livelihoods and are very present in countries such as Sweden and Australia. The Summary for Policymakers of the Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC 2014b, p. 26) states that 'Indigenous, local, and traditional knowledge systems and practices, including indigenous peoples' holistic view of community and environment, are a major resource for adapting to climate change, but these have not been used consistently in existing adaptation efforts. Integrating such forms of knowledge with existing practices increases the effectiveness of adaptation'. The importance of this kind of knowledge is confirmed by The IPCC's Special Report on Global Warming of 1.5°C (SR15) (IPCC 2018a; de Coninck et al. 2018), but underscores that these knowledge systems are threatened. The knowledge systems described here have direct bearings on energy conserving behaviours and are explored by NEs from several countries.

The global reviews in phase 1 of the Task has analysed the dominant framings of users in the Global South and Global North and found that these framings are often stereotypical and misleading. There are differences in focus in these spheres where women in the Global South are portrayed as vulnerable and without agency, while women in the Global North are standing in the shadow of an imagined Resource Man. Phase 2 of the Task builds on this work endeavouring a diversification of user framings in order to make them more relevant for the development of policy and technologies for energy transitions.

One focus is increased knowledge transfer between the Global North and Global South. Mainstream discourse within energy, climate and transitions scholarship is marked by an epistemic bias, where techno-economic perspectives often overshadow the social realities and voices from the Global South (Crawford, Michael, and Mikulewicz 2023). In this research, we seek to challenge the traditional narrative by reversing the gaze and build a compelling case of knowledge hierarchies by centering Global South knowledge frameworks as a counter-narrative to mainstream developmental visions where the Global North is normative.

2. Scaling just transitions: Closing the gaps between policy and users

The revised [Energy Efficiency Directive](#) (EU/2023/1791) significantly raises the EU's ambition on energy efficiency. Whether these transitions are centralised or take a more decentralised approach a supportive infrastructure is key to the realisation of energy transitions. Under the revised directive, EU countries will need to ensure an infrastructure with competence operating on all levels such as energy service providers, energy auditors, energy managers and installers.

2.1 Gendered energy sector

The energy sector is heavily gendered in several respects. One is that a majority of the people working in the energy sector are men. This sector is one of the least gender diverse of the global economy today. In 2019, only 16% of the energy sector's employees were women, despite making up nearly 40% of global employment (IEA, 2019). We found that where energy policy acknowledges the underrepresentation of women in policy formulation, the emphasis is on increasing the numbers of women, without outlining strategies to achieve this goal, nor recognising the contribution women can make to developing policy or reaching its objectives (Clancy et al., forthcoming).

2.2 Historical perspectives

Phase two of the emPOWERing all Task will explore various forms of supportive infrastructure for centralised and decentralised energy transitions. To give a perspective, we will look at how policy in relation to energy poverty has evolved historically. How have policy silos emerged and been breached, for example that between energy and climate policy, and environmental policy and social policy? This includes a methodological section on how we can transfer historical knowledge into practice and policy-making today.

2.3 Small and medium enterprises

Small and medium enterprises (SMEs), is a sector that employs many women in the Global North as well as in the Global South. Especially the service sector employs many women in SME's or as female entrepreneurs, like hairdressers, food preparation services, daycares. This sector was unproportionally affected by the energy crisis. Nevertheless, SMEs have been overlooked in terms of support. In which ways can policy provide a scaffolding structure for this sector? There is a need for further research in this area.

2.4 Energy communities

Energy communities receive increasing attention from EU climate and energy policy. One example is the Clean Energy Package (CEP), the recast EU Renewable Energy Directive (2018/2001/EU) (RED II). Energy communities are put forward as a way of involving citizens and bring a democratisation of energy provision with a focus on renewable sources in the transition to a low-carbon energy landscape. However, participation in energy communities demonstrates less diversity than hoped for as women, ethnic groups and young people underrepresented (Clancy et al., forthcoming).

In phase 2 we will look further into how the surrounding infrastructure can support and emphasise the justice aspects and look into evaluations of the outcome of existing energy communities in terms of justice and inclusivity. Further, phase 2 will continue our

participation in the IEEE GESI group, developing new standards for Gender, Equality and Social Inclusion in new digital energy services.

3.Reimagining just energy transitions: Prototyping inclusive interventions

As stated above, our research shows a focus on technocentric and large-scale innovations dominate The Western energy paradigm rather than low-tech and social solutions (Anshelm and Hultman 2014, Veraart, Åberg and Vikström, 2020). In Phase 2 of the task we propose a potential shift in thinking and suggest an alternative narrative emphasizing interdependent individuals within intricate socio-technical networks. This reframing shifts the focus from individual consumption and obligations to the collective responsibilities among a diverse set of interdependent actors. We will also explore low-carbon lifestyles and everyday practices as a complement to current conceptualisation of ‘smart living’.

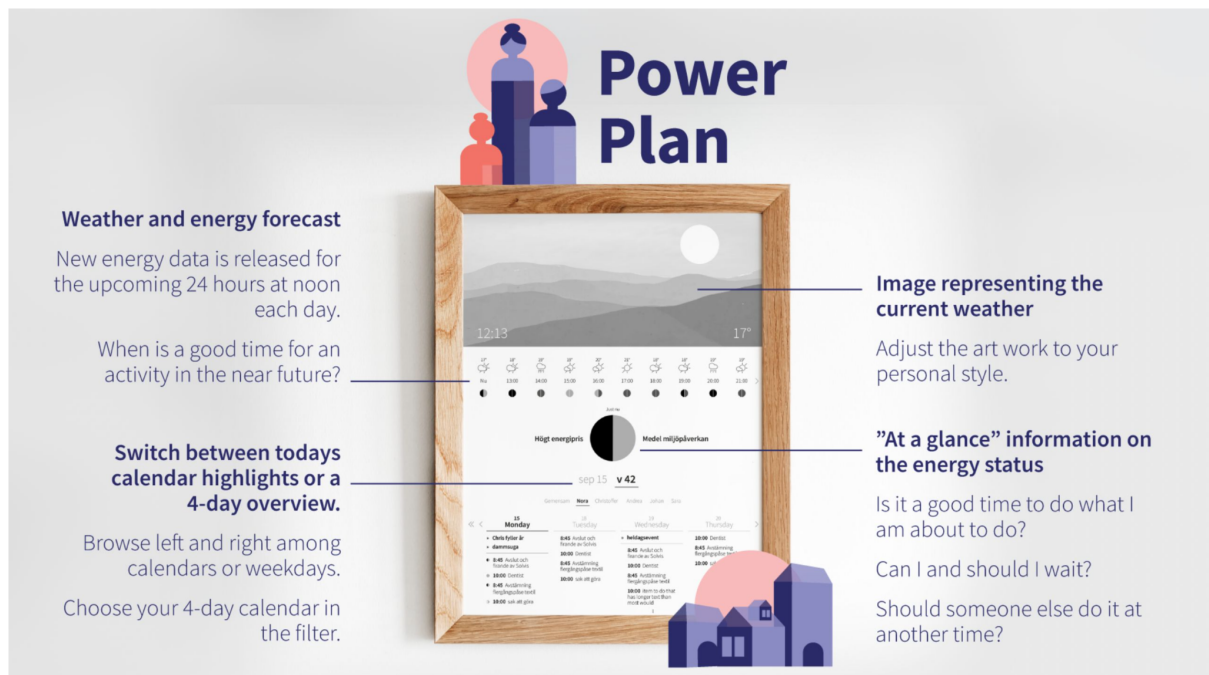
3.1 Norm-creative design responses to stereotyped technologies

In Sweden, norm-critical design has emerged in the last decade as a way of counteracting gendered norms that are unthinkingly designed into artefacts and incorporating intersectional perspectives (Andersson, 2023; Ehrnberger, 2017). As STS and feminist technoscience has shown, designed technologies are mediators of power (Akrich, 1992; Dovey, 2008; Ehrnberger et al., 2012; Winner, 1980). Sociologist Madeleine Akrich (1992) reveals in a study of technology transfer from France to Africa, how specific regulations were inscribed into electricity systems and how the use of these systems framed many users as deviants. Akrich concludes with a call for studies which can deepen our understanding of the way in which artefacts can control and direct users’ behaviour. However, Akrich also points out that the artefacts do not only mediate a ‘power over’ but simultaneously afford users a ‘power to’, an agency, which is equally important to explore and map out.

The emPOWERing All Task has engaged leading experts on research through norm-critical/creative design and will produce a range of prototypes which address the gender-biases in current technology development and suggest ways forward. In phase 1 we initiated a collaboration with norm-critical design practitioners who uses the design process to put the research to practice in concrete technology prototypes. This work will be intensified in phase 2 with another norm-critical and speculative design project that will explore low-carbon futures and produce prototypes and policy recommendations.

3.2 The Energy Planner

The first phase of the emPOWERing All Task produced a prototype called the ‘Energy planner’ through a norm-critical design process based on, and in collaboration with researchers doing empirical research on smart grid pilots with a user perspective. Gender-coded household responsibilities were identified, where men prioritize long-term, financially motivated decisions, and women focus on daily behavioural adjustments (Clancy and Roehr, 2003). This male interpretation has been predominant in the energy crisis narrative, but both approaches are crucial for accelerating the transition to renewable sources and adapting to evolving energy dynamics. Gendered inequalities within households are made visible and challenged through supporting a distribution of energy planning and responsibility for behavioural adjustments more evenly among household members.



Prototype of the Energy Planner designed by Boid.

3.3 Inclusive low-carbon lifestyles

Another norm-critical project will explore low-carbon scenarios developed by preppers in Sweden. These scenarios often build on long-term power outages and serve to manage vital resource flows without electricity in a low-tech and local system. The project will prototype how these bottom-up strategies can be scaled up and integrated in the built environment to inspire low-carbon lifestyles that are appealing to users beyond prepping communities. This approach combines sufficiency narratives with the notion of energy communities and will result in prototypes of technologies and infrastructures as well as illustrations and finally policy recommendations.

4. The knowledge hub helpdesk.

The Users TCP Gender and Energy Task is a global hub for knowledge and expertise on the intersection of gender and energy technologies. Our Task brings together leading academics and consultancies working in this field. We have the potential and the willingness to collaborate with other TCPs on the gender issues relating to new technologies. The industrial design competence in this subtask is valuable in the building up of the “Knowledge hub helpdesk” through which the Task offers their in-depth knowledge of gender and intersectionality in relation to industrial design processes and products.

There are various ways in which the emPOWERing all TCP could collaborate efficiently and effectively with other TCPs:

Other TCPs have funding for a Task, or research project, and want to allocate some of the funding to cover the intersection with gender issues

- a. If the requirement is substantial, we could help to find good bidders for the work, by advertising amongst our Task participants and wider network
- b. If the requirement is small (below the threshold for competition, e.g. < EUR 15 000), we can ask the consultants involved in our Task if they would like to do the work.

Other TCPs wish to collaborate with the Users TCP on a Task or project which would benefit from covering the intersection with gender issues

- a. If the subject is aligned sufficiently with the existing work of the Gender and Energy Task participants, it may be possible to accommodate the request without new funding
- b. If new funding is required, the Users TCP would undertake its usual process for initiating new Tasks or projects (concept note followed by proposal).

Alignment with the Users TCP Strategic Plan and/or IEA policy

This task will contribute to the strategic plan of the UsersTCP in several ways. The strategy highlights the need for a deeper understanding of users within energy systems and for this understanding to be brought together with expertise in technologies to accelerate the energy transition.

We will do this by providing an intersectional gender-disaggregated understanding of the patterns of our current socio-technical energy systems and of how these patterns can both promote and hinder the energy transition. We will provide a deeper understanding of user patterns, as well as the interplay between users, actors in the energy system, policies and technological development within the energy sector.

We will further provide evidence from socio-technical research on energy use and production, to inform policy making for clean, efficient and secure energy transitions, as asked for by the strategy.

In doing this, we will aim to provide impartial, reliable and authoritative research, guidelines and recommended practices to policy/decision makers and implementers based on international comparative evidence. We want to argue that an effective and secure energy system also needs to be inclusive. Our research will also contribute to a deeper understanding of the role of digitalisation in socio-technical systems change.

In addition, In the Task, we also aim to establish international networks and bring in new country members to the UserTCP, as well as work together with other TCPs. Gender issues are cross-cutting, and it is vital that the work we do can also support the work of the other TCP:s.

Pathways to Impact

The emPOWERing All Task benefits from research at the forefront in the field of gender and energy and masculinities and energy who have built and consolidated a knowledge hub in phase 1. Phase two will emphasise the dissemination of this expertise through two channels.

The first is a unique contribution of this particular task, namely the focus on norm-creative research through design. As described more elaborately above this means that the design process is used as another form of knowledge production where the world-leading expertise is integrated. This results in prototypes which have the ability to negotiate various interests and norms in relation to energy and energy use in order to make more just and inclusive technologies. This might impact the potential uptake as user needs are more carefully considered. Furthermore, these prototype explore in which ways power is mediated through technology and may thus direct research and development of new technologies towards more inclusive technologies.

Following the above, the knowledge hub helpdesk that will be developed in phase 2 builds on a solid scientific base and can be translated into technologies through the norm-creative

expertise. This expertise includes engineers and industrial designers who are involved in RnD work with large companies on a daily basis, building on norm-critical and norm-creative theory. This might effectively build bridges between users TCP and more technocentric TCPs.

The combination of the concrete norm-critical and speculative prototypes and visualisations with other world-leading research with widespread global networks provides the emPOWER All Task with a strong potential to disseminate their work and produce policy guidance for various IEA member countries along with new technologies that are more nuanced in their understanding of users and therefore more relevant.

Management, roles and responsibilities

Management (responsibilities of the Task Leader and National Experts)

The Task Leader for phase 1, Anna Åberg (Chalmers, Sweden), will transition the management to the new Task Leader Camilla Andersson (KTH, Sweden). Andersson has been part of the task since one and a half years back taking part in various meetings making sure that the handover will be smooth. Camilla will ensure good communication between Users TCP ExCo, the Empower All Task and National Experts as well as expand the Swedish engagement in the task by yet another university

Responsibilities of the Task Leader (TL):

Responsibilities of the TL towards the IEA:

- Produce the required reports for the IEA (Annual Reports, Final Task Report and Policy Briefs)
- Provide Task Status Updates at ExCo meetings
- At the request of the Executive Committee, participate in workshops, seminars, conferences, and other meetings.
- Provide reports to each Executive Committee meeting on the progress and results of the work performed under the Program of Work.
- Provide to the Executive Committee, within six (6) months after completion of all work under the Task, a final report for its approval and transmittal to the Agency.
- Communicate and disseminate the results of the Task within the IEA
- Manage the communication around the Knowledge hub

Responsibilities of the TL towards the Swedish Energy Agency:

- Budget oversight
- Reporting

Responsibilities of the TL to the Task:

- Coordination of the subtasks
- Schedule and coordinate physical and virtual meetings.
- Coordination of participation in conferences and workshops.

- Provide the Participants with the necessary guidelines for the work to be carried out under the Subtasks, for the reports to be made, and for information to be distributed.
- Management of deliveries from the subtasks.
- Develop templates for any collaboration and non-disclosure agreements.
- Establish Research Data Management protocols and permissions.

The responsibilities of the National Experts (NEs) include:

- Support development of the Task Work Plan
- Flag any issues regarding the research with the TL immediately
- Build relevant relationships and networks in their countries
- Support the organisation of Task meetings and symposia in their home country
- Attend other participating countries' expert workshops, when relevant and possible
- Present the work of the Task at international conferences and workshops.
- Provide the TL with feedback and information on the results of the work carried out by their work
- Disseminate the results of the work, including among their own networks.
- Provide contribution to the content and reviewing of the draft reports of the Task
- Contribute country context and expertise
- Provide contribution to the content and reviewing of all draft reports of the Task
- Support the TL in disseminating the results of the work, including among their own networks
- Identify publication and dissemination opportunities including running sessions at relevant conferences, coordinating or contributing to journal special issues, providing input to publications of the IEA and other relevant international bodies, etc.

Meetings plan

A meetings plan will be elaborated during the Task establishment phase. In general, recurring administrative meetings will be held virtually on Zoom, in order to minimize travel and ensure accessibility for all Task members.

Country contributions

Sweden (confirmed participation):

Camilla Anderson, KTH- Royal Institute of Technology, Stockholm (TL /Operating Agent)

Anna Åberg, Chalmers University of Technology, Gothenburg (NE)

Helene Ahlborg, Chalmers University of Technology, Gothenburg (advisory role) .

Martin Hultman, Chalmers University of Technology, Gothenburg (advisory role)

Kavya Michael, Chalmers University of Technology, Gothenburg (NE)

Pernilla Hagbert, KTH- Royal Institute of Technology, Stockholm (NE)

Várdduo- Centre for Sami Research

Contacted, but no confirmation as of yet.

The Netherlands (confirmed participation):

Joy Clancy, 75inQ, Delft

Marielle Feenstra, 75inQ, Delft

Sylvia Breuker, Duneworks, Eindhoven

USA

No researcher assigned as of yet

Australia: (Participation confirmed)

Reihana Mohideen, University of Melbourne

Ireland: (Participation confirmed)

Breffi Lennon, University College Cork

Niall Dunphy, University College Cork

Alexandra Revez, University College Cork

Austria:

tba (in tendering process)

Canada (IEA member, researchers have expressed interest)

Jebunnessa Chapola

SSHRC Postdoctoral Fellow.

Johnson Shoyama Graduate School of Public Policy University of Regina, SK, Canada

Ranjan Datta,

Canada Research Chair in Community Disaster Research

Indigenous Studies, Department of Humanities, Mount Royal University

Adjunct Professor, Natural Resources Institute - University of Manitoba, Canada

Finance & Budget

The Swedish Energy Agency Energimyndigheten will fund the TL, Camilla Andersson through a full-time postdoc position for three years which will be located at KTH, Royal Institute of Technology, Stockholm, Sweden.

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