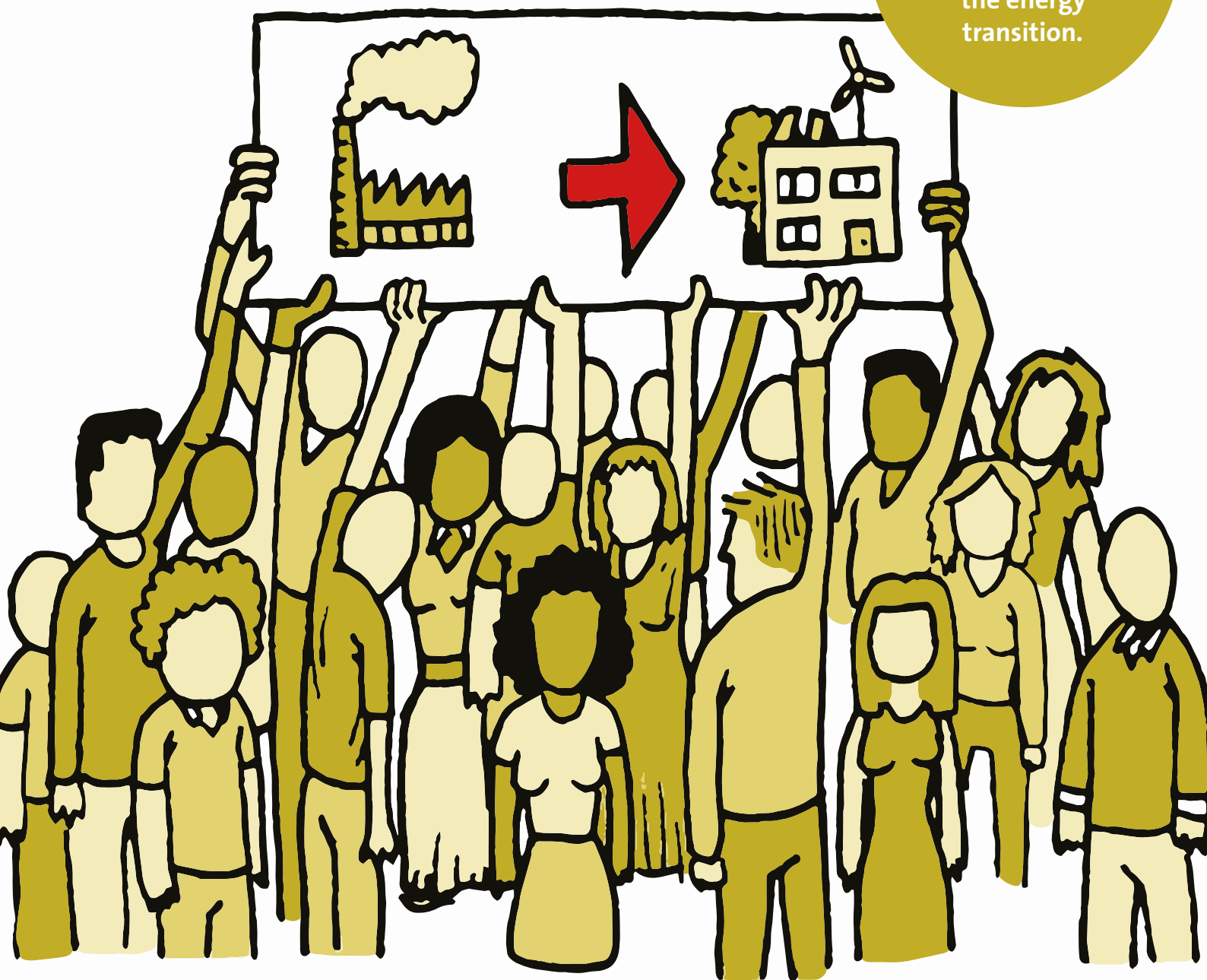# What would the good life look like in 2035?

A workshop on the links between the energy transition, everyday life, and human needs

Toolkit for planning discussions and workshops on the energy transition.

UNIVERSITÉ DE GENÈVE

Welcome to this toolkit

What's the problem?

The impact of over-consumption on the climate and on human health is well established. Changing the amount and type of energy we use and the way we consume is an urgent question, if we are to meet national and international targets in relation to climate change mitigation, and move towards a necessary energy transition. Improving energy efficiency and developing renewable energies can help societies move towards a more sustainable energy system. But changes in practices – towards energy sufficiency – also represent a major potential for saving energy. This requires rethinking the ways we live and work together, while developing new visions of what is possible, and translating them into action today, to plan a desirable future - one that combines human wellbeing with the need to reduce energy usage.

This raises a central question: **Can we live better with less negative impact on the wellbeing of the planet and of human beings?**

How do we respond?

This toolkit enables you to organize structured and creative discussions around this central question and to project yourself into the future, on the road to carbon neutrality, through fictional personas living in Switzerland in 2035. These fictional personas are a way of illustrating existing energy scenarios; they represent everyday life situations that are needed if we are to drastically reduce carbon emissions by 2050. These personas are relevant to the transition, because imagining the future is an effective way of starting to implement the necessary changes in the present.

The tools for running workshops around this theme, as well as the comic strips developed for Geneva (in French and English) and Basel (in German), are shared under a **Creative Commons CC BY-NC-SA**, license, allowing anyone interested **to use and adapt the personas to their local context and to develop this work in a non-commercial way, provided that the material created is accompanied by a license under the same terms as those presented here**.

What are the key features of the method?

› A creative, non-prescriptive approach: the personas illustrate a diversity of habits and serve to open up the discussion

› Concrete examples based on Swiss and European energy scenarios, enabling realistic and probable scenarios to be envisaged

› An innovative approach to talking about energy in relation to everyday life and living well

› A method based on approaches from the social sciences, drawing on notions of wellbeing, basic needs and the ecological transition

› A method tested in various workshops held in Geneva and Basel

What does a workshop look like?

The workshop has three key phases, which can be organized in a variety of ways, depending on the time available - **from a minimum of 1.5 hours to several hours**. We propose a discussion of the personas in three phases:

Following an introduction to the workshop...

Phase 1: Are these personas from the future living a good life in 2035?

Phase 2: Are the energy savings worth it?

Phase 3: How can we organize today to live better with less tomorrow?

...followed by a conclusion and reflections on the workshop format.

Who is this toolkit for and how do you use it?

The format we propose is adaptable to a variety of contexts and can be useful for schools (from secondary level upwards), businesses, public institutions, or even for discussions between neighbors in a community. For example:

› Are you a geographer or historian who would like to discuss the energy transition with your students aged 13 or over?

› Would you like to organize a discussion between residents in your community, and perhaps draw up a citizen-led climate action plan?

› Do you work in the public sector and are looking for a tool to discuss the transition with your colleagues from various departments or services?

› Are you responsible for sustainable development in a company and looking for a fun workshop on the transition for your colleagues?

› Or any other need!

More than a hundred people (by autumn 2023, around 150) have already taken part in workshops with these personas of the future, and the results of the discussions are unanimous: **imagining the future together feels good, because participation is also a human need**.

Who created this toolkit?

The project was co-designed by the University of Geneva in partnership with the Terragir association and the University of Basel, and was funded by the Swiss Federal Office of Energy. We tested the method over a three-year period and now hope to share it with a wider audience. The project benefits from the expertise of an advisory committee, as well as discussions with and feedback from a broader audience. For more information, visit: *www.unige.ch/netzero2050/en*

This toolkit consists of two parts **Part I, "Organizing a workshop and lessons learned from previous workshops"**, which introduces the process that led to the creation of the workshops, to give you a better overall understanding of the topic and tool. In **Part II, "Running a workshop on energy transition and the good life"**, you will find a step-by-step guide to help you organize and moderate a workshop.

Do you have any questions, or would you like to give us some feedback? Don't hesitate to contact us at ge2035@unige.ch

Workshop materials

Scan this code to access the workshop materials, which are provided free of charge.

First participatory workshop in Carouge on 28.05.2022

© European Energy Transition Conference, 2022

Jasmine et Quentin: consommation de **nourriture**

Isabelle et Philippe: confort thermique et technologie(s)

Monia et Mélan... espaces de vie et appareils partagés

...drey: ...urbaine

Contents

PART I : ORGANISING A WORKSHOP AND LESSONS LEARNED FROM PREVIOUS WORKSHOPS

1. Why a tool kit for the energy transition ?

The WEFEL *(Wellbeing, energy futures and everyday lives)* project aims to tackle the energy transition by discussing the link between energy futures and everyday practices, in relation to the good life. In the media, the energy transition is often discussed in economic terms (cost and return on investment) or in terms of performance (the efficiency of a new technology, for example). We want to welcome another debate, on the tensions between **living a good life and the possibility of reducing energy consumption in our daily lives – or sufficiency**.

A central assumption guides the project: collective forms of citizen engagement are necessary, as individual actions are not enough. The idea is therefore to bring about change through participatory methods and experimentation in workshops where individuals come together to discuss the tensions between living well and reducing energy consumption, using **personas from the future who represent energy scenarios for Switzerland**.

In addition, we believe that not everyone consumes in the same way today and that the efforts required depend on existing consumption patterns, which are closely linked to income. In these workshops, we also place an emphasis on **inequalities in the energy transition**.

2. The different formats and durations of the workshops

This toolkit can be used to answer three main questions in three phases. You can organize a workshop that answers all the questions, or just the first and last ones, since they represent the heart of the discussion.

Here are the three phases with their corresponding question :

Introduction : Participants are given an introduction to the objectives and proceedings of the workshop

Phase 1 : Are the personas from the future living a good life in 2035 ?

Phase 2 : Are the energy savings worth it ?

Phase 3 : How can we organize today to live better with less tomorrow ?

Conclusion : each group comes back to a key point from the previous discussions, and the organizing team concludes.

These three phases are detailed in Part 2 of this report. The workshop schedule (summarized in Appendix 1 and detailed in Appendix 2) depends on the time available and the number of participants. It is therefore necessary to make choices about the phases covered and the number of personas discussed. Participants can discover all the personas and then select the one or ones they want to discuss in more detail.

The table below shows the different possible workshop formats, which were tested as part of the project and depend on the **time available**.

Time available for a workshop: *less than a half-day*	Phases discussed	Number of personas discussed
2h30	Phases 1, 2 and 3	2 personas
2h	Phases 1 and 3	1 persona
1h30	Phases 1 and 3	1 persona

The workshop cannot be completed in less than 90 minutes (1h30).

Time available *to discuss all 5 personas*	Phases discussed	Number of personas discussed
8h-10h	Phases 1, 2 and 3	5 personas

Plan breaks every 1h30-2h00.

3. Planning the workshop: what to consider ahead of time

Here are a few points to bear in mind to ensure that the workshops run effectively and that the discussions flow smoothly :

In relation to the participants :

› The workshop is open to everyone. Choose a quiet, comfortable venue that matches the profile of the people you want to invite.

› It is important that participants agree that climate change is a problem and that an energy transition is needed to reduce our dependence on fossil fuels; the workshop is not designed to convince people of this.

› Participants must be able to read and write, and have the ability to engage in discussions for at least 1h30; the workshop might not be suitable for children under the age of 12-13, for example.

› The absence of a facilitator in the small discussion groups allows participants to feel completely free in their discussions.

› In case you are planning to collect and analyze data from the workshop, please gain consent, either orally or in writing.

› If you wish to collect photos or audio/video recordings, consent forms are also required.

› If you want to keep in touch with participants, make sure you have a contact list for your workshop (to collect email addresses, for example).

In relation to what can be planned in advance :

› The comic strips can be adapted to different local contexts. Only a few changes are needed to adapt them to the city of your choice.
   To do so, please contact https://herji.ch

› Workshops must last at least 1h30. A shorter duration is not conducive to good discussions. Longer is better, but you will also need to plan for breaks.

› The number of people per discussion group should not exceed 6. If you have a large group, consider dividing it into discussion groups of 4 to 6 people. Too many people in a single discussion group runs the risk of sidelining certain participants and creating parallel discussions. Groups of at least 4 people are ideal.

› Workshop organizers must be careful to respect the timing they have set themselves for each workshop phase. Discussions are interesting and stimulating, but running over time means that you may not be able to carry out the full objectives of your workshop.

In relation to the workshop format and its implementation :

› We suggest that you place 1 or 2 personas / comic strips per table, and allow participants to choose the personas they wish to discuss, unless you plan to discuss all 5 personas (over one day or two half-days, for example).

› The workshop format can be adapted to suit the time available and the profile of the participants. For example, in the discussions on human needs in phase 1, participants can select the needs they want to include in the debate. It is not always necessary to include the second phase on energy savings.

› For phase 3, it's important to move away from an overly individualistic approach (what each person can do on their own); it's more a question of planning for change at a collective level (how to organize change at the level of a building, a district, a town or a city, for example).

In relation to the material needed :
The recommended materials for the workshops are detailed in Appendix 3 at the end of the document and are available in electronic format.

› We provide a deck of slides explaining the objectives of the workshop; this can also be done orally without slides.

› It's a good idea to display each persona (front and back, so 5 personas x 2, or 10 cards) in the room, so that participants can discover them when they arrive at the workshop venue.

› A series of questions/answers is provided to guide the moderators in dealing with questions that may be raised by participants (based mainly on questions asked during the workshops already held).

› Tables and chairs must be provided so that participants can sit together (in groups of 6, for example), with the following materials on each table:

   • The 5 double-sided printouts representing the 5 personas, linked to various areas of consumption. We recommend printing them in color, but they can also be printed in black and white.

   • Sheets explaining energy savings, by persona and globally. These sheets are only useful if you decide to discuss phase 2 and can also be displayed in the room.

   • Poster-size or A4 sheets of white paper for taking notes in the discussion groups. Be careful not to give too much space to note-taking, to respect the time allotted for each phase.

   • Cards and/or sheets listing needs, to stimulate discussion for phase 1. Here again, it is important to respect the time available and to make it clear that it is not necessary to cover all the needs, but rather to select certain needs to be discussed.

Participants discover the five personas and the energy impact sheets

Example of a table ready to welcome participants

4. Results from previous workshops

After conducting several workshops, here are some preliminary results:

Stories about living well as a way of imagining the future: the stories, in conjunction with the discussions about living well, were a relevant method for inviting citizens to discuss the energy transition and their views on the future. They could identify with the fictional personas and their daily activities, and engage in discussions about what it means to live a good life in Geneva (or Basel, or elsewhere) in the future. Although they focused on specific areas of consumption, the cartoons enabled the participants to go further and discuss other consumption domains and related everyday practices, as well as what changes might imply in terms of individual and collective commitments.

Taking part in discussions on the energy transition: the creation of a space for participatory discussions on the energy transition proved relevant and useful, as it enabled participants to question the status quo and possible changes, by exchanging views with people from different backgrounds but with a similar desire to take part in the debate on the energy transition. The workshop framework enabled participants to question themselves and come to interesting conclusions, particularly in relation to the need for collective changes. After all, participation is also a human need!

Reflections on what matters to people were facilitated by the focus on human needs and wellbeing: Discussions around whether the personas in the future live a good life, in relation to a set of human needs that must be met, led participants to discuss and debate what matters most to them. Approaching the energy transition discussion through the lens of needs, using the personas, enabled participants to engage in discussions about what will be needed in the future, for themselves and for society, and about what they would or would not be prepared to accept in an energy transition that aims towards the normative goal of sustainable wellbeing. In addition, participants were able to distinguish between needs and satisfiers, imagine other ways of satisfying needs, and discuss the changes needed at a collective level. However, the discussions around necessary reductions in everyday energy consumption were not unanimously accepted: some participants felt that their ability to live a good life and their wellbeing would be constrained by such changes.

Discussing collective change and the organization of society for the future: addressing the energy transition through the personas and their daily lives while illustrating the collective changes that are taking place to enable the implementation of specific practices was relevant, towards engaging participants in a discussion about the organization of society in the future. Reflecting on and discussing changes at the societal level in relation to individual and collective practices enabled participants to discuss how society could or should move towards sustainable wellbeing as part of a transition. The changes proposed in the lives of the personas were discussed and questioned, and other changes were proposed and discussed within the groups.

5. Creating a toolkit in 6 steps

To arrive at these participatory workshops, a long process of reflection was carried out, moving from energy scenarios designed to inform political decision-makers, to scenarios focused on everyday practices and more likely to inform individuals. The culmination of this reflective process is the creation of personas from the future representing different stories of what life might be like in 2035 in Switzerland, on the road to carbon neutrality by 2050, and the organization of participatory workshops on practices in the future in relation to the good life.

STEP 1: Scenario selection: assumptions on sufficiency as a desirable objective

The project supports the importance of including energy efficiency and renewable energy in the transition, as well as sufficiency measures, understood as "a set of measures and daily practices that avoid demand for energy, materials, land and water while delivering human well-being for all within planetary boundaries" (Saheb, 2021). These three types of measures are considered essential for achieving emission reduction targets (IPCC, 2022).

In addition to the Swiss Federal Office of Energy's scenario (PE2050+), we have analyzed the decarbonization scenario of the Swiss negaWatt association (Moreau et al., 2021), and then extended our scope to other scenarios developed at the European level. We wish to challenge the more conventional representations of energy transitions (such as PE2050+) by including sufficiency measures. This is why we are basing our thinking primarily on scenarios that emphasize these measures. For example, we also drew from the "Decent Living Energy" (DLE, Millward-Hopkins et al., 2020) global scenario, which assesses the satisfaction of basic needs for all in a low-carbon world. This scenario evaluates activities in terms of what is needed to lead a decent life. On a European or Swiss scale, this means a reduction in living space or a reduction in long-distance travel. Two other scenarios were chosen because of their focus on lifestyle impacts: the EU's long-term strategy, which focuses on behavior change (1.5LIFE), and the SPREAD scenario, which focuses on the unsustainable impacts of lifestyles to be overcome by 2050.

STEP 2: Translation of macro-level scenarios into scenarios focusing on the dynamics of everyday practices

Scenarios, whether macroeconomic or based on energy supply, can represent an unknown world for individuals and often focus on the technical measures to be put in place for the transition. The idea was therefore to translate these scenarios to make them more meaningful to people in their everyday lives, and to incorporate sufficiency measures that affect energy consumption or 'demand'.

Once the energy scenarios had been selected and studied, the assumptions presented in these scenarios had to be translated into assumptions about how everyday life and areas of consumption might be affected in such energy futures. Individual changes do not suffice for an energy transition, and the biggest impacts come from structural changes, such as improvements to the housing stock or restrictions on car transport, for example. Guided by this hypothesis, we imagined these changes at a collective level - involving (new) infrastructures, technologies, or other objects, (new) skills and competences, as well as (new)

Example of the comic strips for the personas Quentin & Jasmine (food) and Audrey & Hussein (work)

meanings and aspirations - and brought these changes to life through the illustration of (new) social practices in everyday life, embodied in a series of fictional personas.

Rather than choosing 2050 as the future in which the fictional pesonas live, we represented them as living in 2035, or a not-too-distant future. An earlier date reinforces the sense of urgency, in favor of shorter-term planning and action. The number of personas living in the future and in an energy transition was determined through an iterative process: we needed enough personas to represent the different aspects of daily life that we assessed as representative of the 'net zero' or carbon-neutral goal; we also wanted the personas to represent different socio-demographic and income profiles (random profile selection based on the Swiss Household Panel)[1].

Each persona is situated in the Swiss landscape (Geneva and Basel), with information on the neighborhood and type of housing, to ensure that the personas would be relatable to people living in that city. Once the people and their future practices have been described — in relation to the energy scenarios, consumption domains, and promising changes that have already taken place in the future — we developed a script that represents a moment in the life or 'slice of life' of each persona (and their social relationships) in 2035. These personas can be adapted to most contexts.

STEP 3 : Consultations with different actors to finalize the five personas

We consulted various actors to finalize the personas and scripts. Consultations were held with citizens, academics, and the project's advisory committee, as well as people with expert knowledge of new technologies, urban development, and sustainable food systems, to name just but a few areas of expertise. Several important changes were made to the texts, as a result of these consultations. We would like to thank all these people for their contributions[2].

[1] https://forscenter.ch/projects/swiss-household-panel

[2] Please consult the project website for the full list of contributors : https://www.unige.ch/netzero2050/en/personas-2035/contribu-tions-personas-futurer

STEP 4 : Quantifying energy savings according to income to support a just transition

With a view to discussing a just transition, we developed the personas by integrating reflections on social inequalities and differentiated energy usage based on income, in particular. Based on the consumption categories and work/life dynamics that have undergone a change in our future scenarios (i.e. food supply, heating and cooling, etc.), energy savings calculations have been carried out.

We were able to quantify the potential savings for different income quintiles and compare them to an average Swiss household or to another income quintile. The results show that transport and housing are the consumption categories with the most differentiated potential for energy savings between income groups. High-income households spend proportionally more on transport than low-income households. For example, a household in the lowest income quintile would reduce its energy consumption by 4% by opting for public transport, cycling and walking, compared to almost 6% for a household with an average income. To meet the Swiss target of reducing energy consumption in transport by 2050, at least 60% of the population of Geneva (and the rest of Switzerland) would need to reduce fossil fuel- based transport by 2035, in parallel with efficiency gains.

The implications of these calculations, in terms of support for a just transition, are discussed in the workshops. To illustrate energy savings, related to the personas living in 2035, we detail…

Potential energy savings per persona - Energy savings calculations accompany each of the five personas, on a double-sided A4 page. The calculations are based on available data; the implications of part-time working have not been calculated but are based on assumptions; the calculations for energy-efficient housing highlight the importance of changes to heating and cooling infrastructures (which are part of the supply systems).

Total consumption reduction potential (all personas at once) - While it was important to quantify the energy savings made by each of the five personas, we found that for the workshops, a summary of the savings made by all the personas, collectively, by adding up all the "slices of life", would make more visible the possibility of reaching the normative target of "net zero" by 2050.

STEP 5 : Selecting an approach to discuss the good life

There are two approaches to how wellbeing can be apprehended: the hedonic approach (based on Epicure's pursuit of pleasure) and the eudaimonic approach (based on Aristotle's idea of human flourishing).

The hedonic approach looks at wellbeing in relation to "Happiness, interpreted as the occurrence of positive affects and the absence of negative affects" (Ryan et al., 2008: 139). It is based on the pleasure principle and sees wellbeing as the satisfaction of potentially infinite desires (Jackson, 2005: 22) and insatiable individual preferences (Guillen-Royo and Wilhite, 2015). This school of thought is based on utility maximization (Lamb and Steinberger, 2017) and is closely linked to capitalistic ethics (Ryan et al., 2008, p.165), which suggests negative implications for environmental concerns. It creates "an ethical void in which any consumption behavior is justified in terms of individual well-being" and "any limits to consumption (…) can be immediately perceived as limits to human well-being (…)" (Brand-Correa and Steinberger, 2017, p.44).

In contrast to the hedonic approach to wellbeing, eudemonic considerations understand human wellbeing as "derived from 'flourishing' and lies distinct from a state of happiness or pleasure." (Lamb and Steinberger, 2017, p.3). Wellbeing is seen as the possibility for "humans to reach their highest potential within the context of their society" (Brand-Correa and Steinberger: 44), where an individual "must be able to flourish and fully participate in her chosen form of life" (Doyal and Gough 1991). This approach forms the basis of a "basic social minimum that should be guaranteed by constitutional right" (Lamb and Steinberger 2017, p.3), thus informing debates on transitions.

With a view to addressing the social dimension of energy transitions, the WEFEL project engages with a eudemonic consideration of wellbeing, with the idea of flourishing and living well (see Brand-Correa and Steinberger, 2017, p.44 for more details on these approaches). The notion of wellbeing is intimately linked to the concept of needs, which proposes that all individuals share a finite number of satiable and non- substitutable human needs that are satisfied by specific, context-dependent satisfiers or means (Max-Neef, 1991). Human needs must be met in an energy transition context if we are to achieve a good life for all.

Basic needs - such as subsistence or affection - are distinct from desires, which are infinite and unique to each individual. Needs are also distinct from the means of satisfying them. While needs are universal, the means of satisfying them depend on the context in which we find ourselves, and can vary according to groups of individuals, cities, countries, continents and even generations. These considerations are at the heart of the WEFEL project and the persona development process. With a view to linking imagined futures and the notion of the good life, the idea was to discuss needs with participants during the workshops. That being said, there are many different lists of needs; for the workshops, it was necessary to make methodological choices and select those that would be most relevant to the project.

For the workshops, two lists of needs were considered: Max-Neef's *Basic Human Needs* (1991) and Di Giulio and Defila's *Protected Needs* (2019). They can be discussed together, but

it is also possible to use only one list of needs. The WEFEL project team used the Protected Needs list for most of the workshops. Reading and understanding two lists takes time and does not necessarily add value to the discussion.

STEP 6 : Applying the toolkit: workshops conducted as part of the WEFEL project

The workshop can be run in different contexts, the format can be adapted, and the personas to be discussed selected according to certain criteria, such as the domain of consumption they focus on, for example. The table below shows the different contexts (among others) in which the workshop can be run, all of which have been tested as part of the WEFEL project.

Workshop 2, Palexpo (Geneva), 31.05.2022
57 participants

Workshops	Locations	Date	Participants	Second-hand
Workshop 1	Geneva, Carouge	28.05.2022	24 participants (citizens)	European Energy Transition Conference - OFF
Workshop 2	Geneva, Palexpo	31.05.2022	57 participants (citizens and energy experts)	European Energy Transition Conference - ON
Workshop 3	Basel	03.09.2022	6 participants (citizens)	UNIGE and UNIBasel
Workshop 4	Geneva, Meinier	19.10.2022	32 participants (citizens)	UNIGE, DIALOGUES project (H2020)
Workshop 5	Geneva, SIG	24.11.2022	18 participants (employees)	Event organized around sustainability and sufficiency for employees of Service Industriels de Genève (SIG)
Workshop 6	Geneva, Association of Swiss Electricity Companies	02.03.2023	5 participants (energy experts)	Workshop as part of a training course Energy Efficiency Facilitator 2022-2023
Workshop 7	Bern, Event Fabrik	16.05.2023	13 participants (public administration staff)	Sustainable Development Forum organized by the Federal Office for Spatial Development
Total			**155 participants - including citizens, employees and energy experts**	

Workshop 1, Carouge (Geneva), 28.05.2022
24 participants

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Workshop 3, Basel, 03.09.2022
6 participants

Workshop 4, Meinier, 19.10.2022
32 participants

6. To find out more, some scientific references

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2 workshops, 18 participants

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PART II : RUNNING A WORKSHOP ON THE ENERGY TRANSITION AND THE GOOD LIFE

1. The starting point for participants

This toolkit contains all the elements needed to hold workshops on the theme of the energy transition and the good life in Switzerland. The aim is to discuss personas living in an energy transition, by discussing their lives in the future and in a specific city (in this case, Geneva; also available for Basel; and to be adapted to other cities). The idea is to discuss their lives in relation to the notion of wellbeing, approached through human needs, and then discuss and plan a future where the energy transition would be compatible with living well.

Throughout this section, you will find - in italics - the script to be read to the participants as an introduction to the workshop, some discussion points, and frequently asked questions. The slides that accompany this script are also available via our website.

We are transported to Switzerland (or another country) in 2035. You will meet five personas who live in this future and have daily practices in line with the Swiss objective of achieving carbon neutrality by 2050. This means consuming less and consuming better, with new ways of working, travelling, eating, and living.

In relation to these new ways of living, there is an important link to be explored: how these lifestyles enable people to meet their human needs, such as to feel protected, or to participate in society. It's this link between everyday life in an energy transition and human needs that we want to explore with you. By aligning the need to change our energy-using practices with the consideration of human needs, we can work together to imagine a fairer energy transition.

This diagram (Figure 1) shows the three essential dimensions to be considered in this journey into the future. At the center of the circle, the first level presents the people or fictional personas who will be living in the energy transition in Switzerland in 2035. The second level shows the areas of life and consumption patterns represented by these personas. The last level presents the human needs that are essential to living well, and which allow us to consider the social dimension of the transition discussed through the personas.

You're now going to get to know the people who live in Geneva (or another city) in 2035, and at each stage we're going to lead you into a discussion about the link between energy consumption and wellbeing.

Points 2, 3 and 4 provide the basis for introducing the workshops to the participants, and point 5 provides some input for opening the discussion with participants.

....

Scheme 1 : Our approach: people, social practices, and human needs
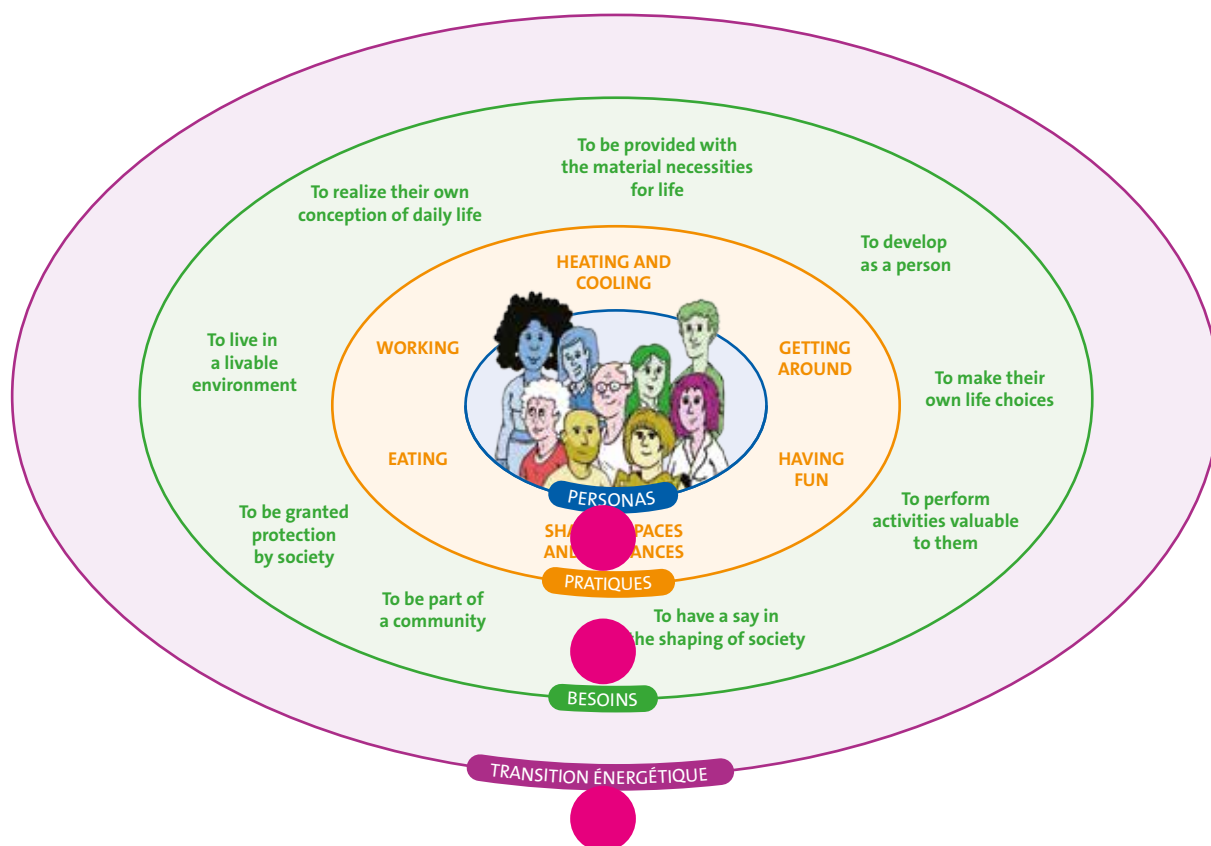
2. Introducing the personas

It's time to introduce the personas to the participants:

We have created five personas based on existing energy scenarios. Energy scenarios are not always easy to understand and most focus primarily on efficiency measures and the deployment of renewable energies, although some also focus on demand-side management – or sufficiency measures (e.g. Decent Living Energy scenario). The fictional personas help us to grasp what a carbon-neutral future would mean for, by imagining our daily lives in more concrete terms.

Objectives for a climate-neutral Switzerland by 2050

Hydrogen production at run-of-river sites (7 PJ)

1.5 million heat pumps (today 0.3 million)

Wind and geothermal energy with attractive generation profile

Heavy vehicles using rail, bioenergy and hydrogen

3.6 million battery-powered cars

Negative emission technologies: storage in Switzerland (3 Mt CO_2 pa)

38.6 TWh from hydropower (renewable net production)

High levels of **efficiency** in industrial processes

Waste incineration with CCS (3.6 Mt CO_2 pa)

Biomass for process heat

Expansion of **heat grids** in urban areas

Cement and chemical plants with CCS (2.9 Mt CO2 pa)

Well **insulated** buildings with low heating demands

34 TWh from PV systems, 40% of production (today 2 TWh)

Graphics: Dina Tschumi; Prognos AG

For our personas, we drew inspiration from a decarbonization scenario by the Swiss association negaWatt, as well as a global scenario, 'Decent Living Energy', which assesses the satisfaction of basic needs for all in a decarbonized world. Two other scenarios have been selected because of their focus on the changes that will have to take place in the global economy: the European Union's long-term strategy, which focuses on behavioral change (1.5LIFE), and the European Commission's SPREAD, which focuses on how lifestyles will have to change between now and 2050.
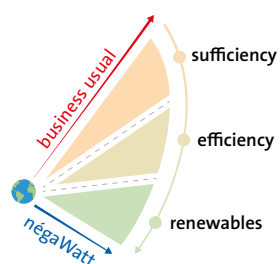
1.
Considering different energy scenarios
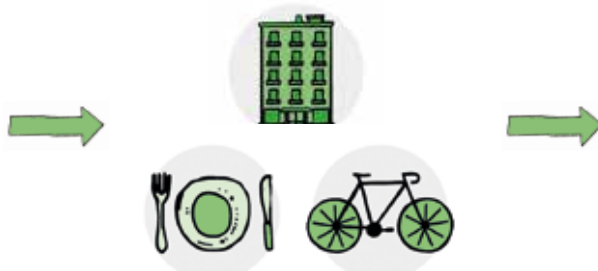
2.
Analyzing priority areas in relation to consumption domains

3.
Designing fictional personas

© Graphics: Dina Tschumi; Prognos AG
© NégaWatt (France) Association

© NégaWatt (France) Association

Each persona represents a specific area of consumption: **Quentin and Jasmine** eat locally and have reduced their meat consumption, **Isabelle and Philippe** treat the question of thermal comfort, cooling, and the increase in heat waves in the city, **Emma** travels less and lives in a city that promotes slow forms of mobility, **Audrey and Hussein** have new ways of working, and **Mélanie and Monia** are living with more shared objects and spaces.

The social dimension of sustainability is also considered, as each persona represents an income range. This is because not everyone will have to change their consumption patterns in the same way, in an energy transition. The five personas are very diverse and represent a variety of characteristics, with the aim of enabling workshop participants to identify with them.

3. An introduction to human needs

In this section, we provide a brief, plain-language introduction to human needs and how they relate to the good life:

The energy transition must take into account the social dimension of change, in particular the notion of social justice. Our approach takes as its starting point the need to discuss human wellbeing and needs in imagining the transition, as well as differences in income and lifestyles - which are represented in the descriptions of each persona.

In this project, 'living well' is seen as distinct from the concept of happiness. Living well is about prosperity, not about pleasure or individual preference. The 'good life' proposes the idea

FOOD

JASMINE (42) AND QUENTIN (45)

have three children: a daughter studying in Zurich (18) and twins (7). They live in a multi-generational complex in Bellevue, with about 100m2 for their family, 20min by bike from Geneva. The third bedroom is rented out to a student, and an elderly couple lives next door. Jasmine is a corporate lawyer and Quentin is a secretary for a clinic. Neither work full time. Their income range is lower to middle.

HOUSING AND LIVING IN THE CITY

ISABELLE (75) AND PHILIPPE (72)

are the tenants of a small apartment in Carouge. They have 2 daughters and 3 grandchildren living nearby. She was a horticulturist and he had a graphic design company. Now retired, their net income is in the higher range, with savings.

MOBILITY

EMMA (32)

just moved from Jussy to Eaux-Vives, when she started working part time as a care-worker in Geneva. She now lives in a cooperative building in a 60m2 apartment, which she shares with two other people in their 30's, all tenants. She has an apprentice degree and her net income is lower range.

TRANSITION IN WORK

AUDREY (46) AND HUSSEIN (38)

have been together for 10 years. They own an apartment in Plainpalais, with two bedrooms. Audrey used to work for a beauty brand, and is now developing her local clothes brand. The shop and sewing room are on the ground floor of the building. Hussein used to work in fast fashion and is now a part time graphic designer. Their net income is in the middle to high range.

SHARING SPACES AND APPLIANCES

MÉLANIE (30) AND MONIA (34)

have been together for 3 years and live in a cooperative building in the neighbourhood of Paquis. Mélanie just started working as an independent consultant in political communication. Monia is a Penitentiary Integration and Probation Counselor and is working at her office in the city center. They have a middle income.

of a good life in terms of the quality of life it can offer to individuals.

Living well is closely linked to the concept of needs, which proposes that all individuals share a finite number of satiable and non-substitutable human needs, which are satisfied by specific means, depending on the context. Human needs must be met in the context of the energy transition to enable a good life for all. While society cannot meet the desires of every individual - and by extension work towards everyone's sense of happiness - it can, however, address needs and the means of meeting them. This can be done at the collective level by planning the necessary changes, and offering the opportunity for a fairer energy transition that takes sustainable wellbeing into account as an aim.

Needs must be distinguished from the means of satisfying them, which depend on the context and can be multiple and organized by society. Below, you will find an explanation of the distinction between needs and the means of satisfying them, with two distinct means of satisfying the needs for freedom, subsistence, participation, among others...
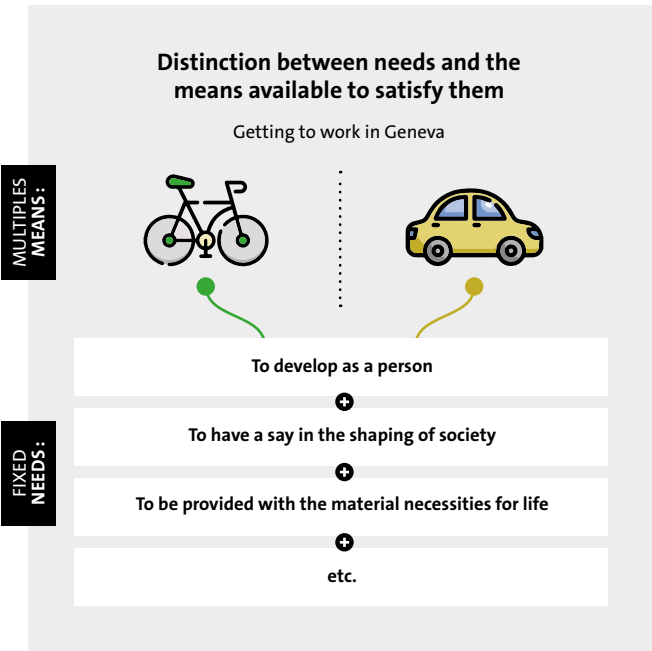
These two examples show how it is possible to 'get to work in Geneva' using very different means of transport: the car consumes more energy than the bicycle. Both means of transport satisfy the same needs, but organizing a society that facilitates safe travel by bicycle would be the best way to move towards 'sustainable well-being'.

There are various approaches to running workshops on human wellbeing and different lists on human needs. In this brochure, we propose two: the one by Manfred Max-Neef (Fundamental Human Needs, 1991) and the one by Antonietta Di-Giulio and Rico Defila (Protected needs, 2019; of the key idea that needs can be protected and planned for by society). You can make these lists available on the tables, by printing them out, by using the needs cards provided in the workshop materials, or by creating your own cards.

For a full-page version, please consult the material available on the website.

Distinction between needs and the means available to satisfy them

Getting to work in Geneva

MULTIPLES MEANS :

To develop as a person
+
FIXED NEEDS :
To have a say in the shaping of society
+
To be provided with the material necessities for life
+
etc.
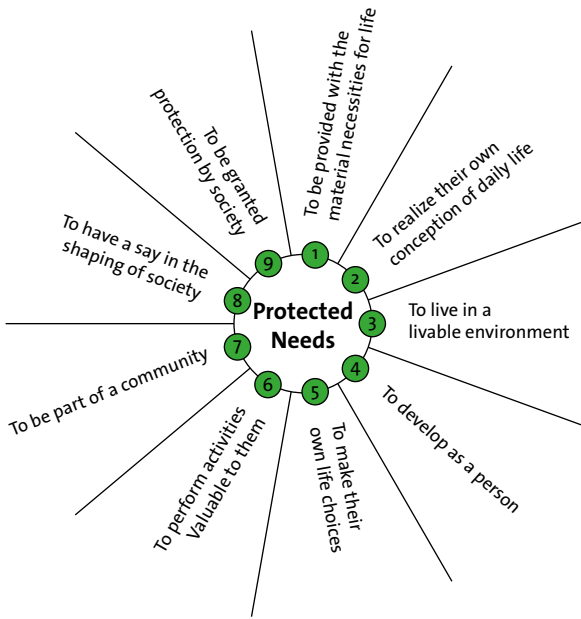
Protected needs (Di Giulio and Defila, 2023)

Basic human needs (Max-Neef, 1991)

AXIOLOGICAL NEEDS

	BEING (personal or collective attributes)	HAVING (institutions, norms, tools)	DOING (personal or collective actions)	INTERACTIN (spaces or at
Subsistence	[1] Physical health , mental health, adaptability	[2] Food, shelter, work	[3] Feed, procreate, rest, work	[4] Living envir
Protection	[5] Care, adaptability, autonomy, solidarity	[6] Savings, family, work	[7] Cooperate, take care of, help	[8] Living spac
Affection	[9] Self-esteem, solidarity, respect, tolerance, generosity, passion, determination	[10] Friendships, family, partnerships, relationship with nature	[11] Express emotions, share, take care of, cultivate, appreciate	[12] Home, spa
Understanding	[13] Critical conscience, curiosity, discipline, rationality	[14] Literature, teachers, method, educational policies, communication policies	[15] Experiment	[16] Setting of communitie
Participation	[17] Adaptability, solidarity, dedication, respect, passion	[18] Rights, responsibilities, duties, work		[20] Settings o
Leisure/Idleness	[21] Curiosity, imagination, recklessness, peace of mind			
Creation	[25] Passion, determination, boldness, rationality, autonom			
Identity	[29] Sense of belonging, self-es, sistency, differentiation, assert			
Freedom	[33] Autonomy, self-esteem, determination passion, assertiveness, open-mindedness boldness, rebelliousness, tolerance			

EXISTENTIAL NEEDS

Full list of needs is available on the website :
www.unige.ch/netzero2050/en/use-personas

4. An introduction to potential energy savings

This part is more technical and is not suitable for all workshops, depending on time available and interest. It is also possible not to include this phase (phase 2) in your workshop, especially if you don't have much time.

We have estimated what life would be like for all these 'personas from the future' in 2035, considering the combination of all areas of consumption: food, heating, mobility, etc. This has enabled us to show that the potential of sufficiency measures represents a 35% reduction in direct household energy consumption in 2035 compared with 2019, (i.e. reductions in demand while satisfying human needs). This potential reduction in household energy consumption in 2035 corresponds to around 16% of total final energy consumption in 2019 (households, industry, transport). The results have been calculated on the basis of changes in practices for a household with an average income. Coupled with technological changes, people's lifestyles could accelerate the transition or offset the uncertainties associated with emissions capture technologies between now and 2050. It would also make it possible to compensate for certain sectors where emissions are not falling fast enough, such as individual motorized transport. To achieve these reductions (35% mentioned above), we have various options, illustrated by the personas:

› *Major changes in transport systems, fewer kilometers travelled and increased use of public transport (Emma)*

› *Development of shared spaces and intensification of uses instead of individual ownership and the consumption of new objects (Melanie)*

› *Reduction in excessive food purchases, and a low-carbon diet (Jasmine and Quentin)*

› *Reduction in living spaces, in line with household size (Isabelle and Philippe)*

› *Working close to home and less work-related mobility (Audrey and Hussein)*

At this rate, changes in practices could also replace technological changes in certain sectors, in terms of reduction potential.

It is important to note that not all households need to adopt such changes by 2035 to achieve the potentials presented in the WEFEL project. The proportion of savings achieved depends on both energy consumption practices and household income. For example, the top quintile accounts for an overwhelming proportion of air travel (business and private), living space (second homes), etc. Among the key points relating to the essential changes needed to achieve the 35% target:

› *The share of public transport should double*

› *60% of the population should abandon the car and individual motorized mobility.*

People with higher incomes are likely to change their energy consumption to a greater extent than people on average or low incomes. This trend is reflected in changes in practices, where a proportion of minority share of households (with high incomes) are expected to make an additional effort compared to middle-income households. Energy consumption linked to savings depends on multiple factors and cannot be distributed on average, since the wealthiest 20% of the population account for almost two-thirds of total savings. Conversely, the poorest 20% of the population tend to go into debt.

› *The impact of savings is indirect, depending on the volume and the financial product. Investment in renewable energies or energy efficiency directly limits potential emissions, and should therefore be favored.*

› *Saving in a bank account can have an impact similar to that of average household spending, because it is invested in a variety of markets and financial products.*

Figure 1 : Disposable income per household by consumption category and quintile
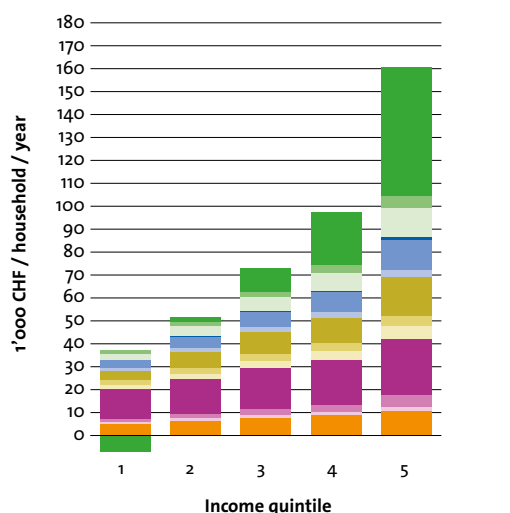
Figure 1 shows the quintiles of disposable income of Swiss households in monetary terms (in CHF/household/year) in relation to the different areas of consumption. While housing and transport dominate spending for almost all income quintiles, savings is the most unequal category.

For all income quintiles, the areas of consumption where a change in practice would contribute most to reducing energy consumption are housing and transport. The same applies to technical improvements such as efficiency gains in heating and transport. The reduction in energy consumption associated with these practices, particularly among affluent households, represents the most significant energy savings, while being accessible in the short term.

- ■ Savings
- ■ Misc
- ■ Restaurants et hotels
- ■ Education
- ■ Recreation and culture
- ■ Communication
- ■ Transport
- ■ Health
- ■ Furnishings and equipement
- ■ Housing, electricity and other fuels
- ■ Clothing and footwear
- ■ Alcohol and tobacco
- ■ Food and beverages

Figure 2 : Final energy consumption per household by disposable income quintile and consumption category

Figure 2 shows final energy consumption per household and per quintile of disposable income, in terms of energy quantity (in petajoules), in relation to the different areas of consumption. Saving has not been directly translated into energy consumption because its energy balance is difficult to measure, depending heavily on the nature of the savings or investments.
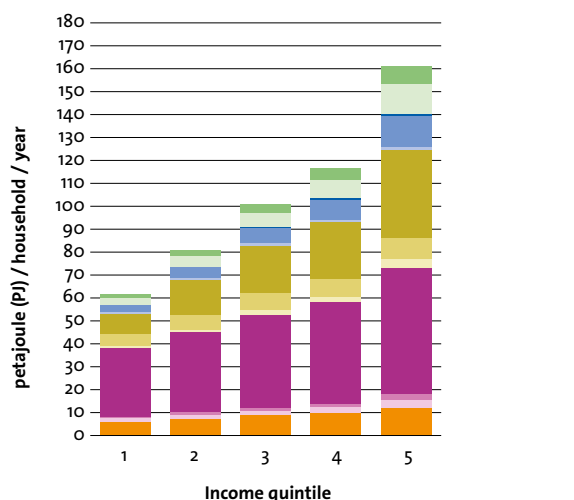
Leisure and culture, restaurants and hotels, as well as transport, are the areas that show the greatest difference, in terms of energy, between high- and low-income households. This also corresponds to the results in monetary terms in Figure 1. It is in these areas that changes in practices - such as eating out less often, enjoying the lake instead of flying to the sea, adapting heating instead of overheating all rooms - in high-income households would clearly contribute to a greater reduction in overall energy consumption than similar changes in low-income households. Conversely, supporting the energy renovation of buildings for tenants would help to reduce inequalities, as the poorest households spend a higher proportion of their disposable income on heating than better-off households, as shown in Figure 1.

- ■ Misc
- ■ Restaurants et hotels
- ■ Education
- ■ Recreation and culture
- ■ Communication
- ■ Transport
- ■ Health
- ■ Furnishings and equipement
- ■ Housing, electricity and other fuels
- ■ Clothing and footwear
- ■ Alcohol and tobacco
- ■ Food and beverages

Figure 3: Potential energy savings from the sufficiency measures studied in WEFEL compared to the energy savings based on the "ZERO Base" scenario of PE2050+

Figure 3 illustrated the fact that the energy savings associated with sufficiency measures at household level are significant and interesting when combined with more technical measures.

The first column (1) represents the final energy consumption for 2019, taking into account total consumption in Switzerland - which includes household consumption, but also consumption by industry, commercial/industrial buildings, etc.

The second column (2) represents the savings compared with the 2019 level illustrated by the Swiss energy perspectives PE2050+*. It represents the total consumption imagined in 2035, highlighting the potential reductions linked to the technical measures (efficiency and development of renewable energies) that have been put in place.

The third column (3) shows the potential reduction represented by the WEFEL measures and illustrated by the five personas in relation to household energy consumption alone.

The fourth column (4) shows what the sufficiency measures illustrated in the WEFEL personas, combined with the technical improvements in energy efficiency and the deployment of renewable energy sources described in the Swiss energy perspectives PE2050+*, can achieve in 2035 compared to the 2019 level.

The last column (5) illustrates the same combination, for 2050.

Energy Perspectives 2050+ (EP2050+), as part of the baseline variant of the Swiss Federal Office of Energy's "Zero Net Emissions" (ZERO) scenario.
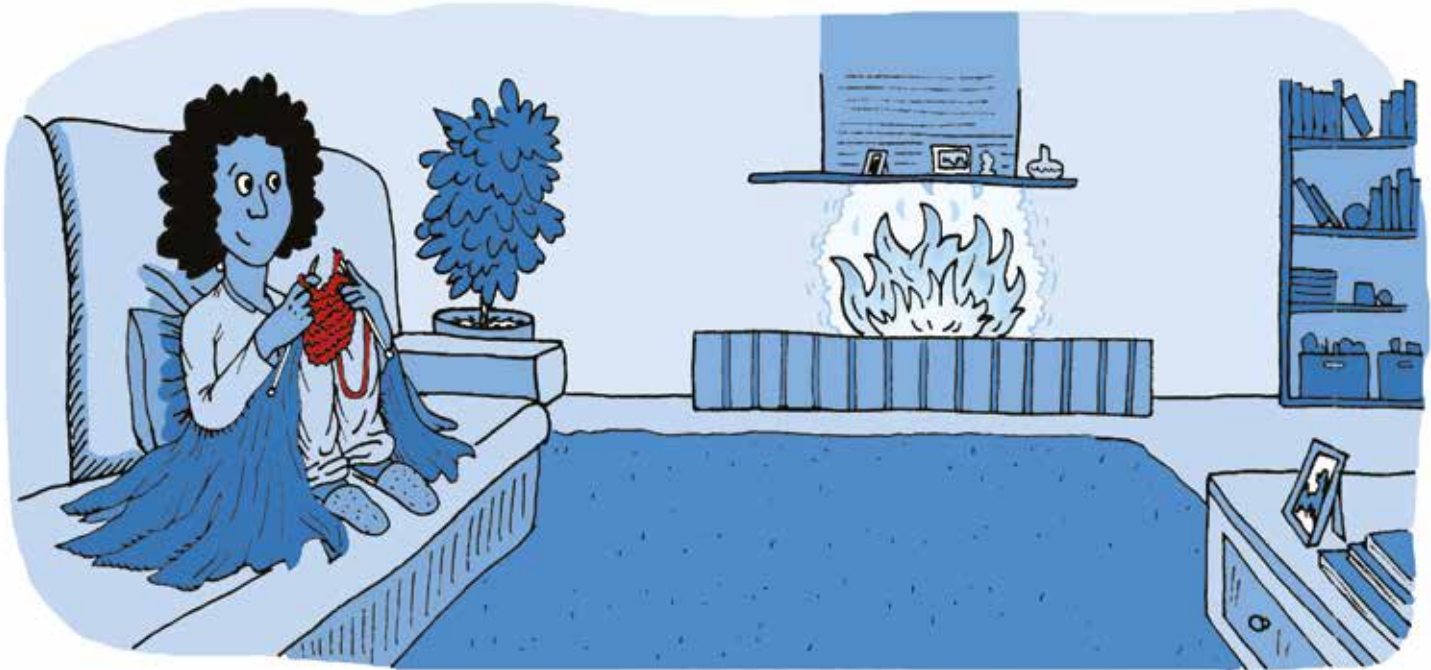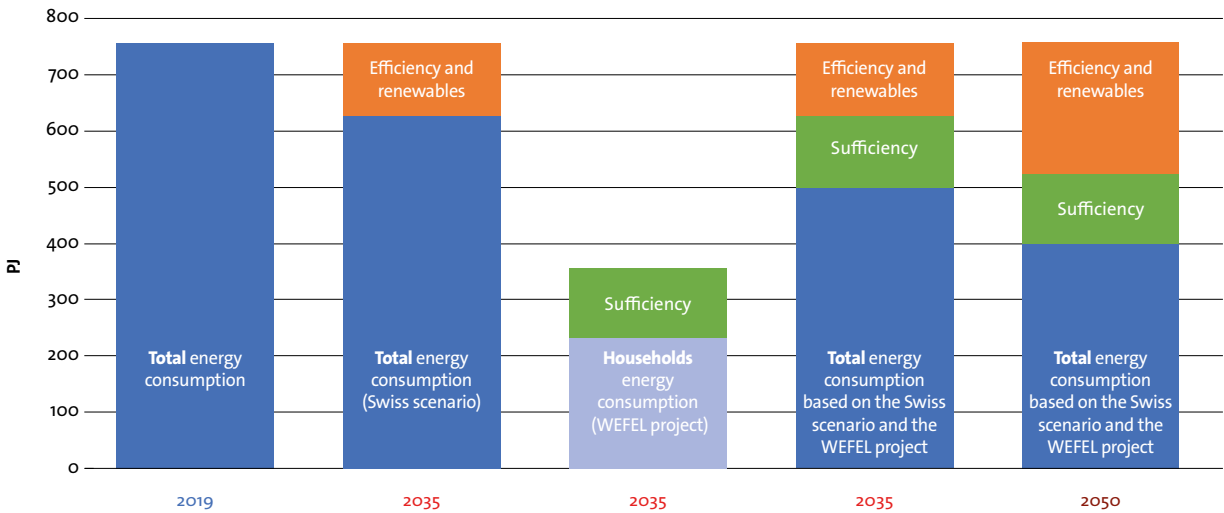
Figure 4 : Potential relative changes in energy use by area of consumption and by 2035

Figure 4 shows the distribution of potential final energy savings through changes in practices (sufficiency measures) between 2019 and 2035. The main potential lies in housing and transport, in particular temperature control and reducing the number of kilometers travelled.

The potential energy savings resulting from all the changes in housing and transport practices are almost equivalent to the technical changes in each of these sectors in 2035. This is achievable in the short to medium term and with relatively little effort, especially as low-income households are already consuming less. High-income households, on the other hand, would see their share of energy consumption fall the most. These reductions would have a greater impact on their consumption than on that of other households, which could lead to an increase in their consumption in other areas (rebound effect).

■ Share equipments and tools **4%**
■ Reduce over-purchasing of food **5%**
■ Reduce living space **5%**
■ Shift towards lower-carbon food **9%**
■ Regulate temperature/insulate **10%**
■ Reduce room temperature by 2°C **10%**
■ Reduce air travel by half **3%**

■ Work from home **4%**
■ Work close to home **5%**
■ Use an electric vehicle **11%**
■ Shift to public transit, cycling or walking **16%**
■ Reduce km traveled by car/car sharing **17%**
■ Extend the life of textiles **<1%**
■ Eat out less often **<1%**

5. Discussion and debate on the transition and wellbeing

This section presents various questions useful for stimulating discussions during each phase of the workshop. Looking for a more detailed workshop schedule? The different phases of the workshop and the questions for discussion are summarized in Appendix 1. Appendix 2 presents a more detailed schedule, with the elements to be presented in the introduction and the material required for each phase.

> 💡 **A discussion about a single 'persona' can take an hour and a half. Please consult Part I of the guide for inspiration on the formats already tested as part of the project, and adapt them according to your wishes and objectives.**

PHASE 1: Are the personas living a good life in 2035?

In the first phase of the workshop, the idea is to invite participants to discuss the fictional personas in relation to human need satisfaction. The aim of the discussion is to explore and understand collectively whether these personas living in 2035 correspond to representations of what a 'good life' is. Here are some questions to guide the discussion, which can be shared on a slide or communicated orally:

Questions for discussion

› *After reading the cartoon with the personas you have chosen, do they seem to be living a good life? Why or why not?*

› *Do the personas seem to be satisfying their needs? Why or why not? Which needs are met? And which are not?*

> 💡 **It is not necessary to discuss all the needs; it is possible to choose those that are most relevant to the group.**

Frequently asked questions - For moderators:

In this section, you will find answers to questions that may be raised by participants.

Do these personas represent all of Switzerland?
The personas have been created to be as representative as possible of the Swiss population - in relation to different socio- demographic characteristics. The aim is for participants to be able to recognize themselves in certain aspects of the personas, and to be able to make links between their practices and those of other people. However, it was not possible to represent all life situations of people living in Switzerland today.

Why do the personas live in 2035 and not 2050?
The idea was to depict a future that was not too close, in order to imagine changes in the medium term, but not too far away either, so that people confronted with the personas could recognize themselves in the characteristics and lifestyles represented. The aim is to represent the changes that need to be put in place to achieve such lifestyles in 2035, on the way to 2050.

Do all human needs have to be discussed for each persona?
It is not necessary to discuss all the needs, and it is possible to choose the needs that seem most relevant to the participants. There are several lists of human needs, and the number of needs may vary. For some thinkers, three needs are essential - people need to be healthy (physically and mentally), to be able to participate and have a voice in the society in which they live, and to be autonomous (Theory of human needs by Doyal and Gough 1991); for others, 9 needs are considered (Fundamental Human Needs by Max-Neef, 1991; Protected Needs by Di Giulio and Defila, 2019 - lists considered for the workshops).

What is the difference between the good life, wellbeing and human needs?
In this project, the good life is seen as the ability of individuals to live a life in which they flourish. Wellbeing is a synonym, but is more specifically linked to the notion of human needs. To achieve wellbeing and live a good life, individuals must be able to satisfy their needs.

JASMINE (42) AND QUENTIN (45)

have three children: a daughter studying in Zurich (18) and twins (7). They live in a multi-generational complex in Bellevue, with about 100m2 for their family, 20min by bike from Geneva. The third bedroom is rented out to a student, and an elderly couple lives next door. Jasmine is a corporate lawyer and Quentin is a secretary for a clinic. Neither work full time. Their income range is lower to middle.

Drats, no more cabbage !

I made it to the cooperative market by 11:45am, but they're all out. The market avoids surplus stocks, given efforts to avoid food waste, so you have to get there early if you need something specific.

SEPTEMBER

MEAT DAY!

We still enjoy a piece of meat about once a month, eating meat is a treat – at least in our family. Because of the 2030 referendum banning the import of fodder from outside of Europe, no more rainforest depletion but... meat is expensive. I definitely sleep better on a veggie diet, so we keep meat to a minimum.

The twins were looking forward to a cabbage recipe they tried last week in school, as part of a class on vegetable-based proteins from the Geneva region.

In addition to the lentils, tofu and chickpeas, which we're used to, you can now find protein derived from sunflower and colza. We'll have to try it out some day. All schools switched to vegetarian menus some years ago, which means that the twins grew up seeing veggies as the stars of the plate.

Animal wellbeing is also very important to our family. Last time I took the twins to the butcher, they wanted to know everything about the life and death of our rump steak!

Living in Geneva in 2035, towards net zero 2050
https://www.unige.ch/netzero2050/

HERJI

We eat 'local from the Geneva region' about half the year, and then the 'local' expands to southern Europe.

We're really spoiled with great products in the region, there has been a push to promote a diversity of products in recent years.

A bunch of land will soon be converted into agriculture, as they plan to dig up the airplane runways – some planes are starting to take off vertically. My neighbor told me they are using all that concrete to bury the highway. Imagine that, all those cars will disappear underground !

I'll stop by the community vegetable garden to see if there's any cabbages to be had. We share the garden with our neighbors, along with a hen house. The chickens get our kitchen waste, which means even less food waste. One of my neighbors has a refrigerator that scans everything you put in there and then sends a message when food is about to expire, with a specific recipe. It sounds fancy, but I'm not keen on all of these smart technologies.

Besides, I usually get food that's almost expired, from the food cooperative. Since I work three days a week, I have more than enough time to help out as a volunteer. It really does save us some money, when we're able to get local veggies, fish, cheeses or bread at half the price.

And... someone left the gate open to the vegetable patch, and the dogs have been in there again. I'm all for animals being treated with respect, as fellow-species, but could someone have a talk with the neighbor's dog and ask him to stop playing with our food ?

Living in Geneva in 2035, towards net zero 2050
https://www.unige.ch/netzero2050/

HERJI

ISABELLE (75) AND PHILIPPE (72)

are the tenants of a small apartment in Carouge. They have 2 daughters and 3 grandchildren living nearby. She was a horticulturist and he had a graphic design company. Now retired, their net income is in the higher range, with savings.

I woke to the sound of birds chirping. It's still pitch-dark in my bedroom. I can hear Philippe's breathing machine humming along from his bed in the living room.

It's going to be another hot day. For the past few days, the e-nurse has recommended we stay indoors : our air-conditioning credit has gone up to 3 hours per day, but we've managed to keep it off for now.

Air conditioning credits:

Even in our one-bedroom flat, we manage to have our separate beds – when you get to be our age, four hours of uninterrupted sleep is a luxury.

If we don't need it, we prefer not to use it, as a drastic change in temperature is not good for our health – and air-conditioning is so energivorous and expensive.

When Philippe was no longer able to walk more than a few steps, we invested in an e-exoskeleton, which allows him to move around and stay at eye level with everyone else. For a big man like him, having to roll around in a 20th century wheel-chair would have been depressing. He is really quite agile on the thing.

We moved from our house to this flat a few years ago, just after it was renovated. It stays warm in the winter, and quite cool in the summer if you keep the blinds down during the day. We only open up the windows to air out the space late in the evening.

It's August 1st and there's a drone show in town. Philippe is happy enough to play football in virtual reality for a day or two, or to teach the e-jack-russel some new trick, but he's going to want to go out and mingle today.

Living in Geneva in 2035, towards net zero 2050
https://www.unige.ch/netzero2050/

HERJI

I love our 3D unit, which projects my pilates class right into the living room – I can fit about 6 people in here, in hologram, friends from 3 different time zones. It's fun to catch up with them while exercising.

Philippe just switches on his virtual reality helmet and leaves us to it. I'll have to remember to charge his cooling shirt and my scarf, gifts that the grandchildren made for us in their school bricolage class.

Even if these gadgets have been around for some time, they are proud to say that they have invented them. Making things, and repair things, is a skill all children learn from a young age.

We also tend to keep things longer nowadays, and I'm actually the proud owner of a sewing machine that is even older than me. It was built in Geneva in the 1950s and it's still working perfectly. It's now hooked up to our solar panel on the balcony.
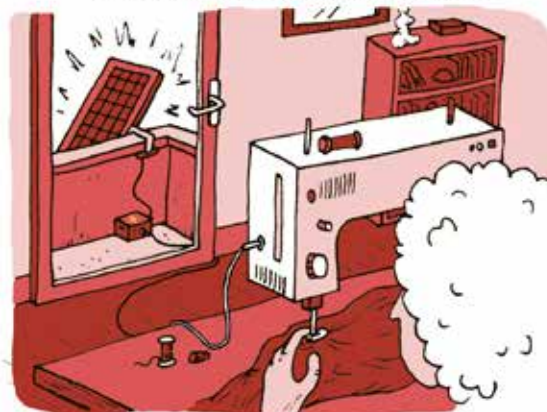
We'll take the green vegetation corridors to the bus station, and from then on it will be a breeze.
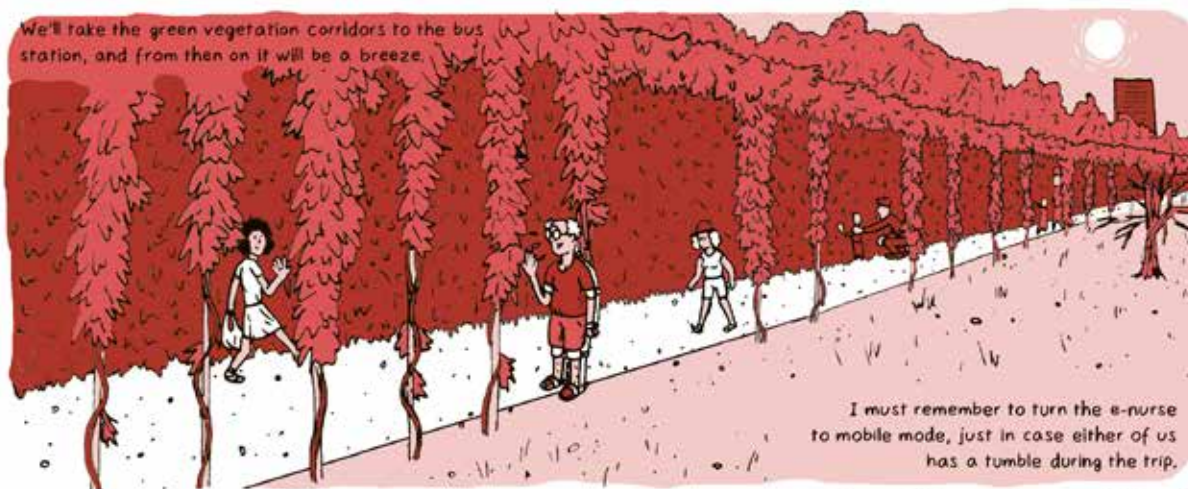
I must remember to turn the e-nurse to mobile mode, just in case either of us has a tumble during the trip.

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EMMA (32)

just moved from Jussy to Eaux-Vives, when she started working part time as a care-worker in Geneva. She now lives in a cooperative building in a 60m2 apartment, which she shares with two other people in their 30's, all tenants. She has an apprentice degree and her net income is lower range.

What a beautiful spring morning, and so peaceful – even for a weekday.

I definitely don't miss the sound of cars, or the sight of traffic streaming past my window.

Cars were banned in certain streets in the city center four years ago, and people have really taken to public transports and biking.

I used the CEVA last weekend to get to Megève for an afternoon hike, it only took me about 25 minutes from Eaux Vives.

I'm off to meet some friends I got to know five years ago, when I was part of a group of citizens selected at random to participate in discussions before a mobility referendum to reduce most cars in the city center.

I grab my e-bike from the secured charging terminal in front of my building, and roll into the fast bike lane. The school bell must be about to ring, parents are arriving at the elementary school with children in tow, using the slow bike lane. There's even a 4-year-old, on his balancing bike, looking very proud in his helmet scarf.

It was a tough debate, as many people in Geneva had become used to their SUVs for safety reasons, but also for comfort and status.

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By the end of the discussion, it was hard not to agree with the evidence in relation to climate change, human health and wellbeing. People who claim to need 4x4 cars, who are very few, now store their cars in parking spaces outside of the city center.

Personally, I find it embarrassing to even be seen in a 4x4, when you know how energivorous they are. When a cap on fuel imports was introduced, it no longer made sense to privilege individual cars, when we could use that fuel for ambulances. Good thing most ambulances are now hybrid.
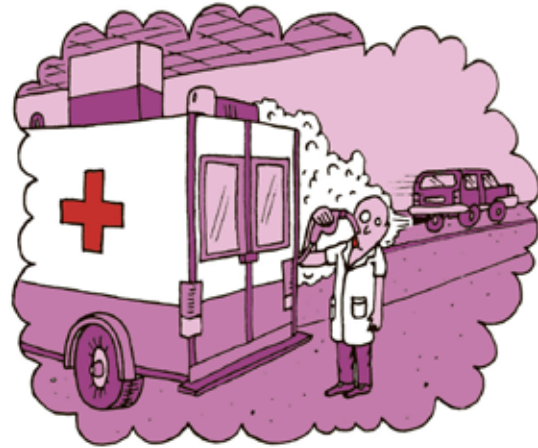
Cars are rare in the city and are much smaller in size, mostly electric, and mostly shared. You also have more buses, trams and cargo bikes, which have replaced most taxis and are also very useful for carrying bulkier items.

Being mobile is a universal basic service in Switzerland now, which means public transports are very accessible and you can get anywhere in the country at a reasonable price, without having to drive.

I always wanted to travel around the world, but sustainable aviation fuel prices are sky-rocketing. Virtual trips are also a good way to visit faraway places without leaving home.

This year I'm going to Greece from the north by train, and coming back by ship from the south. There's a new hybrid solar fleet that is much less polluting than the 20th century cruise ships.

I save my flights for visiting my parents in Canada, and I hope to go next summer. We take turns visiting each other.

In Europe, my travel agency can get me anywhere by boat and train. When I book well in advance, the prices are more affordable.

I'm looking forward to the road trip and meeting some friends from school along the way.

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AUDREY (46) AND HUSSEIN (38)

have been together for 10 years. They own an apartment in Plainpalais, with two bedrooms. Audrey used to work for a beauty brand, and is now developing her local clothes brand. The shop and sewing room are on the ground floor of the building. Hussein used to work in fast fashion and is now a part time graphic designer. Their net income is in the middle to high range.

We had just finished lunch when the doorbell rang. Audrey went to welcome a young woman and her young child and usher them into our home office, for an interview.

Since Audrey started her slow fashion brand, she has seen a steady turn-around in staffing, which she tells me is a good thing. Her business model is based on employing and training mostly migrant women, who then go on to gain other jobs once their state-supported reinsertion program is complete.

The home office is situated in Liam's room, my son born from a first marriage who lives with us every other week. The woman was apparently a seamstress in her hometown, before arriving in Geneva.

Audrey loves her job and her brand, which she set up with two other women who were laid off from a large beauty company in 2025. Their company has two goals – to make the women's tailored-made clothes accessible financially, and to develop a locally-based clothes brand that helps the community.

With a business degree and experience in branding, it was no trouble for them to launch this company. Besides, the Canton of Geneva has an unemployment program to help people transfer to more sustainable domains, which helped them.

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I was part of the citizen forum that debated the issue of un-sustainable jobs. We went through the pros and cons, and there was a general consensus that the State had to play an active role in supporting change.

Even if I didn't agree with all of the outcomes, it was good to be part of the process.

Audrey's local fashion brand, based on making new garments but also repairing old ones, doesn't pay as much as she was used to earning, but she has more time, less travel, and more meaningful work.

I lost my job as well some years ago, and it was a bit of a bumpy period for us. We had decided to not have more children, so that was one less concern.

I grab my working pack – basically a hand-held computer and built-in 3D projector - I go to the co-working space, located just above a restaurant we go to from time to time.

I have a meeting with my co-investors to discuss a cooperative housing project in Jussy - part of a certified sustainable investment fund.

Employers are required to allow their staff to work remotely at least two days a week. 2D meetings on screens are a real strain, so I'll usually organize them in 3D when I can.

Audrey is not a fan of all of my gadgets, as she calls them, and in some instances it's better to take the train to Paris than spend the whole day in a virtual meeting.

"It's not just the energy, it's also my privacy", she keeps reminding me.

It's a good thing that people have a choice and that smart infrastructures are only used when there's a real added value, for managing energy distribution for example.

We live in an otherwise 'free of smart technology' home, Audrey made sure of it !

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HERJI

MELANIE (30) AND MONIA (34)

have been together for 3 years and live in a cooperative building in the neighbourhood of Paquis. Mélanie just started working as an independent consultant in political communication. Monia is a Penitentiary Integration and Probation Counselor and is working at her office in the city center. They have a middle income.

The only thing I enjoy about movie nights is that I get some peace and quiet alone at home.

Mélanie is the social one, and there's plenty of shared space in the building for music nights, movie nights and what have you, but I'm very happy to be home alone.

Don't get me wrong, there are many good things about living in a cooperative building, but I'm an introvert and organizing events with the neighbors, however lovely they may be, is just not my cup of tea.

I'll snuggle up on the couch with a blanket, it's a cold night.

I might even bump up the thermostat a degree. The lack of another body also makes the living room colder somehow.

Melanie always says "20 degrees is more than enough" and I tend to agree... but not when I'm alone. The bedroom stays at 19 degrees, and that's perfect for us both, it means a healthy night's sleep.

Maybe it is less body heat, maybe it is the solitary feeling, I don't know.

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In our building, there's a shared guest room, an entertainment room, and two shared electric cars out front. The common laundry room is quite something, it has washing machines of course, but also a 'library of objects', collectively managed and accessible to the building but also the surrounding community.

This 'library of objects' was made possible thanks to a city initiative to promote a shift from ownership to usership, through the development of small hubs across the city where objects can be stored, rented and repaired.

Every neighborhood has at least one such hub that is accessible to the whole community.

Next week, there will be an appliance repair session in our library space. We're going to try and fix the cleaner robot. I'm really not keen on dismantling the thing, but buying new appliances has become very difficult and expensive, as products are built to last, as well as being easier to maintain and repair.
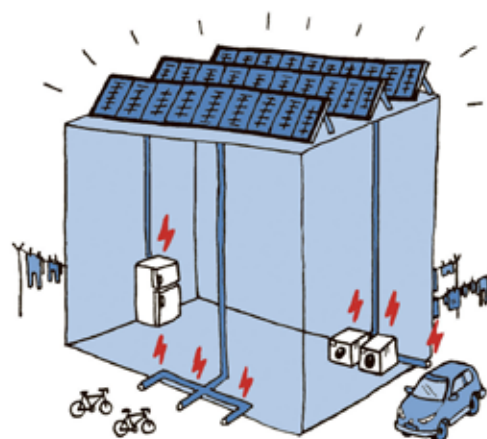
The PV installed on the roof is perfect for the e-bikes, but also running the laundry machines and computers that are shared in the common area. We air our clothes out before washing them anyway, so we only run a wash cycle once every two weeks. It saves money and time.

I snuggle into the couch and turn on the virtual fireplace. Somehow, looking at the flames makes me feel warm and cozy.
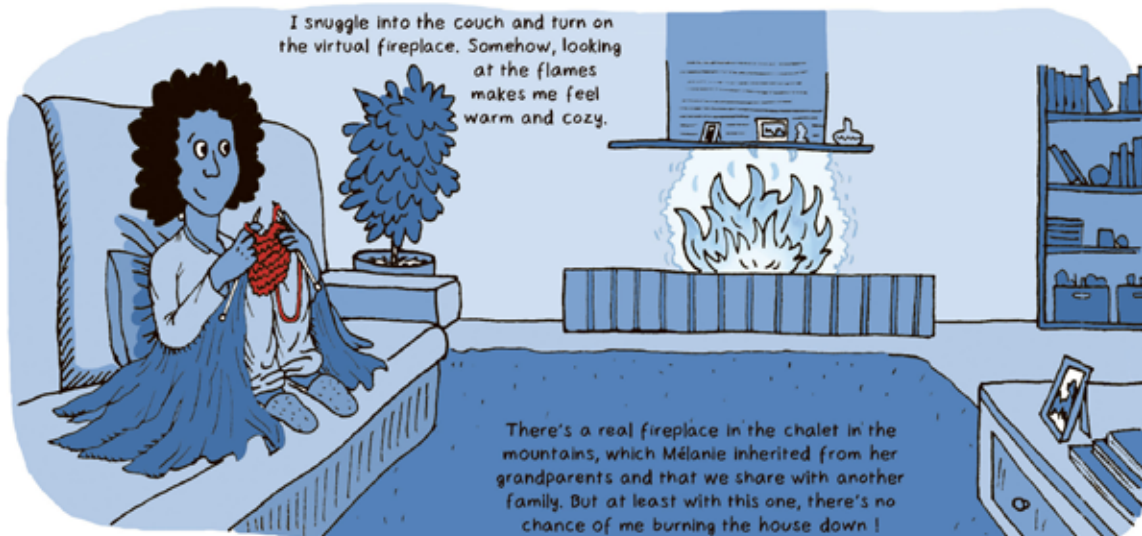
There's a real fireplace in the chalet in the mountains, which Mélanie inherited from her grandparents and that we share with another family. But at least with this one, there's no chance of me burning the house down!

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HERJI

| **PHASE 2 :** **Are the energy savings worth it ?**

This deals with the second major question of the workshop: Are the energy savings worth it ? We have quantified the energy savings represented by these combined lifestyles in 2035, taking into account the differences in people's incomes. Participants can then discuss the energy savings and assess whether they are worthwhile in terms of living well. Another point that can be incorporated into this phase is that not everyone has to change their consumption patterns in the same way, and that this depends on their income (related to their consumption patterns).

> 💡 **This phase on energy savings is more technical and is not always necessary. Its relevance will depend on your audience and the time you have available.**

Questions for discussion

› *What can you say about the potential for energy reductions and these personas ? Can we save energy and still lead a good life, in the future ?*

› *In relation to each person's income, which group needs to make more effort to change their practices ? What about those with the highest incomes ? And those with the lowest incomes ?*

› *In view of the potential energy savings presented, would you be willing to go further in terms of reducing consumption on a daily basis, and if so, in what area(s) ?*

Frequently asked questions - For moderators :

In this section, you will find answers to questions that may be raised by participants.

What are the main aspects of energy scenarios included in these personas ?
Many energy transition scenarios focus on the deployment of renewable energies (solar, geothermal, etc.) and energy efficiency (more efficient buildings, more efficient cars, etc.). We have included these measures, but we have also considered sufficiency measures, i.e. changes in consumption patterns, such as lowering heating or favoring public transport.

Is grey energy taken into account ?
No, grey energy is not taken into account. The aim is to translate scenarios at the household level for activities where the majority of energy consumption is domestic: e.g. housing and transport. The PE2050+, which is our reference scenario, does not take into account grey energy or indirect emissions linked to foreign trade. If the changes in practices illustrated by the personas do lead to reduced direct energy consumption, they are also conducive to the reduction of grey energy and indirect emissions.

How are potential energy savings calculated ?
Energy savings are estimated on the basis of final energy consumption by economic activity, coupled with household expenditure on goods and services provided. Compulsory expenditure, such as taxes, health insurance premiums and social security contributions, is not included. The impact of changes in practices is weighted according to the extent to which households adopt these changes, as we do not anticipate a 100% adoption rate for these practices - this would, a priori, be very difficult to achieve.

If you'd like to see the energy savings potential for each persona, please consult the five sheets of detailed energy calculations – available in the free workshop materials on the website.

PHASE 3 : How can we organize today to live better with less tomorrow?

In this final phase of the workshop, the aim is to open up our imaginations and discuss the changes needed to achieve a desirable future - that is to say, an energy transition in which changes in practices relating to food, mobility, etc. meet human needs. So, what can imagine today, collectively, to plan for 'sustainable wellbeing for all' tomorrow.

> 💡 **It is important to move beyond overly individualistic approaches (what each person can do on an individual basis) to facilitate the transition; the focus should be on planning change at a collective level (how to organize change at the level of a building, a neighborhood, a town, etc.).**

Questions for discussion

› *What would need to be put in place at a collective level (infrastructures, community, etc.) today or in the coming years, to achieve the practices described in the personas' comic strips?*
› *What changes meet the needs of more people?*
› *What are the limits to individual change?*

Frequently asked questions - For moderators:

In this section, you will find answers to questions that may be raised by participants.

What is the difference between individual and collective change?
Individual changes are implemented at the level of practices by people and households (micro level). They need to be supported by changes on a larger or meso-scale (e.g., community, neighborhood, etc.) or macro scale (e.g. city, canton, country) in order to be achieved. At a collective level, this can take the form of changes in infrastructures (mobility, for example, with the development of public transport), or changes in rules and laws (housing laws, for example, with the introduction of strict energy efficiency standards), and so on.

Who needs to change their consumption the most?
It is important to note that not all households need to adopt the same changes between now and 2035 in order to achieve the goals of carbon neutrality by 2050. The proportion of savings achieved depends on both energy consumption practices and household income. For example, the top quintile (highest income earners) account for an overwhelming proportion of air travel (business and private) and living space (second homes). People on higher incomes would need to change their energy consumption more markedly than people on average or low incomes.

Participatory workshop in Carouge European Energy Transition Conference OFF, 28.05.2023

Participatory workshop in Palexpo European Energy Transition Conference ON, 31.05.2023

Participatory workshop in Carouge European Energy Transition Conference OFF, 28.05.2023

Participatory workshop in Carouge European Energy Transition Conference OFF, 28.05.2023

APPENDICES

APPENDIX 1:
Materials required - electronic format

Material	Name	Features	Format
Document workshop procedure	Workshop_Procedure		PDF
Presentation slides	Slides_Introduction	› Introduction › Phases › Conclusion	PPT
Comic strips / personas	Comics_Personas	A3 and A4 formats, for all personas **In French, English and German**	PDF
Consumption reduction sheets / total for all personas	Consumption_Total	A3 and A4 formats	PDF
Consumption reduction sheets / by persona	Consumption_Personas	Not essential for the workshop, just to go further	PDF
Wellbeing sheets	Wellbeing_Sheets	Needs lists presentation sheets (needs lists used during the workshops) › Basic human needs › Protected needs	PDF
Wellbeing cards	Wellbeing_Cards	Small format cards with needs from both lists. Can be stuck on posters.	PDF
Phases posters	Phases_posters	Posters available to participants to organize the ideas discussed. One poster per phase : › Needs › Energy consumption › Changes	PDF
Poster feedback	Feedback_poster	Poster available in the room to stick feedback post-its.	
Consent forms	Consent_form_example	If you want to take photos and/or record conversations, or simply use the data.	PDF
Socio-demographic background information	Sociodemographic_ Forms_Example	If you want to collect data on the participants	PDF
Small office equipment	–	› post-its › markers › pens › notepads	Not supplied
Computer equipment	–	› computer › projector/screen	Not supplied
Logistics	–	Tables › 5 to 7 seats › large enough to hold the workshop materials › spaced out (so that each table has its own space)	Not supplied

Example of a workshop

The workshop consists of three phases, preceded by an introduction and followed by a conclusion. Here is a simplified outline of how a 2.5- hour workshop is run. It is important to note that each discussion group can only deal with 1 or 2 personas at a time.

3 phases	Topics	Workshop content	Recommended timeframe
Introduction - plenary	Introduction to the energy transition and the workshop	› Framing the climate/energy problem › Presentation of the workshop objectives › Introducing the personas › Differentiation of needs and means of satisfying them › Creation of groups and introduction of participants	10 minutes
Phase 1 - in discussion groups	Personas from the future and a good life	› After reading the personas' stories, do you think they represent the good life ? Why or why not ? › Do they meet their needs ? Yes, no, why ? Which needs are being met ? And which are not ?	20 to 30 minutes
Break	*Participants can learn about the other personas displayed in the room*		15 minutes
Phase 2 - in discussion groups	Saving energy and living well	› What can you say about the potential for energy reductions and these personas ? Can we save energy and still lead a good life, in the future ? › In relation to each person's income, which group needs to make more effort to change their practices ? What about those with the highest incomes ? And those with the lowest incomes ? › In view of the potential energy savings presented, would you be willing to go further in terms of reducing consumption on a daily basis, and if so, in what area(s) ?	20 to 30 minutes
Phase 3 - in discussion groups	Organising society towards the good life	› What would need to be put in place at a collective level (infrastructures, community, etc.) today or in the coming years, to achieve the practices described in the personas' comic strips ? › What changes meet the needs of more people ? › What are the limits to individual change ?	20 to 30 minutes
Conclusion	Feedback	› Feedback on content: one person per group presents a change discussed in phase 3, or a key element from the other phases. › Feedback from the workshop › A final word	10 to 15 minutes

Detailed example of how a workshop is run

Here's a more detailed presentation of how a 2.5-hour workshop works.

Phases	Content	Comments	Material
Arrival	A word of welcome		
Introduction and problem 30 minutes	**1. Framing the problem** › We have an energy problem (among other problems); we need to reduce the amount of energy we use and the way we use it (in relation to climate change and other impacts). › Committing to this will change the way we live our lives.		Introduction_Slides
	2. Project presentation › Analyzing energy scenarios and making them accessible to the public; linking the scenarios to people's everyday lives. › Include sufficiency in the imagination of energy futures, so that projections do not focus solely on efficiency and renewable energies. › Process: from scenarios, to assumptions relevant to everyday life, to fictional personas in 2035.		Introduction_Slides
	3. Introducing the personas › Personas representing possible ways of living in a future that has changed, both in terms of climate and the way society functions. › The various social and technical changes to come (renewable energies, hotter summers, etc.) are reflected in the personas. › Taken together, the personas represent the general change we need to achieve.		Introduction_Slides
	4. Presentation of the workshop objectives › Discuss the imaginary future in relation to the energy transition through personas living in Geneva (or elsewhere) in 2035.		Introduction_Slides

Phases	Content	Comments	Material
	5. Approach to wellbeing Distinguish between wants and needs, and between needs and the means of satisfying those needs › A good life can mean different things to different people. › It is important to distinguish between needs and the means of satisfying those needs (give the example of cars and bicycles). › Some thinkers have created lists of what constitutes 'the good life», understood as the satisfaction of needs - we consider fundamental human needs and protected needs.		› Wellbeing_ Sheets › Wellbeing_Cards
	6. Group formation Participants are divided into groups and engage in an ice-breaker exercise. › If we're talking about energy transition, what does that mean to you in a nutshell?	*Minimum 4 people per group, maximum 6* Explain that the moderators are in the room if participants have any questions. › Emphasize that the idea is for each table and each participant to have the opportunity to share their point of view.	
Phase 1: **Personas of the future and good life** 30 minutes *(15 minutes per persona)*	› Each group receives illustrations of one or two people living in an energy transition in 2035 › Participants are invited to discuss a series of questions and take note of their discussions on a 'needs' poster. › After reading the personas' stories, do you think they represent the good life? Why or why not? › Do the personas seem to be satisfying their needs? Why or why not? Which needs are met? And which are not?	Personas should be paired according to their theme, to complement each other. Suggested pairs: › Jasmine and Quentin / Audrey and Hussein › Jasmine and Quentin / Isabelle and Philippe › Isabelle and Philippe / Mélanie and Monia › Isabelle and Philippe / Emma › Audrey and Hussein / Emma › Audrey and Hussein / Mélanie and Monia › Jasmine and Quentin / Mélanie and Monia	1. Personas_Comics 1xA4 per person and 2xA3 per group 2. Phases_Posters *Needs* 3. Wellbeing_Cards *Can be stuck on the poster.*

Break
15 minutes

Use post-its to comment on the personas on the walls:
What do you think of each of the personas? → Opportunity to be more critical!

Phases	Content	Comments	Material
Phase 2: **Saving energy and living well** 30 minutes *(15 minutes per persona if two personas are discussed)*	Participants receive another set of documents containing information on the energy-saving potential of these future personas. They are invited to discuss a series of questions in groups and record take not of their discussions on an 'Energy consumption' board: › What can you say about the potential for energy reductions and these personas? Can we save energy and still lead a good life, in the future? › In relation to each person's income, which group needs to make more effort to change their practices? What about those with the highest incomes? And those with the lowest incomes? › In view of the potential energy savings presented, would you be willing to go further in terms of reducing consumption on a daily basis, and if so, in what area(s)?	Be transparent about the fact that the energy reduction potential maps are limited to one piece of information/focus on one part of reality.	1. Consumption_ Total Consumption_ Personas (not indispensable, to go further) 1xA4 per person and 2xA3 per group 2. Phases_Posters *Energy consumption*
Phase 3: **Organising society towards the good life** 30 minutes *(15 minutes per persona if two personas are discussed)*	Participants are invited to discuss a series of questions in groups and take not of their discussions on the 'energy consumption' poster: › What would need to be put in place at a collective level (infrastructures, community, etc.) today or in the coming years, to achieve the practices described in the personas' comic strips? › What changes meet the needs of more people? › What are the limits to individual change?	There must be enough space available in the room for participants to display the posters from the previous two phases.	Posters_Phases *Changes*

Phases	Content	Comments	Material
Conclusion 15 minutes	**1. Back to content** One person from each group presents a key point that was discussed during the workshop.	It is important for participants to feel that they are part of something, to avoid an imbalance of power. Giving them the floor to share elements of their discussion makes them even more involved in the process.	Posters_Phases *Changes*
	2. Comments on the workshop experience Participants are invited to give their general impressions of their experience of the workshop. They can also write their comments on a flip chart. › What do you think about the relationship between the energy transition and living well? › How did you find the use of fictional personas to imagine a future in the energy transition? › How do you feel about this experience? (in order to get a more subjective reading of wellbeing, and to address participation as a human need)	Participants write their comments on post-its and pin them to the feedback posters on the walls. The aim here is to get a more subjective reading of wellbeing, and to see to what extent individuals respond to their need to participate through this workshop.	
	3. A final word Thank the participants for their time and explain how they will receive the results. Review the overall objective of the workshop: › Initiate discussions on the relationship between the energy future, daily life and wellbeing, in order to move the debate forward. Remind participants that they are part of this debate.		

QUOTE

Sahakian, Marlyne, Orlane Moynat and Vincent Moreau (2024), What would the good life look like in 2035 ? A workshop on the links between the energy transition, everyday life and human needs. Toolkit for planning discussions and workshops on the energy transition. University of Geneva.

RESEARCH TEAM

Prof. Marlyne Sahakian
Orlane Moynat
Vincent Moreau

UNIVERSITÉ
DE GENÈVE

· · · · · · · · · · · · · · · · · · · ·

IMPLEMENTING PARTNERS

Wladyslaw Senn (Terragir, Dss+)
Antonietta Di Giulio (University of Basel)

ÉNERGIE SOLIDAIRE
terragir

Universität
Basel