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Wellbeing, energy futures and everyday life (WEFEL)

Consumer-citizen engagement towards defining the good life in future energy pathways

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University of Geneva, Sociology / lnstitute of sociological research, Boulevard Pont d'Arve 40,1211 Genf 1, www.unige.ch.
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EPFL ENAC-IA-LEURE, Stationl6, 1015, Lausanne, www.epfl.ch (until June 2021)
University of Basel, Vesalgasse 1,4051, Basel, www.unibas.ch

Authors:
Marlyne Sahakian, University of Geneva, marlyne.sahakian@unige.ch
Orlane Moynat, University of Geneva, orlane.moynat@unige.ch
Vincent Moreau, University of Geneva, vincent.moreau@unige.ch

SFOE project coordinators:
Marlyne Sahakian, University of Geneva, marlyne.sahakian@unige.ch

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Zusammenfassung

Energie ist bei allem, was wir tun, allgegenwärtig, von der Zubereitung einer Mahlzeit bis zur Fortbewegung. In der Schweiz zielen nachhaltige Energieszenarien auf einen reduzierten Energieverbrauch, einen Verzicht auf kohlenstoffhaltige Energieträger, sowie auf Netto-Null-Emissionen in allen Sektoren ab. Wie sich solche Szenarien auf das tägliche Leben auswirken und welche Kompromisse sich daraus ergeben, muss jedoch noch erforscht werden. Das Hauptziel des Projekts ist es zum einen, zu verstehen, wie sich Energieszenarien auf das menschliche Wohlbefinden und das Alltagsleben in der Schweiz auswirken. Zum anderen soll untersucht werden, wie Verbraucher:innen und Bürger:innen in die Unterstützung einer nachhaltigen Energiezukunft einbezogen werden können. Ausgehend von Schweizer Perspektiven zur nachhaltigen Energieversorgung werden drei Leitfragen behandelt: 1. Wie können nachhaltige Energieszenarien in alltägliche Lebenssituationen übersetzt werden, damit sie für Schweizer Verbraucher:innen und Bürger:innen zugänglich und nachvollziehbar sind? 2. Wie können positive und negative Kompromisse quantifiziert und qualifiziert werden, einschließlich Rebound-Effekte? 3. Wie stellen sich die Schweizer Verbraucher:innen und Bürger:innen einen Übergang zu einer nachhaltigen Energiezukunft in Bezug auf ihren Alltag und ihr Wohlbefinden vor? In diesem Zwischenbericht fassen wir die ersten beiden Phasen des Projekts zusammen: Es wurden fiktive Charaktere aus der Zukunft entwickelt, die die Energiewende in Genf im Jahr 2050 darstellen. Es wurden Workshops durchgeführt, um Feedback zu diesen fiktiven Charakteren zu erhalten, und es wurde begonnen, die Kompromisse beim Energieverbrauch zu quantifizieren. Unsere wichtigste Schlussfolgerung aus dieser Phase ist, dass eine interdisziplinäre Arbeit, die soziologische und umweltbezogene Ansätze kombiniert, interessante Fortschritte bei der Darstellung von Zukunftsvorstellungen im Rahmen einer Energiewende ermöglicht. Wir haben auch festgestellt, dass die fiktiven Charaktere ein wirksames Instrument für die Kommunikation über eine mögliche Zukunft sind, aber sie müssen auf soliden Beweisen und vielversprechenden Ideen beruhen, die heute existieren.

Résumé

Les activités quotidiennes sont interreliées à l'énergie, de nos repas, nos déplacements. En Suisse, les perspectives énergétiques visent à réduire sa consommation et la décarboniser, pour atteindre des émissions nettes nulles dans tous les secteurs. Cependant, les liens entre ces scénarios, nos activités quotidiennes ainsi que les compromis, restent à établir. Ce projet aborde trois questions : 1) Comment les perspectives énergétiques peuvent-elles être transposées dans nos activités quotidiennes, accessibles et utilisables par les citoyens.ennes - consommateurs·trice·s ? 2) Comment les compromis positifs et négatifs peuvent-ils être quantifiés et qualifiés, y compris les effets rebonds ? 3) Comment les citoyen·enne·s imaginent·ils·elles une transition vers un avenir énergétique durable par rapport à leur quotidien et leur bien-être ? Pour ce rapport intermédiaire, nous résumons les deux premières étapes du projet : des personas du futur ont été développés, représentant les transitions énergétiques à Genève en 2050. Des ateliers ont été organisés pour recueillir des commentaires sur ces personas, et les compromis en termes d'utilisation de l'énergie ont commencé à être quantifiés. Notre principale conclusion de cette phase est que le travail interdisciplinaire, combinant des approches sociologiques et d'impact environnemental, fournit des avancées intéressantes lorsqu'il s'agit de représenter les imaginaires du futur dans une transition énergétique. Nous avons également constaté que les personas constituent un outil efficace de communication sur l'avenir, mais ils doivent être fondés sur des preuves solides et des idées prometteuses qui existent aujourd'hui.

Summary

Energy is tied up with everyday lives, from preparing a meal, to getting around. In Switzerland, energy scenarios aim for reduced energy usage and decarbonization, along with net zero emissions across sectors. Yet how such scenarios relate to everyday life and resulting tradeoffs remain to be explored. The main purpose of the project is to understand: How energy scenarios relate to human wellbeing and everyday life in Switzerland and to see how consumer-citizens might be involved in supporting sustainable energy futures. Building on Swiss sustainable energy pathways, three main questions are addressed: 1. How can energy pathways be translated into everyday life situations, accessible and relatable to diverse Swiss consumer-citizens? 2. How can positive and negative trade-offs be quantified and qualified, including rebound effects? 3. How do Swiss citizens imagine a transition to sustainable energy futures in relation to everyday lives and wellbeing? For this interim report, we summarize the first two stages of the project: personas from the future have been developed, representing energy transitions in Geneva in 2050. Workshops were conducted to gain feedback on these personas, and trade-offs in terms of energy usage has begun to be quantified. Our main conclusion from this phase is that inter-disciplinary work, combining sociological and environmental impact approaches, provides interesting advances when it comes to representing future imaginaries in an energy transition. We have also found that the personas are an effective tool for communicating around the future, but they must be based on robust evidence and promising ideas that exist today.

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Abbreviations

EP2050+: Swiss Energy Perspectives 2050+

WEFEL: Wellbeing, energy futures and everyday life

1 Introduction

1.1 Background information and current situation

In 2017, households were responsible for 35% of final energy usage (OFS 2019), yet how to engage households in energy transitions towards the Swiss Energy Strategy 2050 is less clear. Energy use is more than the direct purchase of fuels and electricity: household consumption domains relate to significant indirect energy use and emissions (Pang et al. 2019). Recent SNSF NRP71 research has demonstrated that energy in and of itself is not significant to everyday people (Sahakian and Bertho 2018), and that the dual role of people as consumers and citizens can trigger different ways of thinking (Defila et al 2018). Researchers are increasingly turning to a practice-theoretical framework for understanding energy services as tied up with everyday life, such as getting around, preparing a meal, or being comfortable at home (Sahakian 2019; Shove and Walker 2014; Wilhite 2016). These routinized and habitual activities, which draw on direct and indirect energy sources, are more meaningful to people than 'energy' (Sahakian 2019). In consumption studies, the question of everyday life in relation to energy usage is a growing field of inquiry and action-research (Sahakian et al 2021).

Environmental impacts in priority areas such as food, mobility and housing (Tukker et al 2006) have long been the starting point of sustainability studies; there is increasing recognition that human wellbeing must be a central consideration, particularly the links between energy usage, carbon emissions, and wellbeing (Lamb and Steinberger 2017; Rao and Min 2017; O'Neill et al 2018; Jackson 2017; Steinberger et al 2020). The vast literature on human wellbeing draws from different conceptual approaches, ranging from Nussbaum's capabilities (2003) to Max-Neef's needs (1991). While subjective wellbeing has been studied in relation to energy provisioning in Switzerland (Welsch et al. 2014; Ecoplan project on wellbeing), an objective and eudemonic approach to wellbeing goes beyond notions of happiness or life satisfaction to reflect on human needs such as participation in society (Doyal and Gough 1991). A distinction is made between human needs and the pathways necessary to achieving them, emphasizing the significance of 'satisfiers' for meeting needs, which are context dependent (Max-Neef et al. 1991). It becomes all the more relevant to consider whether energy pathways can lead to 'need satisfaction', in two ways: by hypothesizing around trade-offs and co-benefits in relation to the different pathways, and by engaging people towards uncovering how they relate pathways to wellbeing in their lives. For the former, a body of literature points to correlations between certain forms of consumption and energy usage: e.g., household size and location can have an impact on energy usage and emissions (Ottelin et al. 2019, Pang et al. 2019). Whether reduced energy usage can lead to human need satisfaction and sustainable wellbeing remains to be studied.

Links between energy pathways, everyday life, tradeoffs and wellbeing can be uncovered through participatory methods or trans-disciplinary research, which involve working collaboratively and integrating knowledge across different disciplines and areas of experience/expertise (Defila and Di Giulio 2015). The premise is that such forms of research could lead to more innovative solutions, critical to sustainability research and specifically energy studies (Fahy and Rau 2013). Such approaches have been explored in relation to back-casting in transition studies (Kerkhof and Wieczorek 2005), or in the generation of desirable futures or visioning (Quist and Vergragt 2006; Davies et al. 2012). Personas from the future

have also been used to debate transitions towards 2050 sustainable lifestyles (Guillen and Nicolau 2013; Villeneuve et al. 2020). Engaging everyday people in reflecting on energy futures relates to a body of literature on future imaginaries in the field of socio-technical studies (Jasanoff and Kim, 2009; 2015; Braunreiter et al. 2020). There are multiple and competing imaginaries in society, which shed light on how different groups of consumer-citizens understand their role in energy transitions. Pathways to 'sustainable' energy transitions have been developed as part of the SCCR CREST Visions 2050 process, and were used in a participatory workshop Charting Pathways for the Swiss Energy Transition (Blumer et al 2019).

Starting with the official scenarios towards net zero for Switzerland, the energy perspectives 2050+ (EP2050+), we reviewed a number of scenarios which include varying degrees of changes at the household level. Indeed, the EP2050+ rely exclusively on efficiency gains and the deployment of renewables, albeit with demand side management. Households would be incentivized to use energy in line with generation. For our purpose, and in order to evaluate the potential changes in everyday life, we turned to scenarios with sufficiency measures. We started with the decarbonization scenario from the negaWatt association which are estimated for Switzerland and other EU countries (Moreau, Principi and Ravalet 2021*)*, including assumptions about sufficiency, efficiency and renewable energy. A global Decent Living Energy (DLE, Millward-Hopkins et al. 2020) scenario evaluates the satisfaction of basic needs for all in a decarbonized world. This does not a priori exclude any household practices such as flying, but scales activities by what is needed to live a decent life. At the European or Swiss scale, this means a reduction in living space, and fewer and less frequent km travelled by car or plane. Thus, we also investigated two additional scenarios, the EU's long-term strategy with emphasis on behavioral change, 1.5LIFE, and the SPREAD, focusing on the unsustainable lifestyle impacts to be overcome by 2050, and proposing two out of four sub scenarios around more collective actions and collaboration. The combination of the assumptions provides the technical changes in energy generation and use (renewables and efficiency) as well as the non-technical ones to scale changes at the household level (Costa et al. 2021) and account for sufficiency measures.

Different approaches are used to address the question of what (energy) future(s) would look like, ranging from scenario techniques, forecasting, backcasting to Delphi-studies, causal analyses to modelling (Höjer and Mattsson 2020). Scenario building and methods to reach scenarios are of interest for WEFEL. Backcasting - "how desirable futures can be attained" or forecasting methods – "based on prolonging existing trends" (Höjer and Mattsson 2020) are two ways of designing futures. Backcasting strongly relates to normative scenarios (Grunwald 2011), accounting for what needs to be done now to reach a normative goal set for the future. Scenarios can also be exploratory (Grunwald 2011) and examine different possible futures, which can be linked to the forecasting method of imagining futures, based on what exists today. In energy futures studies, both scenarios and methods are mostly addressed in relation to energy sources and supply, as well as technical measures (for eg. Giurco et al. 2011). If the demand side is also considered (for eg. Limanond et al., 2011), attempts to design energy futures mostly concentrates on technology (efficiency and renewable) in relation to production and demand, with sufficiency measures in relation to people's everyday life mostly absent.

The research gap addressed by this proposal is to: link energy transition pathways to everyday life and social practices through 'sustainable energy futures'; quantify trade-offs and rebound

effects of different pathways in relation to the different dimensions of sustainability (economic, social, environmental); and jump-start a societal discussion on the link between energy pathways and human needs, through participatory methods and towards the normative goal of 'sustainable wellbeing'.

1.2 Purpose of the project

The main objective of this research proposal is to uncover how and in what way everyday people in Switzerland, in their dual role of consumer-citizens, can be engaged in planning for energy futures that represent 'sustainable wellbeing'. We start from the assumption that energy scenarios, perspectives and pathways are often abstract and difficult for people to relate to; we assume that people can engage in discussions and debates around societal wellbeing, and make a clear link between wellbeing and energy provisioning and usage; further, we hypothesize that reduced energy usage could potentially result in high wellbeing.

1.3 Objectives

In light of in the EP2050+ for Switzerland, this research proposal asks the main question: In what way can energy futures be made relevant to everyday life activities and the wellbeing of consumer-citizens? Leading to three interrelated questions:

WP1: How can illustrative energy pathways be translated into everyday life situations, accessible and relatable to Swiss consumer-citizens?

Hypothesis: energy scenarios can be abstract and difficult to relate to for everyday people, yet select 'sustainable' pathways can be proposed and developed in relation to everyday life situations.

Approach: drawing from advances in the sociology of consumption, engage in a social practice theoretical approach towards identifying everyday practices (e.g., getting around, preparing food, heating homes, etc.) that relate to sustainable energy pathways.

WP2: How can the positive and negative trade-offs around energy futures be quantified and qualified, including rebound effects?

Hypothesis: energy pathways involve positive and negative trade-offs, which are not obvious and would benefit from discussions with consumer-citizens.

Approach: simulate the implications of changes in mobility, food, and housing at the household level based on energy pathways, identifying trade-offs, both positive and negative, in satisfying human needs under the constraints set by the EP2050+ (in energy, technical, and economic terms).

WP3: How do Swiss citizens imagine a transition to these energy futures in relation to their everyday lives and wellbeing?

Hypothesis: everyday people can reflect on human needs and trade-offs in relation to wellbeing and energy services, towards charting transitions towards more 'sustainable' energy futures.

Approach: through participative methods and trans-disciplinary research, co-develop new knowledge that challenges assumptions about everyday life towards designing energy futures for ''sustainable wellbeing', of national relevance.

2 Description of facility

In addition to the detailed description of procedures and methodology described below, two pilot demonstrations were conducted, in advance of the planned timeline. For the first and to benefit from an invitation to host the closing event for the Global Happiness exhibition, on October 17, 2021 in Geneva (supported by Helvetas), the WEFEL team had the opportunity to host an in-depth discussion with a group of citizens around the personas from the future.

The second demonstration took place on October 19, 2021 at the University of Geneva as part of an expert workshop on Sustainable consumption, wellbeing, and futures (supported by the Swiss Academy of Humanities and Social Sciences, SAHS). Here again, in-depth discussions around the personas took place. Approximately 7,500 CHF was allocated to these tasks, by the SAHS. This funding was for tasks that were complementary to the SFOE funding, for additional workshops that were not originally planned for. That being said, we very much welcomed this opportunity to pilot test the personas and allow for some time to refine them, towards the SFOE workshops planned for 2022. Both of these inputs are integrated into item 3 below.

3 Procedures and methodology

This inter- and trans-disciplinary project engages with mixed methods, including both qualitative and quantitative data. The novelty of our approach is to link future energy usage (understood in relation to pathways towards the EP2050+), to everyday life and human wellbeing, through social practices and human needs. As such, we are combining different disciplinary approaches towards a common research aim: from philosophy, we draw on the literature on wellbeing in relation to human needs; from sociology, we use social practice theory to understand everyday life in its different dimensions; through socio-technical studies and visual sociology, we uncover future imaginaries and develop narratives and personas from the future; and finally, through energy studies, we quantify and qualify trade-offs and co-benefits of changes in everyday life in relation to energy usage and wellbeing. At the heart of the WEFEL project is the co-creation of knowledge on linking energy futures to sustainable wellbeing, through trans-disciplinary approaches.

I. Everyday life narratives and personas from the future: Building on a growing body of literature on future imaginaries in socio-technical studies and social practice approaches, WEFEL starts from the assumption that there are multiple and competing imaginaries in society, which shed light on how different groups of consumer-citizens understand 'sustainable wellbeing' in relation to energy. The development of narratives can capture some of these differences in relation to what social practices from the future might look like: how will people get to work, care for elderly, enjoy leisure activities, or engage in social interactions in the future, and in relation to 'sustainable' energy pathways? We start this section with the personas, as they are the culmination of different procedures and methodologies further listed below.

- Activities to date include the development of 8 personas that are representative of socio-demographics for Geneva, based on energy future assumptions within various work-life domains from the scenarios, and that are situated in the Geneva landscape. These personas include the following elements: 1) brief description of who they are, mostly based on socio-demographics including age, gender, family composition and income, with the aim of representing diversity; 2) thick description of 'a moment in their daily life' that brings in the social practices, promising changes that emerged from a 'horizon scan' (see more details on this concept below), and some points of tension; 3) a snapshot of a map, illustrating where the personas are situated in Geneva; 4) a short description of trade-offs (as further described below), and 5) a visual representation of the personas, based on sketches of a moment in their lives. Each persona represents a different aspect of the energy transition, and the summary of these focus areas can be found in Table 1 below.
- Please note that it was important for the WEFEL team to situate the personas in the Geneva landscape; once we have finalized these personas, they will be adapted to the Basel landscape.

- The eight Geneva personas were discussed in depth at two occasions:

    1. The closing event for the Global Happiness exhibition, on October 17, 2021 in Geneva (supported by Helvetas). This demonstration was an opportunity to host an in-depth discussion around the personas from the future, with citizens. Two main questions were asked: 1) Do you think this character represents a possible and realistic image of the future? And 2) Do you think this character represents a desirable image of the future? (Based on representations of the future as summarized by Urry, 2016)

    2. The second demonstration took place on October 19, 2021 at the University of Geneva as part of an expert workshop on *Sustainable consumption, wellbeing, and futures* (supported by the Swiss Academy of Humanities and Social Sciences, SAHS). Here again, in-depth discussions around the personas took place, towards revising and finalizing the personas.

Name of the personas	Sociodemographics	Focus area
Jasmine et Quentin	45 and 42 years old, 3 children (one away), live in Bellevue.	Less meat, less food waste, small space
Thomas	38, two children in alternating custody, live in an apartment in Carouge.	Work-time reduction and renewable energy prosumption
Monia et Sarah	30, 34 , live in a cooperative building in Pâquis.	Collective action and community living
Isabelle et Philippe	75, 72, live in an apartment in Petit-Saconnex.	Staying cool in the city
Emma	32, live in a shared apartment in Eaux-Vives.	Slow mobility
Luca et Gian	43, 46, have a daughter, live in a town house in Champel.	Secondary home and sustainable finance
Audrey et Kamil	55, 46, live in an apartment in Plainpalais.	Work-transition and working from home
Nadia et Raphaël	65, 60, have a daughter (away), live in a house in Jussy.	Country living and community action

Table 1: Summary of personas and their focus in relation to different aspect of the energy transition

II. Social practice theory towards uncovering everyday life: An understanding of everyday life in a sociological framework assumes that people are not always in control, but rather caught up in social practices that are habitual, routinized and difficult to change. Practice theory reveals the material arrangements that make everyday life possible, but also the less explicit social norms and collective conventions that are relatively fixed across contexts and cultures: if indoor temperature settings vary across Europe, 'being comfortable' is a relatively stable normative goal.

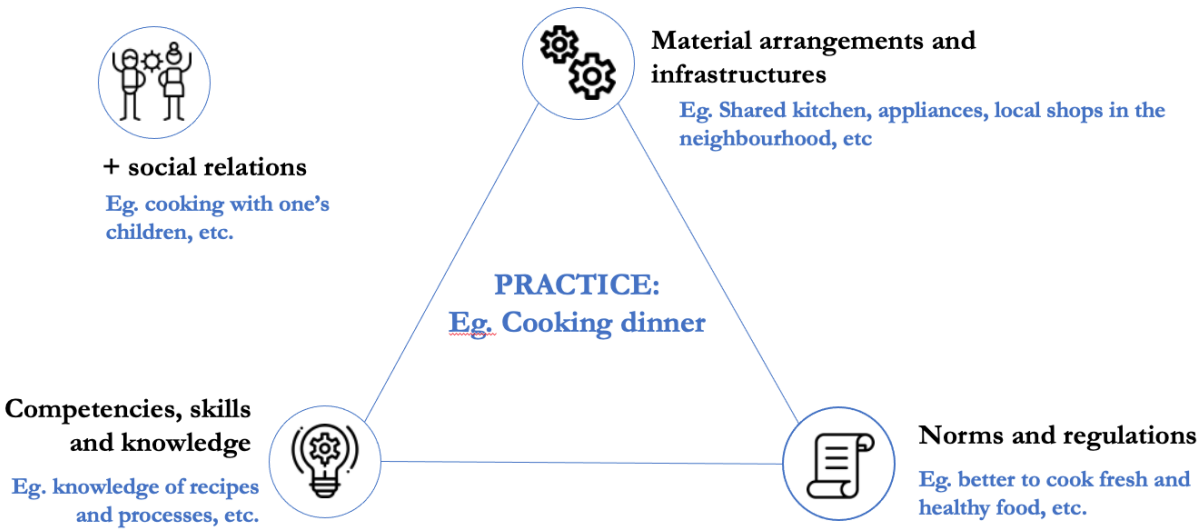

Figure 1: graphical representation of Social practice theory based on Shove, Pantzar and Watson (2012) and Halkier (2020)

By situating the personas as engaging in future practices, we bring to life different energy scenarios so as to make the energy transition more concrete and tangible for citizens.

- Activities to date include a review of several scenarios, the identification of consumption categories, the analysis of the different assumptions as part of those categories in terms of everyday practices and the description of energy futures related to these practices and accounting for the normative dimension of practices (i.e., being comfortable). As represented in Table 2 below, in the case of heating and food, we are able to move from scenarios to consumption categories to a description of practice elements, that then find their way into persona description.

Work life categories	**Assumptions from scenario**	**Everyday practices from the future**	**Elements of practices that support moments of consumption**
Heating and cooling	"effective indoor temperature reaches 20°C: decrease target temperature for heating (winter - reduction of 2°)" (negaWatt)	keeping bodies (human and non) warm in spaces, in the winter	capacity to adapt one's thermal comfort (competences, norms), knowledge about the use of heating management systems (competences); access to affordable heating management and control systems (material); well-isolated buildings; changing expectations around comfort (teleoaffective structures), etc.
Food	drastically reduce animal-based products, such as meat and dairy (by 50% down to 7% of the dietary composition) and increase plant-based product (up to 93% of the dietary composition (DLE)	Provisioning for, preparing, and eating plant-based diets	

Table 2: example of the process from scenarios assumptions by consumption categories, everyday practices, and elements of practices

III. Theories of human needs towards wellbeing: The vast literature on human wellbeing draws from different conceptual approaches, ranging from Nussbaum's capability approach to Max-Neef's needs based approach – or more hedonistic approaches based on happiness or life satisfaction that underpin World Happiness Reports. In particular, theories of human needs have been applied to the question of sustainable consumption and climate change (by Gough 2017, Brand-Correa and Steinberger 2017, and Guillen-Royo 2010, to name but a few). What theories of human needs have in common is that needs are universal and non-substitutable; for Doyal and Gough 1991, human health, participation and autonomy form the three 'basic needs'; for Di Giulio and Defila 2020, a list of nine needs have the potential to be 'protected' by society. Sahakian and Anantharaman (2020) argue that it is through understanding the social practice of everyday life that 'need satisfaction' can be achieved.

- Activities to date include the usage of the Max-Neef list of human needs for the pilot citizen workshop, which took place on October 17, 2021 in Geneva, as the closing event for the Global Happiness exhibition, supported by Helvetas. The links between individual, collective and global wellbeing, as put forth in the exhibition, and the WEFEL project were clear, and the sponsoring of the exhibition by the SIG utility company in Geneva also made this the perfect opportunity for showcasing and discussing draft personas in relation to wellbeing.
- This workshop attracted 9 participants from various backgrounds, socio-economic levels, household composition, housing type, etc. (not including the three moderators, from UNIGE and Terragir). It was focused mostly on providing feedback to the personas. More than one hour was spent discussing the personas in break-out groups. A

shorter amount of time was spent discussing the links between the personas and the Max-Neef list of human needs. Insights will be discussed below.

IV. Quantifying and qualifying trade-offs in relation to the scenarios: The EP2050+ set broad goals towards more renewable energy sources and less energy use overall. Households play an important role in reducing energy demand, and the 'satisfiers' of human needs can be more or less energy intensive. Rebound effects abound, based on personal preferences or trade-offs between some forms of consumption over others. The implications of such tradeoffs have been simulated in an input output framework for WEFEL, in both monetary and energy terms. In addition to direct and indirect energy use and emissions (Pang et al. 2019), the input output model was 'closed' by considering households as an economic activity in itself, through labor and consumption (Greenford et al. 2020). This allows for the integration of work-time and non-work-time with related trade-offs across social and economic dimensions – in addition to energy. For WEFEL, the tradeoffs also relate to wellbeing and will be further developed through participatory approaches.

- The energy implications of changes in practices were estimated for households by income quintile. Indeed, even if 2050 might be less inequitable than 2030, income still drives consumption and in the case of energy services, it makes a difference. This was done by coupling data from household budget surveys by quintile and input output data.
- Initial feedback was provided by OFEN, which clarified how efficiency and sufficiency measures should be accounted for.
- All calculations were done based on the assumptions provided in the different personas. This was at the heart of our inter-disciplinary approach, to go from scenarios to personas from the future, and in those representations of the future to include assumptions that can be quantified and explained as trade-offs. For example, if one person chooses to work less, earn less and find more time for child care or leisure activities (especially leisure as in 2030 an beyond), the substantial reductions in energy use can be expected as shown in the table below.

Work life categories / personas	**Assumptions**	**Everyday practices from the future**	**Sample results**
Work and time	Work time reduction frees time to e.g. take care of children or the elderly without significant rebound in the case of Thomas in Table 1.	More time and less income by choice, to achieve other non-monetary activities.	Compared to a household with average income, changes in energy terms are significant. In particular his transport related energy use is 12% below average. His energy use associated with leisurely activities for kids, as well as restaurants and hotels, translates into 4% savings. Overall, he exceeds the energy reduction targets in 2030 already.
Thomas	Reduced working time to 60%	More flexibility to be with children	

Table 3 Sample results of tradeoffs simulations based on the personas

V. Engaging in participative methods towards citizen co-creation: If everyday people are to play a role in social change, then deliberations with diverse groups of people around normative goals such as 'sustainable energy transitions' or 'sustainable wellbeing' are essential. In the words of our partner Wladslaw Senn at the Terragir association, the aim of the project is to allow people to reflect on 'wellbeing' in the same way that they might reflect on how the energy transition might impact time or costs. As a society, we are not used to having such debates and we are exploring what the notion of 'wellbeing' brings to the energy transition debate that may have been lacking up until now. Engaging consumer-citizens towards understanding the links between energy transition pathways and wellbeing requires participatory methods and trans-disciplinary approaches towards integrating different forms of knowledge and areas of experience/expertise. The premise is that such forms of research could lead to more innovative and lasting solutions, critical to sustainability research. Citizen workshops for this project are planned for 2022. To reach a broader audience and in a deviation from the original plan, such workshops might also be complemented by online methods for generating discussions – to be explored in the coming months.

- Activities to date include the hosting of two workshops to gain input on the personas, as detailed above; October 17, 2021, for citizens; October 19, 2021, for experts or certified specialists working on sustainable consumption.
- A recruitment strategy is currently being developed for the 2022 workshops, in order to ensure inclusivity. A methodology will be developed in relation to sociodemographics in order to ensure diversity – in relation to age, life stages, sex, origins, educational background, revenues, place of residency, housing type, and household composition.
- Other methods for reaching a wider audience are also being explored, such as an online survey.

4 Activities and results

Following the same general structure as above, the following results have been achieved to date:

I. Everyday life narratives and personas from the future:

The main input from the development of the personas can be summarized as follows, with more details in trade-offs and wellbeing provided in the relevant sections below:

- Setting the personas in the year 2035 makes them relatable; however, to show that these personas are in an energy transition, it was important to demonstrate what changes had already taken place. This was based on a horizon scan (Schultz 2006), where we brought in the most promising ideas for energy transitions, from the scientific literature (for eg. shift from ownership to usership, summarized by Urry 2016; or basic universal services, Coot and Percy 2020).
- The brief descriptions are useful, to give a snap-shot of the socio-demographic status. By themselves, they are not enough.
- The thick descriptions and moments in the life are engaging and relatable to people; they are sometimes seen as realistic, and sometimes seen as desirable – depending on the person (based on workshop 1 and 2 feedback). Different input was gained to help clarify points and further refine the personas. We are now in the process of updating the descriptions.
- The visual representations of the personas were developed as hand sketches, at different degrees of completion – from a drawing with color, to a small sketch of personas. We found the illustrations to be useful, but the actual rendering to be inadequate: the personas were seen as being too normatively positive and joyful, as well as too cartoony. We are now in the process of identifying an illustrator who can do renderings that are sharper and more contemporary, while also investigating the idea of making short animations of the personas, so as to tell a complete story in a shorter amount of time.
- The small maps representing the personas' neighborhood were seen as useful to visually place the characters into the geographical and urban context. They help understand what type of neighborhood the personas live in, and very broadly what infrastructures are surrounding them.

II. Social practice theory towards uncovering everyday life:

Translation energy scenarios into everyday life practices in the future was undertaken in the following ways:

- When energy scenarios included a discussion around consumption domains – such as mobility, housing, or food – we were able to translate these into practices in the future – such as getting around through public transport, thermal comfort at home, or meat-free meals, for example. However, we found that links to consumption domains were

lacking. In those cases, we tried to identify complementary scenarios that could help provide more insights into changes to consumption-related practices.

- In a social practice perspective, there is increasing attention given to the systems of provision that make some forms of consumption more possible and feasible than others. Systems of provision can include institutions, projects, or infrastructures, for example. For the personas from the future, we also had to reflect on what systems of provision might be in place in an energy transition – for example, with what system of public transport, what new rules and regulations in place, etc. Here again we did a horizon scan of promising initiatives.
- The main question of *WP1: How can illustrative energy pathways be translated into everyday life situations, accessible and relatable to Swiss consumer-citizens?*, is thus close to being resolved. Once we revise the personas and by early 2022, the main aim of making scenarios relatable through everyday life situations will be achieved. The storylines were found to be quite convincing by the expert participants in the October 19, 2021 workshop. We also plan to submit all personas to our Advisory Committee, for feedback.

III. Theories of human needs towards wellbeing:

If the overall aim of the project is to make the link between (reduced, more efficient) energy usage and human wellbeing, this link to wellbeing remains to be developed for WEFEL towards answering the main question of WP3: How do Swiss citizens imagine a transition to these energy futures in relation to their everyday lives and wellbeing?

- Various lists of human needs exist, ranging from fundamental human needs linked to *satisfiers* (Doyal and Gough 1984, 1991; Max-Neef et al. 1991), needs that should be protected by society (Di Giulio and Defila 2020), to human capabilities approaches related to *functionnings* (Sen 1999, Nussbaum 2003).
- For the October 17, 2021 Geneva workshop, a short discussion was led with the participants, using the list of human needs developed by Max-Neef and colleagues (1991). Participants were asked to reflect on the needs and then discuss to what extent need satisfaction is achieved or reduced at an individual or a collective level based on the personas. We found that the discussion was difficult to moderate and the Max-Neef list cumbersome to use. On the other hand, we found that discussions around wellbeing emerged rather naturally from the longer time spent on the personas descriptions and illustrations.
- At the 'expert' workshop on October 19, 2021, two important insights were provided: first, that each snippet of everyday life, as represented by the personas, would need to be presented as a whole, to give people an overall picture of the changes proposed in 2035. Or at the very least, people would need to engage with more than one persona. Second, if a list of needs is presented, it should be simplified. In this respect, the Doyal and Gough (1991) list might be most effective, with the three basic needs: participation, health and autonomy. How to align a consideration of collective needs as individual and collective remains to be ascertained, in the research design, as well as how to capture both objective and subjective wellbeing.

IV. Quantifying and qualifying trade-offs in relation to the scenarios:

For the trade-offs, these are calculated in relation to the 2050 target of net zero emissions for Switzerland, based on the EP2050+.

- Given the small format of the flyers on which the personas were presented, we only had space for one trade-off. In the citizen workshop, these trade-offs were not discussed; in the expert workshop, they were. This suggests that there may be different levels of interest in understanding trade-offs. Based on insights from another project focused on Food Futures (McGreevy and Spiegelberg 2021), we will assume that such information must be provided but whether or not it will be consulted will depend on the audience.
- We must also further reflect on how to bring trade-offs into the workshop design for 2022, and integrate wellbeing trade-offs.
- Some examples of trade-offs that were quantified in this initial stage include small living space, smaller than in the EP2050+ baseline as well as the negawatt scenario. We also quantified tradeoffs between private mobility and public transit, for work and leisure. In the majority of cases, choosing to earn less trumps other activities in reducing energy use. The estimates were integrated within the design of personas from the future.

V. Engaging in participative methods towards citizen co-creation:

Participatory methods are at the heart of the WEFEL project as we remain convinced that in-depth discussions in workshops that encourage reflexivity around the energy transition. We have achieved two workshops thus far, and further events are planned in 2022. That being said, we will also explore other ways of reaching a broader audience in 2022.

- A recruitment strategy is currently being developed for the 2022 workshops, in order to ensure inclusivity. The methodology will be developed in relation to sociodemographic in order to ensure diversity – in relation to age, life stages, sex, origins, educational background, revenues, place of residency, housing type, and household composition.
- We might also consider an online survey, whereby people are able to interact with the personas online and provide feedback. We might have the possibility to introduce such an interface at the upcoming *Assises Européennes de la Transition Energétique* taking place in Geneva in February 2022. More information is provided below.

5 Evaluation of results to date

We self-evaluate the results to date as favorable, towards steering the project to completion, and on target when it comes to timing and expected deliverables.

As detailed above, the results after the first year of the WEFEL project are promising. We have already piloted the design of personas from the future that represent what living in an energy transition might look like in 2035. As such, we have finished the first task of going from scenarios to everyday practices from the future. We are in the process of completing the second task, of quantifying and qualifying different trade-offs when it comes to what the energy transition might bring by 2050.

We now need to perfect two main tasks: to bring the personas to life in a compelling manner, and to design workshops (or other complementary research methods) that allow us to foster a debate on the wellbeing dividend, or whether it is possible to imagine an energy transition where human wellbeing – at the collective and individual level – is not compromised. After the first year of the project, we are ahead of schedule and look forward to next steps, detailed below.

6 Next steps

In the last quarter 2021:

- The personas will be revised in terms of description, based on the workshop's feedback and a further analysis of futures assumptions (finalized by November 25, 2021).
- On November 25, the WEFEL team will meet with the Advisory Committee members for the second Advisory Committee meeting (M2). This meeting aims at getting feedback on: 1) The personas and the design brief; 2) The recruitment methodology and strategy for the workshops; 3) The integration of wellbeing into the discussions with citizens.
- A draft paper on the methodological process, from energy scenarios to personas from the future, will be developed by end of year. It will discuss how we selected specific work-life consumption categories and related assumptions from different energy scenarios, to then link to everyday practices.

In the first quarter 2022:

- February 2022: The WEFEL team will be present at the *Assises Européennes de la transition énergétique*. A participatory workshop will be organized in order to test the personas.
- Between spring and summer 2022, WEFEL workshops will be held in Geneva and Basel. Based on the tested and reviewed personas, the aim will be to link personas and the notion of wellbeing in a participatory discussion. The participants selection will account for diversity based on city sociodemographic.
- Complementary methods for exploring the links between energy futures, everyday lives and wellbeing will be introduced.

7 National and international cooperation

To date, we have benefited from two forms of cooperation:

- A complementary grant from the ASSH allowed us to host two workshops, in order to gain feedback on the personas.
- A partnership with Helvetas and their Global Happiness Exhibition allowed us to communicate to their audiences and host the closing event of their Geneva show.

We remain convinced that the project will appeal to different actors in the energy transition. In February 2022, we will have the opportunity to present the personas at a workshop planned during the *Assises Européennes de la Transition Energétique*. We have also been invited to present the personas at the stand of the Canton of Geneva and their 2050 project, also on imagining the future in the Canton.

8 Publications and Communications

To date, we have presented results in a conference paper:

Sahakian and Moynat (August, 2021). **Personas, practices and energy-sufficiency futures: conceptual and methodological deliberations**. Communication presented at the European Sociological association (ESA) conference 2021, Barcelona.

The WEFEL project engaged in communication towards recruiting participants to the October 17, 2021 workshop in Geneva, which involved:

- Flyers were posted on the WEFEL university page, the Helvetas French speaking Switzerland newsletter and SIG's Fakebook and Instagram social networks accounts (through posts or stories).
- Flyers were also distributed (made available for self-service) at the entrance of the Global Happiness exhibition at the Pont de la Machine in Geneva, as well as exposed in different relevant areas of the University of Geneva.

The project benefits from a dedicated web page on the University of Geneva's website; a short video introducing the project was recently completed and posted, on the Faculty of social sciences pages:

https://www.unige.ch/sciences-societe/socio/wefel

A reference to the project was made in a *Tribune de Genève* article, dated October 30th, 2021 (Macherel et al., 2021).

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