



Report on vertical and horizontal multilevel-governance: 5 case studies

Fundamental decarbonisation
through sufficiency by lifestyle changes

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Project Partners

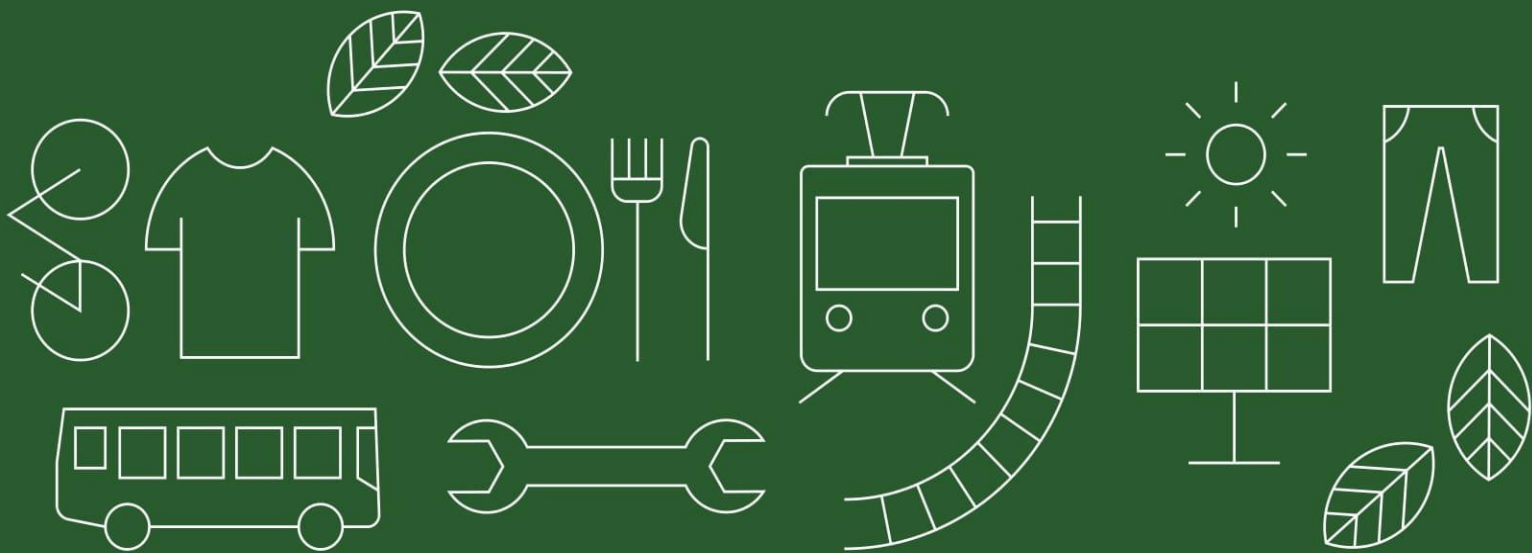
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List of Abbreviations

EU	European Union
NDC	Nationally Determined Contributions
SSH	Social Sciences and Humanities
MS	Microsoft

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Abstract / Summary

This report analyses enablers and barriers for sufficiency on the meso-level and sheds light on the multi-level governance affecting sufficiency lifestyles and initiatives. It aims to show **how meso-level transformations can support micro-level transformations and be supported by macro-level transformations**. Based on five exemplary case studies that have been conducted on sufficiency initiatives in Italy, France, Germany, Denmark and Latvia, this report investigates the initiatives' influence on personal lifestyles, the role of municipalities and macro level policies in supporting or inhibiting the initiatives, as well as the transformational potential of sufficiency initiatives. Here, direct and indirect, positive and negative effects of the initiatives are studied, including impact on gender, health, the social and political dimension, as well as taking into account potential spillover and rebound effects.

In line with previous findings from WP4, key enablers for sufficiency initiatives that emerge include support from municipalities, favourable macro-level policies and legal frameworks, as well as resource availability, enabling infrastructures and committed volunteers. Conversely, key barriers for sufficiency initiatives include legal hurdles, social acceptance issues, resource limitations, and reluctance of existing systems.

The five case studies analysed in this report show that the interplay between micro-, meso-, and macro-level transformations is a dynamic and complex process. Sufficiency initiatives emerge as powerful catalysts for micro-level transformations and individual lifestyle changes. Sufficiency initiatives thrive when municipalities recognize their value and offer support, ideally aligning their goals with the objectives of the initiatives, while macro-level policies are needed to provide the necessary framework for collaboration and growth. The key to success lies in fostering successful cooperation by aligning the goals of municipalities with those of sufficiency initiatives, to work towards more sufficient cities together.

Overview

Purpose of this Document

The aim of FULFILL work package 4 (WP4) is to identify and analyse sufficiency strategies at the meso-, i.e. the local level. Therefore, as a first step, a mapping of 50 local sufficiency initiatives and intentional communities in France, Germany, Italy, Latvia, Denmark and India has been conducted (Task 4.1)¹. Secondly, a survey among these initiatives was carried out to identify local government policies that support sufficiency initiatives (D4.2)² and to gain insights into the impacts sufficiency initiatives aim to achieve (D4.3)³. Thirdly, all participating European initiatives were invited to a workshop to discuss the survey aiming to confirm or expand on the preliminary conclusions (T4.2 and T4.3).

Task 4.4 aims to deepen the findings from D4.2 and D4.3 through five case studies, which shed light on the governance supporting sufficiency lifestyles and initiatives at a local level.

Each partner involved in this task examined one sufficiency initiative per country (Négawatt for France, POLIMI for Italy, the Wuppertal Institute for Germany, Inforse-EU for Denmark and Zala Briviba for Latvia) to answer the question how meso- level transformations can support micro-level transformations and be supported by macro- level transformations.

To do so, the case studies examine the influence of local sufficiency initiatives (*meso level*) on individual lifestyle changes (*micro level*) as well as the impact of municipalities (*meso level*) and national or EU policies (*macro level*) on local initiatives (*meso level*). Further, the initiatives impact on gender, health and other positive or negative multiple effects are investigated taking into account potential spillover and rebound effects. Finally, the empirical research and work on the interdependencies between micro-, meso-, and macro- levels described in this report will contribute to the work on national sufficiency policies carried out in WP5.

Project Summary

The project FULFILL takes up the concept of sufficiency to study the contribution of lifestyle changes and citizen engagement in decarbonising Europe and fulfilling the goals of the Paris Agreement. FULFILL understands the sufficiency principle as creating the social, infrastructural, and regulatory conditions for changing individual and collective lifestyles in a way that reduces energy demand and greenhouse gas emissions to an extent that they are within planetary boundaries, and simultaneously contributes to societal well-being. The choice of the sufficiency principle is justified by the increasing discussion around it underlining it as a potentially powerful opportunity to actually achieve progress in climate change mitigation. Furthermore, it enables us to go beyond strategies that focus on single behaviours or certain domains and instead to look into life-styles in the socio-technical transition as a whole. The critical and systemic application of the sufficiency principle to lifestyle changes and the assessment of its potential contributions to decarbonisation as well as its further intended or unintended consequences

¹ Schepelmann, Philipp, and Raphael Moser. "Report on the Assessment of the Environmental, Social, and Economic Impacts of the FULFILL Scenarios. FULFILL Deliverable 4.1." Accessed September 29, 2023. https://fulfill-sufficiency.eu/wp-content/uploads/2022/08/FULFILL_D4.1_final.pdf.

² Buschka, Michael, Philipp Schepelmann, and Hans Haake. "Report on Municipal Sufficiency Strategies and Policies. FULFILL Deliverable D 4.2." Accessed September 29, 2023. <https://fulfill-sufficiency.eu/wp-content/uploads/2023/07/D4.2-D21-Report-on-municipal-sufficiency-strategies-and-policies.pdf>.

³ Buschka, Michael, Philipp Schepelmann, and Hans Haake. "Report on Multiple Effects of Sufficiency Lifestyles. FULFILL Deliverable D 4.3." Accessed September 29, 2023. <https://fulfill-sufficiency.eu/wp-content/uploads/2023/07/D4.3-D22-Report-on-multiple-effects-of-sufficiency-lifestyles.pdf>.

are therefore at the heart of this project. The sufficiency principle and sufficient lifestyles lie at the heart of FULFILL, and thus constitute the guiding principle of all work packages and deliverables.

Project Aim and Objectives

To achieve this overarching project aim, FULFILL has the following objectives:

- Characterise the concept of lifestyle change based on the current literature and extend this characterisation by combining it with the sufficiency concept.
- Develop a measurable and quantifiable definition of sufficiency to make it applicable as a concept to study lifestyle changes in relation to decarbonisation strategies.
- Generate a multidisciplinary systemic research approach that integrates micro-, meso-, and macro-level perspectives on lifestyle changes building on latest achievements from research into social science and humanities (SSH), i.e. psychological, sociological, economic, and political sciences, for the empirical work as well as Prospective Studies, i.e. techno-economic energy and climate research.
- Study lifestyle change mechanisms empirically through SSH research methods on the micro- (individual, household) and the meso-level (community, municipal):
 - achieve an in-depth analysis of existing and potential sufficiency lifestyles, their intended and unintended consequences (incl. rebound and spillover effects), enablers and barriers (incl. incentives and existing structures) as well as impacts (incl. on health and gender) on the micro level across diverse cultural, political, and economic conditions in Europe and in comparison to India as a country with a wide range of economic conditions and lifestyles, an history which encompasses simple-living movements, and a large potential growth of emissions.
 - assess the dynamics of lifestyle change mechanisms towards sufficiency on the meso-level by looking into current activities of municipalities, selected intentional communities and initiatives as well as analysing their level of success and persisting limitations in contributing to decarbonisation.
- Integrate the findings from the micro and meso-level into a macro, i.e. national and European, level assessment of the systemic implications of sufficiency lifestyles and explore potential pathways for the further diffusion of promising sufficiency lifestyles.
- Implement a qualitative and quantitative assessment of the systemic impact of sufficiency lifestyles which in addition to a contribution to decarbonisation and economic impacts includes the analysis of further intended and unintended consequences (incl. rebound and spillover effects), enablers and barriers (incl. incentives and existing structures) as well as impacts (incl. on health and gender).
- Combine the research findings with citizen science activities to develop sound and valid policy recommendations contributing to the development of promising pathways towards lifestyle
- Generate findings that are relevant to the preparation of countries' and the EU's next NDCs and NDC updates to be submitted in 2025 and validate and disseminate these findings to the relevant stakeholders and institutions for exploitation.
- Consider the relevance and potential impacts of sufficiency lifestyles beyond the EU.

1. Introduction

This paper presents the findings of Task 4.4 of the FULFILL project, which aims to deepen the empirical work conducted throughout Work Package 4 (WP4) on sufficiency at the meso-level, particularly focusing on local sufficiency initiatives. At the heart of this study is the examination of enablers and barriers for sufficiency at the meso-level and the exploration of multi-level governance impacting sufficiency lifestyles and initiatives. **The overarching goal is to answer the research question how meso-level transformations can reinforce micro-level transformations while being supported by macro-level transformations.**

Task 4.4 builds upon the preparatory work carried out in earlier phases of WP4. Initially, a mapping exercise identified 50 local sufficiency initiatives and intentional communities across France, Germany, Italy, Latvia, Denmark, and India (Task 4.1)⁴. Subsequently, surveys were conducted among these initiatives to discern local government policies that bolster sufficiency initiatives (Task 4.2)⁵ and to gain insights into the impacts these initiatives strive to achieve (Task 4.3)⁶. Finally, all participating European initiatives were brought together in a workshop, where survey results were presented, and discussions were held to confirm preliminary conclusions from Tasks 4.2 and 4.3.

Task 4.4 represents the next phase in this research trajectory. It delves deeper into the insights gained in Tasks 4.2 and 4.3 through the lens of five exemplary case studies on sufficiency initiatives in the European partner country. These case studies aim to unravel the complex interplay of governance mechanisms supporting sufficiency lifestyles and initiatives at the local level. Each partner organization involved in Task 4.4 examined a specific sufficiency initiative in their respective countries to address the following questions.

Guiding Questions:

The initiatives' influence on personal lifestyles

- How does the initiative (and how do initiatives) influence transformations of individual lifestyles? (including multiple effects e.g. health, gender, spillover or rebound effect)

The role of municipalities

- How does the municipality support the initiative (supporting infrastructures and/or supporting the cause)? What could it do differently? How can municipalities facilitate local initiatives? (drawing on task 4.2)
- How do initiative and municipality cooperate?

The role of macro level policies

- How is the initiative influenced by macro level policies (EU, national policies)? (e.g. limitations of planning)

⁴ Schepelmann, Philipp, and Raphael Moser. "Report on the Assessment of the Environmental, Social, and Economic Impacts of the FULFILL Scenarios. FULFILL Deliverable 4.1." Accessed September 29, 2023. https://fulfill-sufficiency.eu/wp-content/uploads/2022/08/FULFILL_D4.1_final.pdf.

⁵ Buschka, Michael, Philipp Schepelmann, and Hans Haake. "Report on Municipal Sufficiency Strategies and Policies. FULFILL Deliverable D 4.2." Accessed September 29, 2023. <https://fulfill-sufficiency.eu/wp-content/uploads/2023/07/D4.2-D21-Report-on-municipal-sufficiency-strategies-and-policies.pdf>.

⁶ Buschka, Michael, Philipp Schepelmann, and Hans Haake. "Report on Multiple Effects of Sufficiency Lifestyles. FULFILL Deliverable D 4.3." Accessed September 29, 2023. <https://fulfill-sufficiency.eu/wp-content/uploads/2023/07/D4.3-D22-Report-on-multiple-effects-of-sufficiency-lifestyles.pdf>.

- How could macro level policies facilitate cooperation between initiatives and municipalities?
What are enablers and barriers?

Multiple effects

- Which are direct or indirect, positive or negative effects of this initiative? (Including rebound and spillover effect, impact on gender equality, environmental, social, political, gender, health etc.)

2. Methodology

To answer these research questions, one sufficiency initiative per country was selected and analysed by each national partner. To guide the interviews held with members of the sufficiency initiatives and corresponding municipality members, a guiding questionnaire as well as an impact chain model was used. The impact chain illustrates inputs, outputs, outcomes and multiple effects of sufficiency initiatives and sheds light on enablers and barriers on different levels to enhance visualization of the complex interactions between micro-, meso-, and macro-level. In the following methodology section, the selection of initiatives, the questionnaire and impact chain model will be explained in more detail, as well as the interview process.

2.1. Selection of Initiatives

The case studies were selected from the pool of the sufficiency initiatives that the national partners worked with throughout WP4. In the selection process, we aimed to cover as many different content areas as possible including the transport and housing sector, as well as the field of consumption and urban well-being. The choice of initiatives further depended on the availability of interview partners to conduct the case studies. Here, the availability and responsiveness of both representatives of the initiatives and municipalities was considered crucial. In the selection process, national partners were able to draw upon previous experiences with initiative members and municipalities they had made throughout WP4. According to these guidelines, the selected case studies included:

- **Denmark:** Eco-Village (Inforse-EU)
- **Germany:** Cargo-bike initiative (Wuppertal Institute)
- **Latvia:** Freecycling initiative (Zala Briviba)
- **France:** Tiny House initiative (Négawatt)
- **Italy:** Clean Air Advocacy initiative (POLIMI)

2.2. Questionnaire

To guide the analysis of the initiatives, a questionnaire was developed by the task leader (JDI) in cooperation with the national partners. It was designed to answer the research questions separately for each case study in detail and to subsequently allow for a comparison that would unravel similarities and differences on enablers and barriers of the selected sufficiency initiatives. A sample of the questionnaire can be found below:

<p>Description of Case Study:</p>
<p>The initiatives' influence on personal lifestyles:</p> <p><i>How does the initiative influence transformations of individual lifestyles? (including multiple effects e.g. health, gender, spillover or rebound)</i></p>
<p>The role of municipalities:</p> <ul style="list-style-type: none"> • <i>How does the municipality support the initiative (supporting infrastructures and/or supporting the cause)? What could it do differently? How can municipalities facilitate local initiatives? (see task 4.2)</i> • <i>How do initiative and municipality cooperate?</i>
<p>The role of macro level policies:</p> <ul style="list-style-type: none"> • <i>How is the initiative influenced by macro level policies (EU, national policies)? (e.g. limitations of planning)</i> • <i>How could macro level policies facilitate cooperation between initiatives and municipalities? What are enablers and barriers?</i>
<p>Multiple effects</p> <p><i>Which are direct or indirect, positive or negative effects of this initiative? (Including rebound and spillover effect, impact on gender equality, environmental, social, political, gender, health etc.)</i></p>
<p>Gender dimension and inequalities:</p> <p><i>How could possible effects on gender/ the care economy and other inequalities be addressed?</i></p>
<p>Potential to upscale (key barriers and enablers):</p> <ul style="list-style-type: none"> • <i>Which are the key barriers and enablers? What does this say about the potential of the initiative to be upscaled/ replicated elsewhere?</i> • <i>Does the initiative have an interest to upscale?</i>

2.3. Impact Chain Model

To guide our analysis and enhance visualization of the complex interactions between micro-, meso-, and macro- levels, the task leader (JDI) in cooperation with the national partners created an impact chain model based on the work of Carina Zell-Ziegler and Johannes Thema. As outlined in their paper titled "Impact Chains of Energy Sufficiency Policies", impact chains find applications in numerous research domains, serving as a means to illustrate the diverse consequences of an action and to provide a visual representation of the broader context within which this action operates. Zell-Ziegler and Thema developed an impact chain model of energy sufficiency policies, which includes qualitative aspects such as drivers and barriers making it especially useful for the purpose of this paper⁷.

The impact chain model we developed for this paper is meant to illustrate the connections and influences between micro-level (individuals and households), meso-level (initiatives and municipalities), and macro-level (national and EU-level policies) and their enabling or inhibiting effect on sufficiency initiatives. By circling specific elements within the model in distinct colours (one colour per governance level), we aim to provide a clear visual representation of the dynamics at play in our research, allowing for a deeper understanding of how different governance levels interact in the context of sufficiency initiatives:

- **Light Blue:** Micro-level (*individuals and households*)
- **Blue:** Meso-level (*initiatives (circle) and municipalities (dotted)*)
- **Dark Blue:** Macro-level (*national and EU-level policies*)

Moreover, the model enables the visualization of **inputs, output, outcomes and the multiple effects of sufficiency initiatives** while allowing for a categorization into **enabling and inhibiting factors** through **red (barriers)** and **green (enablers)** font colours. The categories are defined as follows:

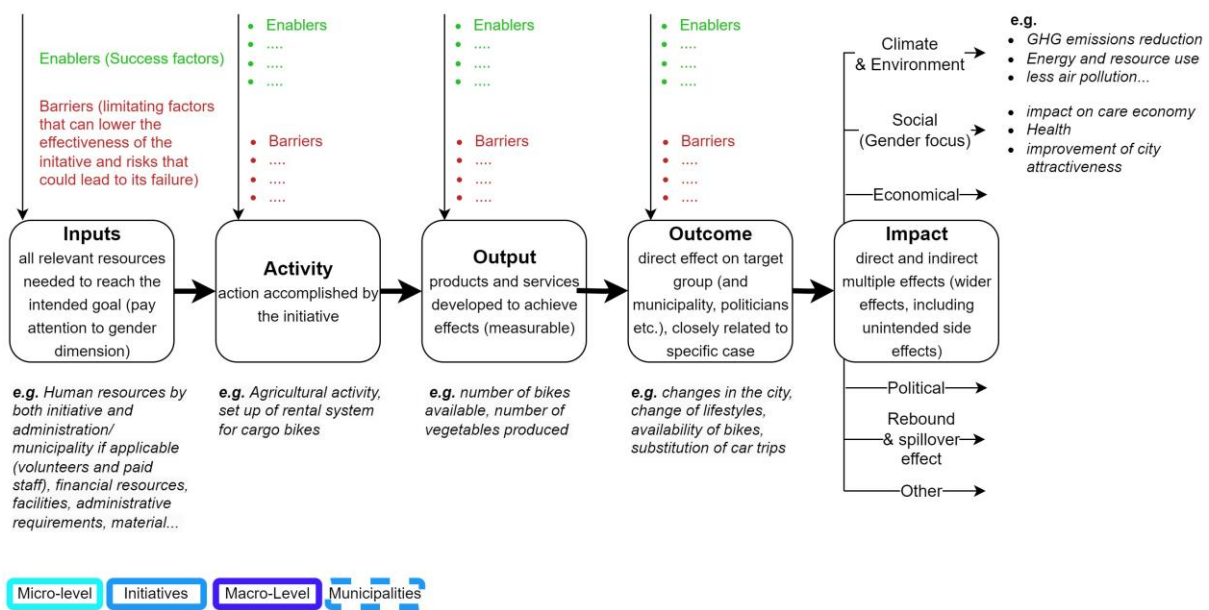
- **INPUTS:** All relevant resources needed to reach the intended goal
 - *e.g. human resources by both initiative and administration/ municipality if applicable, volunteers, paid staff, financial resources, facilities, administrative requirements, materiel etc.*
- **ACTIVITY:** Actions accomplished by the initiative
 - *e.g. agricultural activity, set up of a rental system for cargo bikes etc.*
- **OUTPUT:** Products and services developed to achieve effects (measurable)
 - *e.g. number of bikes available, number of vegetables produced*
- **OUTCOME:** Direct effect on target group closely related to specific case
 - *e.g. availability of bikes, substitution of car trips*
- **IMPACT:** Direct and indirect multiple effects (including unintended side effects)

⁷ Zell-Ziegler, Carina, and Johannes Thema. 2022. "Impact Chains of Energy Sufficiency Policies: A Proposal for Visualization and Possibilities for Integration into Energy Modeling". *TATuP - Zeitschrift für Technikfolgenabschätzung in Theorie Und Praxis* 31 (2). DE:40-47. <https://doi.org/10.14512/tatup.31.2.40>.

- separated in the categories: Climate and Environment, Social (Gender Focus), Economical, Political, Rebound and Spillover effect, other
- e.g. GHG emissions reduction, less air pollution, impact on care economy, health, improvement of city attractiveness etc.

The impact chain model was created using the open-source platform diagrams.net. Every national partner was able to fill in the impact chain models for the initiatives they worked with directly on the platform using the following template:

Figure 1: Impact chain model for sufficiency initiatives (developed by JDI in cooperation with national partners, based on the impact chain model for energy sufficiency policies developed by Carina Zell-Ziegler and Johannes Thema⁸.)



⁸ Zell-Ziegler, Carina, and Johannes Thema. 2022. "Impact Chains of Energy Sufficiency Policies: A Proposal for Visualization and Possibilities for Integration into Energy Modeling". *TATuP - Zeitschrift für Technikfolgenabschätzung in Theorie Und Praxis* 31 (2). DE:40-47. <https://doi.org/10.14512/tatup.31.2.40>.

2.4. Interviews

With the aim to fill in the questionnaire and the impact chain model laid out above, all national partners conducted various interviews with representatives from local initiatives and municipalities. To foster open dialogue and facilitate a conversation shaped by both interview partners, we chose a **semi-structured approach** for interviews. This approach prioritizes natural conversation over a rigid set of questions and answers, allowing for follow-up questions and meaningful discussions.

In preparation for the interviews, the interviewers provided the respondents with information about the FULFILL project, outlining its objectives and the expectations for the interview. Additionally, respondents received the impact chain model and guiding questions several days prior to the interview. This proactive approach ensured that interviewees were adequately informed about the project and the subject of sufficiency, enabling them to provide valuable input for our analysis.

Before conducting interviews, all interview subjects were asked to complete and sign a **consent form**, ensuring they understood the use of the information shared. Consent forms, along with related documents, were securely stored in accordance with GDPR principles. The interviews were only recorded if prior consent of the interviewees had been given. In case no consent had been given, the interviewers took notes instead. Both the recordings and the notes were then stored in accordance with GDPR principles.

For each case study, at least one representative of the initiative and one of the corresponding municipality has been interviewed. For **data protection** reasons, neither the organisations nor the interviewees are listed by name. To give an overview of interview subjects that have been consulted on top of the municipal staff, they included: citizens who live in the Danish eco-village, initiators and leaders of the tiny house initiative in France, the initiator of the cargo-bike initiative as well as their key activist in Germany, activists from the clean air advocacy group in Italy and members of the Latvian freecycling initiative.

3. Case Studies

In the following, the analysis of the sufficiency initiatives conducted by the national partners are presented using the template laid out in the section above. The questions in the templates have been answered by the national partners based on the interviews they have conducted with the members of the initiatives and municipalities and their own research on the initiatives.

3.1. Germany: cargo bike initiative

Case study conducted by the Wuppertal Institute

<p>Description of Case Study:</p>
<p>The initiative under study is a free and voluntary cargo bike rental service in a large city in Germany (160.000 inhabitants). On a voluntary basis, it coordinates the free rental of currently 20 electric cargo bikes of different types and functions. Depending on the model, the bikes can be used to transport loads or people, both children and adults. The bikes are stationed at various locations in the city, including a conventional supermarket and several organic supermarkets, a beverage market, two bicycle stores, the university and several civil society initiatives such as "cycling without age". They can be booked via the initiative's website for a maximum of two consecutive days. Users do not have to fulfil any conditions apart from a one-time free registration on the website, and depending on the type of bike, a briefing.</p> <p>The aim of the initiative is to make a sustainable alternative to motorised private transport that is suitable for everyday use visible and to give the city's residents the opportunity to try it out on a low-threshold basis. The initiative wants to show that transporting children as well as bulk shopping with cargo bikes is easy, space saving, sustainable and a lot of fun.</p> <p>The initiative consists of a core team of three to five voluntary members. They acquire public funding and donations for the cargo bike procurement, set-up the rental system and coordinate it, acquire partners for lending stations, take care of the maintenance of the bikes, take part in various public events to advertise the initiative and maintain the initiative's website. The idea to the initiative's founding was born in 2015 during a nationwide environment and transport congress organised by civil society and science. It took three years to set up the cargo bike rental service, which started in 2018.</p> <p>The initiative was chosen for study as it is particular suitable for investigation the cooperation between the municipality and a voluntary civil society initiative. In contrast to the results from D4.2, that the cooperation between initiatives and cities does not work very well in many cases, this initiative represents a positive example to learn from. For the purpose of this case study, semi-structured interviews with the initiator of the initiative, the initiative's key activist and the mobility office of the municipality have been conducted.</p>
<p>The initiatives' influence on personal lifestyles:</p> <p><i>How does the initiative influence transformations of individual lifestyles? (including multiple effects e.g. health, gender, spillover or rebound)</i></p>
<p>As indicated in the previous section, the initiative aims at promoting sufficiency habits and a specific innovative technology, namely the use of electric cargo bikes instead of cars for the transport of loads and persons over short and medium distances. In order to reach this aim, it uses a twofold approach:</p> <p>1) With its 20 cargo bikes that are stationed at central places in almost all parts of the city, it demonstrates a sustainable technology for transporting loads and persons. The rental service enables citizens to test this technology on a low-threshold basis as it is free of charge and no membership is required. Thereby, the initiative tries to address not only people who</p>

are already aware of the topic of sustainable mobility, but also people who have not previously been involved in this topic. By having the different cargo bikes professionally designed, the initiative additionally wants to give cargo bikes a positive image. Whether the initiative succeeds in convincing people to use an own or shared cargo bike instead of a car in the future cannot be answered at this point as it has not been representatively investigated. However, a first non-representative survey conducted by the initiative among its users shows that half of the participants consider buying their own cargo bike instead of a first or second car. Moreover, according to the initiative as well as the city's mobility office, the initiative's bikes are widely known in the city, among others due to successful cooperation with local supermarkets.

2) On a small scale the initiative provides sustainable goods and service infrastructures, by providing a free of charge cargo bike rental system. As had been laid out in the FULFILL literature review, sufficiency infrastructures are needed to enable sufficiency habits⁹. However, this system is not suitable for enabling citizens to do their daily chores (such as taking children to kindergarten) with the rental bikes as the voluntary initiative cannot provide enough cargo bikes for this purpose. Moreover, the bikes have to be collected from and returned to the lending station and usually need to be booked some weeks in advance, which makes the system inconvenient for daily chores.

Consideration of the necessary infrastructures that enable sufficiency habits also show more limits of the free cargo bike rental service to influence transformation of personal lifestyles: In a systematic review, Pearson et al.¹⁰ identified a lack of safe cycling infrastructure as well as lack of storage as two of the main barriers for riding a bike for transport. According to the initiative as well as the city's mobility office, these barriers also apply to their city, even though bike infrastructure has been improved in recent years.

The role of municipalities:

- *How does the municipality support the initiative (supporting infrastructures and/or supporting the cause)? What could it do differently? How can municipalities facilitate local initiatives? (links with task 4.2)*
- *How do initiative and municipality cooperate?*

The municipality supported and supports the set up and operation of the free cargo-bike rental service with initial and follow-up financing as well by providing a platform for public relations:

approximately one year after the initiative was founded by volunteers, the municipality applied for funds from a federal funding programme for the purchase of the first five cargo bikes and for the running costs of the rental system. Since the federal funding ended, the municipality bears the running costs itself. Together with the federal state, it also funded ten new cargo bikes and thus contributed to the expansion of the rental service. The question of funding, however, also represents a major risk for the initiative as funding by the municipality is limited in time. If the municipality does not extend it, for example, after a change of government, the continuity of the initiative will be endangered. In particular, the initial financing reveals mutual interaction between initiative and municipality: The city's application for federal funding was made in the context of the mobility concept for a newly emerging city district, which

⁹ Lorenzo Pagliano and Silvia Erba, "Literature Review for Analysis of Lifestyle Changes" *Fulfill Project*. December 2022. <https://fulfill-sufficiency.eu/wp-content/uploads/2022/12/D2.1-Literature-Review.pdf>.

¹⁰ Pearson, Lauren; Berkovic, Danielle; Reeder, Sandy; Gabbe, Belinda & Beck, Ben. "Adults' self-reported barriers and enablers to riding a bike for transport: a systematic review." *Transport Reviews* 43, no. 3 (2023): 356-384. DOI: 10.1080/01441647.2022.2113570

envisaged a free cargo bike rental service. The idea for a free cargo bike rental service for the new district, in turn, was submitted by the initiator of the initiative as part of a citizen participation for the district.

Apart from funding, the city's mobility office regularly invites the initiative to events, giving it the opportunity to increase its visibility. The cargo bikes are also provided with the municipality's logo. This strengthened the citizens' trust in the rental service, especially at the beginning, when the initiative was not yet established in the city – and at the same time advertises for the city.

The role of macro level policies:

- How is the initiative influenced by macro level policies (EU, national policies)? (e.g. limitations of planning)
- How could macro level policies facilitate cooperation between initiatives and municipalities? What are enablers and barriers?

As for the initiative under study, macro level policies contributed considerably to its success by a national funding programme allowing to cover the costs for the purchase of the first cargo bikes and for the ongoing operation of the rental system.

At least in Germany, macro level policies could facilitate the cooperation between initiative and municipality by defining municipal responsibilities (so called "kommunale Pflichtaufgaben"). Fostering cargo bike mobility is not defined as compulsory responsibility for German municipalities; neither are climate mitigation or sustainable mobility in general. According to the initiative, its main barrier is its dependency on voluntary work. Time burden for its volunteers is very high. It is also very difficult for the initiative to recruit further volunteers that are willing or able to invest a large part of their free time for the initiative. Asked about why the municipality does not support the initiative more with staff or financial resources for staff, the mobility office explained that cargo bike mobility is no compulsory responsibility it is difficult to spend the municipality's limited financial and human resources for this purpose. Moreover, there already is a local commercial cargo bike rental service in the city. Here, a redefinition of municipal compulsory tasks by the federal government could be helpful.

Apart from influencing the initiative directly, macro level policies as well as municipality level policies considerably influence the sufficiency behaviour promoted by the initiative – using cargo bikes instead of cars – by creating the infrastructure and the societal framework that enable or hinder this behaviour. The initiatives key activist summaries: "As long as driving is that attractive, cycling is unattractive".¹¹

Multiple effects:

Which are direct or indirect, positive or negative effects of this initiative? (Including rebound and spillover effect, impact on gender equality, environmental, social, political, gender, health etc.)

In the context of this case study, it is necessary to differentiate between the direct effects of the initiative and the potential effects using cargo bikes in general.

Becker and Rudolf¹² investigated the ecological impact of 30 Free Cargo-Bikesharing operators in Germany and Austria with a representative empirical survey among users. Their results show that 46 percent of respondents maintain that they would have made the trip by car in the absence of a cargo-bike-sharing operator. This indicates the potential of cargo bikes and cargo-bike sharing to reduce car usage und thus its associated negative

11 Interview with key activist of the cargo bike initiative (interview, 9.5.2023).

12 Becker, Sophia & Rudolf, Clemens. "Exploring the Potential of Free Cargo-Bikesharing for Sustainable Mobility." GAIA 27, no. 1 (2018): 156 –164.

environmental and social impacts such as greenhouse gas emission, noise and air pollution and land use.

Nevertheless, the amount of greenhouse gases etc. reduced solely by the use of the initiative's cargo bikes is very limited. The reason for this is that being a voluntary rental service providing twenty bikes, the service is not large enough to replace a significant number of car trips, even though according to the initiative the bikes are in use on average 85 percent of the time. The ecological as well as health impact of the initiative therefore largely depends on the extent it achieves its goal of making cargo bike mobility visible and tangible and thereby convincing people to use an own or shared cargo bike (for example from a commercial provider) instead of a car in the future (see section "influence on personal lifestyles").

Regarding its political impact, the initiative contributes to fostering sustainable mobility within the municipality administration: The first cargo bikes of the initiative are now being used by the municipality.

Gender dimension and inequalities:

How could possible effects on gender/ the care economy and other inequalities be addressed?

As described above, the rental service of the initiative is not suitable to do daily care tasks such as bringing children to the kindergarden.

Whether the use of cargo bikes in general burdens or relieves care activities such as grocery shopping or transporting children depends on various factors such as otherwise available alternatives, the state of cycling infrastructure, the route to be taken, the cities air quality, the individual physical condition and also the weather.

The costs (especially the running costs) for a cargo bike are much lower than for a car. For people who do not have the financial means to buy and maintain a car (and people who do a lot of unpaid care work usually have less financial means), using an (electric) cargo bike can relieve care activities, especially if they would otherwise have to be done on foot or by a non-cargo bike.

The lack of a cohesive, safe and attractive cycling network as well as of suitable parking facilities often makes cargo bikes a more time-consuming, strenuous and less safe alternative than cars.

There are significantly more men than women among the cargo bike initiative volunteers.

Potential to upscale (key barriers and enablers):

- *Which are the key barriers and enablers?*
- *What does this say about the potential of the initiative to be upscaled/ replicated elsewhere?*
- *Does the initiative have an interest to upscale?*

Key barriers and enablers for the initiative have partly already been explained in the previous sections and are also shown in the impact chain model attached.

In summary, main enablers are:

- **High voluntary commitment of individuals:** Both the example examined in the case study and the survey of 26 other German civil society sustainable initiatives in the areas of housing, food, mobility and consumption (see WP 4.2)¹³ show that the success of the

¹³ Buschka, Michael, Philipp Schepelmann, and Hans Haake. "Report on Municipal Sufficiency Strategies and Policies. FULFILL Deliverable D 4.2." Accessed September 29, 2023. <https://fulfill-sufficiency.eu/wp-content/uploads/2023/07/D4.2-D21-Report-on-municipal-sufficiency-strategies-and-policies.pdf>.

initiatives is only possible through the high and continuous time commitment of volunteers. The case study also demonstrates that it is possible to set-up and run a volunteer cargo bike rental service with only very few people.

- **Support by the municipality & public funding:** As elaborated in the previous sections, public funding is crucial for the success of the analysed free cargo bike rental service. Most of the German civil society sustainable initiatives analysed in WP 4.2 also reported positive experiences with getting public funding. However, application for public funding is perceived as very time-consuming and partly non-transparent. Our research carried out in T4.2 stressed the importance of personal contacts to the municipality. In the case of the cargo bike rental service studied, the contact between the initiative and the city administration works very well, which is mainly due to the fact that the founder of the initiative now works in the mobility office of the city. In contrast, many initiatives report that it is difficult to find a supportive contact person in the municipality.
- **Good relations with other social society initiatives and local companies:** While the survey indicates that a lot of initiatives have difficulties with finding like-minded initiatives in their area or at national level, this case study clearly shows how well networked and organized civil society initiatives already are in some cases, both regionally and supra-regionally:
 - The initiative is part of the Forum Free Cargo Bikes, an association of 171 cargo bike sharing initiatives in Germany, Austria and Hungary. The initiative did not have to develop its own booking system, as the Forum developed a very easy to use open source software booking software for cargo bike sharing.
 - The founders did not have to set up a legal structure for the initiative, as the Transition Town Darmstadt association took it on as one of their projects.
 - The rental stations for cargo bikes are managed by various other civil society initiatives and local businesses.

Main barriers and risks are:

- **Dependency on voluntary work, high time burden for the volunteers and difficulty to find further volunteers:** The members of the investigated free cargo bike rental spend a large part of their free time for the initiative. Lack of human resources is a major problem for almost all surveyed initiatives and prevents them from increasing their impact.
- **Temporary funding:** One risk for the studied free cargo bike rental is that the city might not extend its funding. Temporary funding is an obstacle to long-term planning for a major part of the initiatives surveyed and often leads to an atmosphere of uncertainty. Hence, the financial support initiatives require does not pertain only the amount of the grants, but also their medium- and long-term continuity.
- **Inadequate cycling infrastructure:** As described above, a major barrier for the free cargo bike rental to reach its goal - convincing people to use a cargo bike instead of a car - is the lack of a continuous cycling network and suitable parking facilities for cargo bikes. This clearly shows that it is not enough for municipalities and macro level policies to support the initiatives as such in order to disseminate the sufficiency behaviours they promote. A large proportion of the surveyed sufficiency initiatives therefore demands to be better included in city planning.

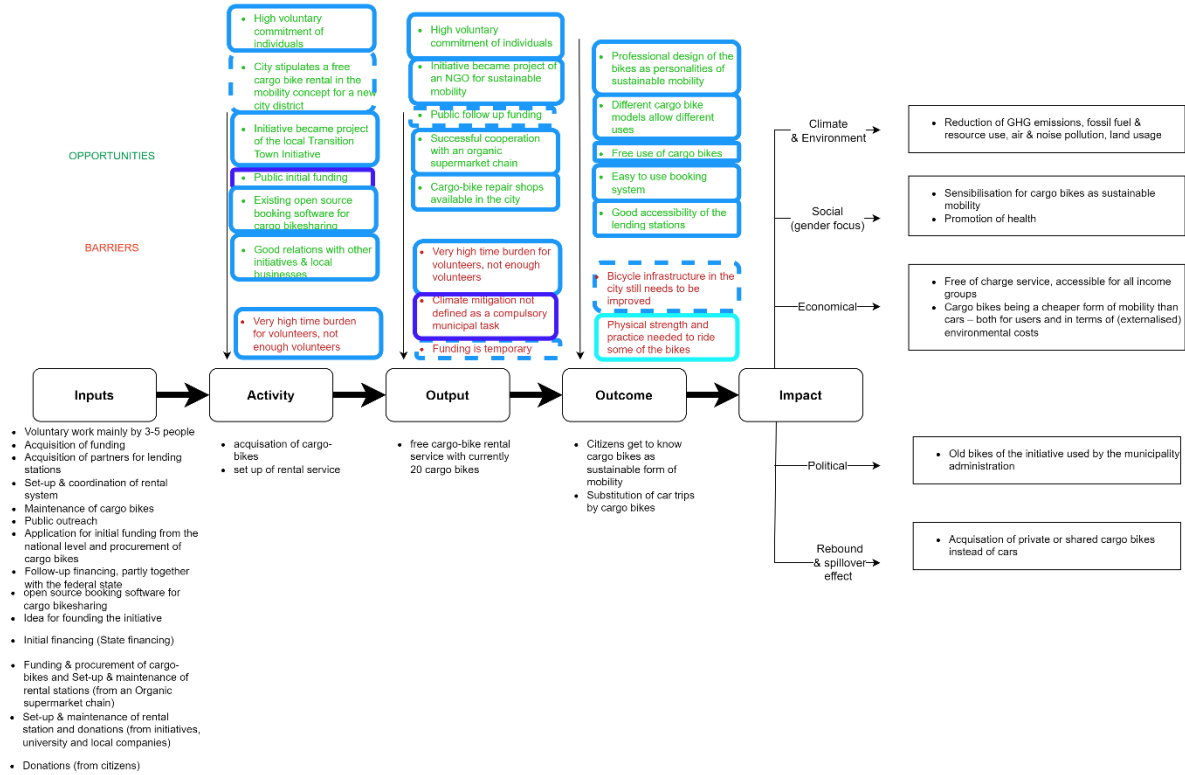
The initiative is interested in upscaling: Firstly, it would like to expand its activities into the area of commercial use of cargo bikes and give companies the opportunity to test free of charge whether cargo bikes are a suitable alternative to car transport for them. Secondly, it wants to increase its cargo bike rental service for private use and is currently organising

donations for at least one more cargo bike. However, the first project in particular is currently failing due to a lack of human resources.

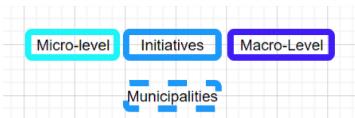
As a general conclusion, the social society initiative analysed in this case study has the potential to promote micro-level individual behaviour change by making cargo bike mobility visible and tangible and thus showing citizens and politicians a sustainable form of mobility. The scale on which this is possible largely depends on funding and human resources. However, in order for cargo bike mobility not to remain limited to the niche level of society, politics and administration at the meso- and macro-level must set framework conditions in a way that (for short and medium distances) cargo bike mobility will be more convenient and attractive than car mobility.

Impact Chain Model Germany

Figure 2 Impact Chain Model Germany



Map Legend:



3.2. Italy: “Citizens for Air”

Case study conducted by POLIMI:

<p>Description of Case Study:</p>
<p>The association ‘Cittadini per l’Aria’ aims to promote initiatives to combat air pollution and contain the effects of climate change. Their main goal is to support clean air policies, so that the right to breathe clean air is recognized. They organize participatory science campaigns and activities to collect data and seek solutions for air quality. They are also active in the legal protection of air quality; they deal with naval emissions so that the populations living in the Mediterranean are protected as soon as possible from emissions deriving from the naval industry. Their association is medium-sized, made up of citizens, lawyers and volunteers who work in collaboration with national and European partners, but with the aspiration to have a greater base of operative people. Particularly active in daily activities are the president and some members of the board, and a person who takes care of the association’s activities full-time.</p>
<p>The initiatives’ influence on personal lifestyles:</p> <p><i>How does the initiative influence transformations of individual lifestyles? (including multiple effects e.g. health, gender, spillover or rebound)</i></p>
<p>This initiative, through dissemination and information activities, supports and spreads the need for a transformation of individual lifestyles especially in reference to mobility and one’s own responsibility in terms of impact on air quality. In fact, by working as a bridge between science and citizenship, this initiative makes data and information about the air quality in cities and the impacts of pollution on citizens’ health accessible, while also providing practical ideas on how to improve the situation. Using a bike, public transport or walking in the city contributes significantly to improving the pollution situation, primarily in daily use and in the habits of moving around the city, but also to greater responsibility in the choices of means of transport to be used for long journeys or for holidays and in energy choices. They try to induce a change in eating habits, considering the data on the impact of the livestock sector on pollution levels. Above all, they encourage people to become spokespersons of the request for administrations to intervene effectively to improve the quality of the air citizens breathe.</p>
<p>The role of municipalities:</p> <ul style="list-style-type: none"> • <i>How does the municipality support the initiative (supporting infrastructures and/or supporting the cause)? What could it do differently? How can municipalities facilitate local initiatives? (links with task 4.2)</i> • <i>How do initiative and municipality cooperate?</i>
<p>The initiative is active nationwide but with a focus on Milan, which is the headquarters of the association and where most of the volunteers reside. The Milan municipality supports the association through sponsorships for their activities¹⁴ and interest in their activities. The initiative legally supports good air policies and the correct implementation of air quality protection standards to seek solutions and obtain improvements in air quality, in dialogue with local public administrations. To be more incisive, however, it would be useful if there were more discussions and listening at decision-making tables to improve the quality of air policies, which are still ineffective and of little importance at the moment, despite the pollution situation in the city requiring more incisive and courageous choices. To further help this initiative achieve the set objectives, the municipality could make a greater effort in terms of communication, disseminating data on air quality and impacts on health and above all effectively communicating the measures to be implemented to improve the situation.</p>

¹⁴ the last sponsorship for “Salviamo l’aria: no2NO”

The role of macro level policies:

- *How is the initiative influenced by macro level policies (EU, national policies)? (e.g. limitations of planning)*
- *How could macro level policies facilitate cooperation between initiatives and municipalities? What are enablers and barriers?*

This initiative is particularly influenced by macro-level policies, both national and EU. They participate, when possible, in the processes for the proposition of observations on draft laws and the planning of matters affecting air quality and they follow at the European, national, and the regional level the policies concerning air pollution reduction measures trying to inform administrators about good practices and the environmental and health impact of inaction. They are active in the European Transport & Environment and European Environment Bureau networks, which allows them to interact with European institutional entities such as the European Commission, the European Environment Agency, and the European Court of Auditors. National authorities could help their initiative by giving more space to the issue of air quality and the effects of poor quality on our health. European and national policies could focus more on communication, disseminating data on air quality and impacts on health and above all effectively communicating the measures to be implemented to improve the situation. By disseminating the results of scientific research and the solutions to be implemented for city liveability and public health, some of which have already been implemented by other European countries.

Multiple effects:

Which are direct or indirect, positive or negative effects of this initiative? (Including rebound and spillover effect, impact on gender equality, environmental, social, political, gender, health etc.)

This initiative is certainly well placed to speak of direct effects on public health and environmental sustainability given its focus on the relation between air quality and its impacts on health and the positive influence on the change of individual lifestyles. For example, through the legal actions and the activities of the association, thanks to an appeal to regional courts, they obtained that the Lombardy Region activated the procedure for updating the Regional Plan of Interventions for air quality according to the achievement of the legal limits of air pollutants. Thanks to the results of the previous campaigns "no2NO Grazie!" they got the Mayor of Milan to announce a timetable for the elimination of diesel in the city. Furthermore, they were able to distribute educational materials for parents in paediatric hospitals and practices and to involve paediatricians in their activities.

Gender dimension and inequalities:

How could possible effects on gender/ the care economy and other inequalities be addressed?

Everyone has the right to breathe clean air, while the poorest and most fragile sections of society are those most affected by high levels of urban pollution. In this sense, these categories are the main beneficiaries of the improvement of air quality policies by directly protecting the essential good of health.

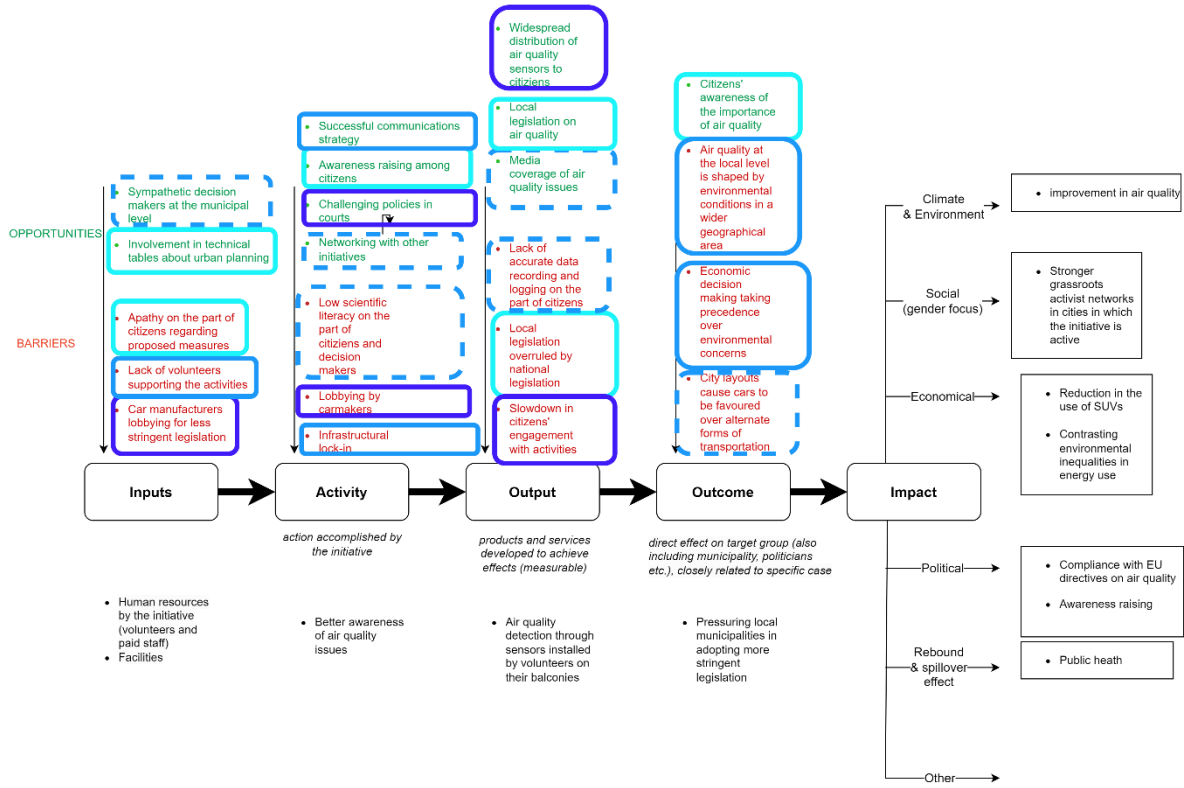
Potential to upscale (key barriers and enablers):

- *Which are the key barriers and enablers?*
- *What does this say about the potential of the initiative to be upscaled/ replicated elsewhere?*
- *Does the initiative have an interest to upscale?*

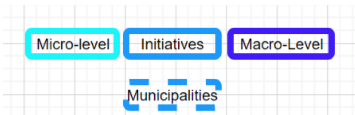
The main barriers are in terms of resources: the association already deals with many different activities, both at a local level (in different cities, Milan, Rome and port cities) and at a European level, even though personal resources are few. To expand the project, follow each activity with greater attention and above all replicate it in a capillary and continuous manner on the national (or European) territory, they would certainly need more volunteers, so as to divide the work among all and the preparation of more funds in favour of the associations, to be able to expand the network of people who work full-time for the objectives of the association.

Impact Chain Model Italy

Figure 3 Impact Chain Model Italy



Map Legend:



3.3. Denmark: Eco-Village

Case study conducted by Inforce-EU:

<p>Description of Case Study:</p>
<p>The initiative of the case study is an “eco-village”, or “eco-community”, which is an intentional community, where people aim to live with a sustainable lifestyle. They strive for environmental, social, cultural, and economic sustainability.</p> <p>The eco-village consists of 90 houses, several community buildings, a shop, and 24 ha of land with organically grown farmland, vegetable gardens, orchards, a mobile chicken house, and conservation forest. The project began the development in 2014 and the houses were finished and ready in 2018. There are currently 145 adults and 90 children living there. All residents are members of the Cooperative, which owns an old farmhouse and surrounding buildings, a community hall with an industrial kitchen, the surrounding farmland, a windmill and a heat pump system. The Cooperative is responsible for finances and management of these. All houses are terraced houses and include owner occupied houses, social housing rentals and cooperative housing, they are designed based on one Design Manual, so they follow the same visual and constructional guidelines, and are built using environmentally friendly materials. The heat pump supplies all houses with heat and warm water. A windmill supplies electricity to all community buildings and the heat pump. There is a willow plantation for wastewater, and collection of rainwater used for toilets and washing machines. There are 5 common meals a week, which are all prepared in the shared kitchen in the community building. The community strives to be a working- and living community build on principles of both environmental and social sustainability.</p>
<p>The initiatives’ influence on personal lifestyles:</p> <p><i>How does the initiative influence transformations of individual lifestyles? (including multiple effects e.g. health, gender, spillover or rebound)</i></p>
<p>Social life and well-being/mental health</p> <p>The residents in the ecovillage talk about that being part of a community of people who are working together towards a more sustainable life, gives them a feeling of happiness and togetherness that they have not experienced when living elsewhere. They emphasise the importance of community -of not feeling alone in their choices and their “fight towards change” (for a more sustainable world)”. One resident points out that before moving here, she felt powerless and helpless and like she was not able to act or contribute. This focus on agency and the feeling of not being alone also comes up in interviews with residents in other ecovillages in Denmark.</p> <p><i>“It gives me so much meaning living here. In contrary to living in the city, when it comes to the climate agenda, it just makes so much sense being part of working the land, living more sustainably. Feeling like I am a part of this. I felt more alienated before, and more powerless”.</i>¹⁵</p> <p>It seems that there is a close connection between this feeling of togetherness/ community and the residents’ desire to act on the climate crisis. Being part of the community makes it easier to make lifestyle changes and motivates them in their sustainability-choices:</p> <p><i>“I really like the fact that I can live a life where I do not feel that I have to compromise”.</i>¹⁶</p> <p>The Ecovillage strives to create an active social life among their citizens. One resident reports how it would have been different, living in a “normal” village house:</p> <p><i>“On a very practical level, it makes it possible for me to not just sit at home, alone and be miserable, after the divorce (...) if I had lived in a normal house down here, I would not have this social network”.</i>¹⁷</p>

¹⁵ Interview with eco-village residents (ECO2-DK-Int.4)

¹⁶ Interview with eco-village residents (ECO2-DK-Int.3)

¹⁷ Interview with eco-village residents (ECO2-DK-Int.2)

Time Management

Living in an active community, such as this one, does require the residents to contribute to shared work such as cooking the shared meals, working in the vegetable production and contribute to the social activities taking place. This means that all residents spend several hours every week working (unpaid) to keep the place running. At the same time, the shared meals save time in their daily life, as they only have to spend time cooking dinner a few times a month.

Sharing resources

Beyond the shared facilities, ecovillages usually have different sharing-initiatives available for their residents, which provides choices to reduce consumption. Residents might have very easy access to car-sharing, shared tools and repair workshops.

Shared decision-making

Many ecovillages are built on principles of "sociocracy" or other forms of direct democracy, where people strive to achieve consensus. Many residents (not just from this ecovillage) report that this shared decision-making process, and all the discussions takes up at lot of time and effort and can be difficult and frustrating to some. Creating a community together also means that you have to make compromises. For some residents it has been very difficult to experience how the project has evolved to be different from their own dreams/ initial vision. Other residents are very satisfied with the decision-making process and are very engaged in developing it and learning more about organisational principles and communication, which can be used in their community.

The role of municipalities:

- *How does the municipality support the initiative (supporting infrastructures and/or supporting the cause)? What could it do differently? How can municipalities facilitate local initiatives? (links with task 4.2)*
- *How do initiative and municipality cooperate?*

According to the chairwoman of the Ecovillage Board, there is generally a good working relationship between the initiative and the municipality. The municipality is supportive and interested in the project and have been so from the beginning. They assist with information on local planning laws, finances and other legislative information when needed.

The Municipality have supported the village by improving the local infrastructure. They have helped secure the access to the village by building bicycle paths and pedestrian crossings. From the very beginning, the local mayor was very supportive and interested, which has been essential for the success of the project. The mayor and the municipal council changed the local planning laws to allow the development of the land where the ecovillage is situated. They also approved that half of all houses should be social housing rentals, which meant securing initial capital and loan guarantee. Without the approval of the social housing rentals, the project would likely not have been successful, due to financial difficulties in the development phase.

The role of macro level policies:

- *How is the initiative influenced by macro level policies (EU, national policies)? (e.g. limitations of planning)*
- *How could macro level policies facilitate cooperation between initiatives and municipalities? What are enablers and barriers?*

In this ecovillage most external barriers lied within the municipalities and in obtaining financing for the constructions, not at national or EU level. Some of the data suggests that, if the local administration has the willingness to do so, they are able to pass local legislation, give planning permission, and use its quota for social rentals and otherwise help the process along. However, this often requires “trying something new” or changing well-established ways of doing things and municipalities are not always willing to do this, even if it is possible within current national legislation.

Tendering rules: Other eco-communities are buying land from municipalities and in this case, national and EU legislation require that the selling of public land is via a tender, where the land is sold to the highest bid. There is no rule/ law giving advantage to an environmentally friendly development in this case¹⁸.

Current **electricity legislation** is hampering the ability of places such as this to use its own power. Only because the windmill is on the same plot of land in the land register (matrikel), the power can be used for the common facilities and the heat pump in the heating station. The power is not allowed to be used in the dwellings as they are in separate buildings, on separate plots of land¹⁹. This is a barrier to installing windmills and solar PV jointly in communities. It harms the economy of local electricity supply.

The urine from separated toilets cannot be used for fertilizing organic farmed land according to **EU rules incorporated in Danish rules for organic agriculture**.

Multiple effects:

Which are direct or indirect, positive or negative effects of this initiative? (Including rebound and spillover effect, impact on gender equality, environmental, social, political, gender, health etc.)

Negative:

- **Cost of living:** Because of several unforeseen problems in the beginning, the ambition to create conditions for low-cost living and thereby create conditions for working less, has not been fulfilled. The financing of the construction was delayed an entire year because they could only secure a loan once all houses were sold or rented out. In addition to this, the construction of the houses ended up 30% more expensive than planned, because of the wettest winter ever recorded in the first year of building, and the bankruptcy of the first construction company. These have left residents with additional costs to repair mistakes in their homes and the Cooperative Association has more debt than initially planned.

Positive:

- **Mental health and social life:** Residents, here and in other ecovillages, report being happier with their everyday life, feeling like an integral part of a community, having purpose and enjoying living with like-minded people who work towards common goals and ideals.
- **Local Community:** The Ecovillage is located in a small, rural municipality, when residents moved to the ecovillage, they raised the number of citizens in the municipality by 10% in one year. Because of the generally high educational level among residents, they also raised educational levels for the entire municipal population. Residents have also enriched

¹⁸ Sale of public land is guided by a guideline of sale of public property, see (in Danish)

<https://www.kl.dk/okonomi-og-administration/kommunalljura/kommunalfuldmagten/kommunalt-ejendomssalg/>

¹⁹ This is the effect of the Danish Electricity Law and Statuary Order for internal electricity connections

<https://www.retsinformation.dk/eli/Ita/2023/438>

the local community by creating small businesses and arranging social activities such as market days and concerts.

Environmental:

It is very difficult to find data on the environmental and climate effect of this specific ecovillage or ecovillages in Denmark in general. There have been a few studies and reports on the subject but the data samples used are often very small and there are great differences between the eco villages across the country, which makes it difficult to make any general conclusions. Below the environmental/ climate effects mentioned in other studies, and the ones observed in this Case and previous work packages are listed.

- The report “CO2 emissions in eco-societies”²⁰ suggests that citizens in eco-societies might have an annual CO2-emission of down to half the amount of the average Danish citizen. The data for this report was gathered among residents in three other eco-communities in Denmark²¹.
- The COMPASS research project conducted by Copenhagen University (20017-2020) concluded that citizens in eco-communities have an average CO2 emission that is 32% lower than the average Danish citizen²².
- Shared meals save energy: 75% of households participate in the shared meals, 5 days a week. This saves a lot of energy, because everything is prepared in the community kitchen using their own sustainable energy. 5 days a week, only one oven is running, instead of more than fifty in individual households.
- Shared vegetable production saves transportation. Many ecovillages can produce most of their own vegetable and fruits supply, which greatly decreases or eliminates transportation from farm to table.
- Sharing of resources: Because of car sharing initiatives, repair shops and sharing of other material resources, many residents are able to reduce their consumption and thereby save resources in their everyday lives.
- Producing renewable energy: ecovillages prioritize being able to produce energy in a renewable and sustainable way, thereby reducing emissions from energy production, compared to the surrounding society.

Knowledge:

- It is a central vision for this ecovillage to act as a demonstration site for sustainable living, self-sufficiency, and permaculture. They have contributed to sharing their knowledge and practices to thousands of visitors from all over Denmark and other countries.

Gender dimension and inequalities:

How could possible effects on gender/ the care economy and other inequalities be addressed?

²⁰ Trifonova, Maria and Pardi, Paolo. “Eco-communities in Denmark: A possible model for transition to a sustainable society in the economic growth oriented reality.” Master’s thesis, Aalborg University, 2017. https://projekter.aau.dk/projekter/files/259994082/06.01._EMSS4_Trifonova_M._Pardi_P.SIGNED.pdf.

²¹ There are some uncertainties connected to the data in this report. Further research into the CO2 calculator used is needed in order to confirm the numbers. In addition to this, the report is more than 10 years old and rests on very small sample sizes, which is also problematic when looking at any data conclusions.

²² For unknown reasons, we have not been able to find any publications of the results from this research project. There are several news paper articles citing the researchers and the project results, however, no academic articles have been published (INFORSE is in possession of a draft article, which was never published). This makes it difficult to verify data collection methods, calculations and results.

Our data has not shown any clear effects on gender within the community. This does not mean that there are none, but it would likely require more time doing interviews and fieldwork to answer this. There is an effect on household work and time management:

Living in the Ecovillage has influenced the **care-economy within the families**. Because most large meals are cooked and eaten together in the community hall (5 of 7 dinners weekly), members (women and men equally) have to set aside several hours to cook shared meals on certain days, but then they save time on other days, as dinner is cooked for them. Some residents report that they spend less time grocery shopping since they moved there, because they have their own vegetable production and shared meals.

Because the village is located in a rural area, residents working in the nearby city have to spend more time on daily transportation, than if they had lived in the city. This is also the case when visiting friends and family. However, this would be the case in any rural area.

Time management is also influenced by the fact that it is mandatory for all residents to contribute to the community work with 100 hours of volunteer work every year. The residents can choose between many different activities such as organisational work, arranging social activities, vegetable production, maintenance etc. Our data from other ecovillages shows that only a few communities have chosen to make community work mandatory (written in their guidelines), however it is normal that residents contribute with many hours of volunteer work.

Data from this and other eco-communities shows that both men and women participate actively in the **organisational work of the communities**. Some data suggests that women might be more involved than men, when it comes to taking on leading roles in the direct democracy, sociocracy or other form of shared decision-making, but this would need to be studied through further research.

Potential to upscale (key barriers and enablers):

- *Which are the key barriers and enablers?*
- *What does this say about the potential of the initiative to be upscaled/ replicated elsewhere?*
- *Does the initiative have an interest to upscale?*

Barriers:

- **Financial:** It is often difficult to obtain loans for building in ecovillages. Projects such as these often have "unusual" organisational structures (contrary to a developer or each owner buying their own piece of land and building their own house without any other concerns than national building codes). Some banks consider these projects high risk and are unwilling to finance them. The support from the municipality for subsidised rentals was one way to overcome this in our Case.
- **Sustainable building methods and materials:** In other projects, compost toilets, environmentally friendly building material (paper insulation) or experimental building techniques have been barriers for getting low-interest rate mortgage loans. Some of these projects were helped out by "green" banks, but with more expensive loans. The acceptance of the traditional big banks could have an upscaling effect. Organic architecture, sustainable buildings, and environmentally friendly materials are in many cases also more expensive than the mass-produced construction materials made of for instance concrete and plastic.
- **Public prejudice:** The ecovillage in this case study has had great support from the local municipality, however this is not always the case. Other projects are met by misunderstandings and prejudice in the local community, which might be a barrier to development.

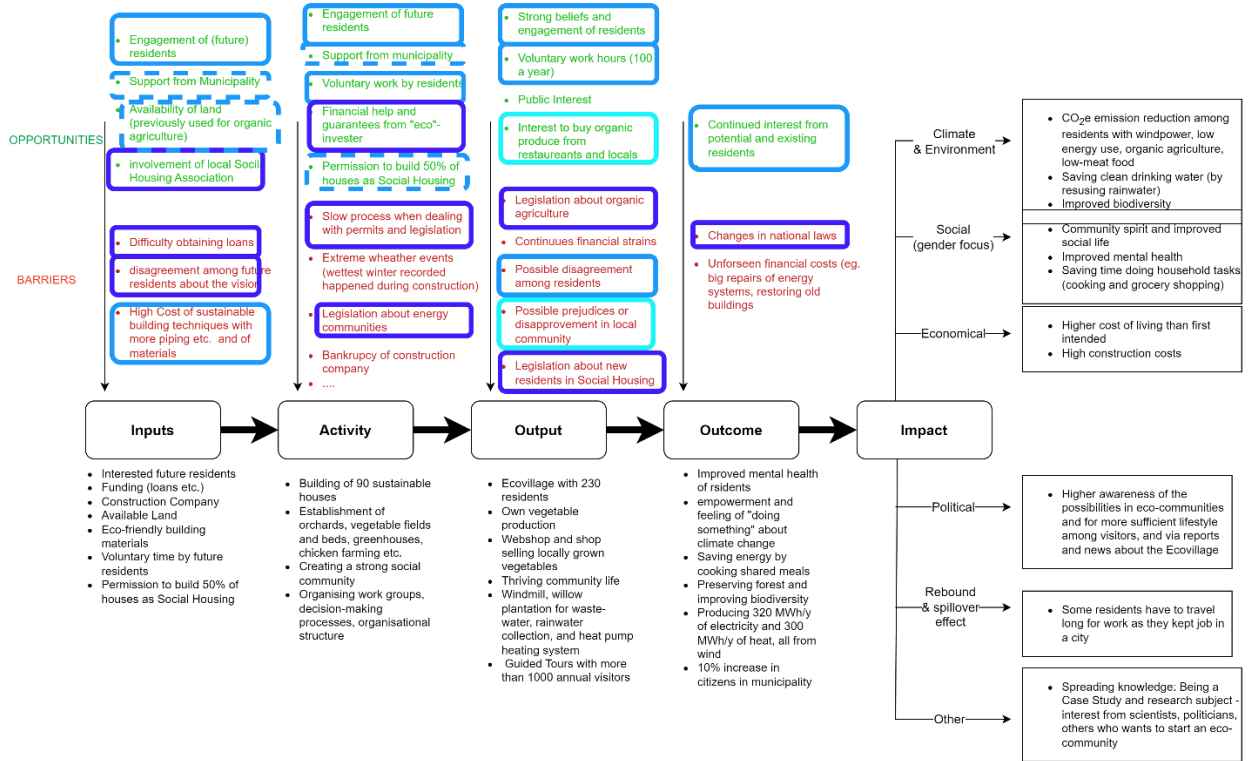
- **Amount of volunteer work required:** If the ecovillage begins as a grassroots project initiated by a group of interested citizens (contrary to this case) it often requires several years of planning, securing funding, organising work groups, dealing with legislation and permits etc. This process is very time consuming and will often cause many of the people who were involved from the very beginning, to drop out of the project along the way.
- **Legislation:** There are barriers within both building laws, planning laws and areas such as energy, wastewater management and agriculture (see section on macro level policies).

Enablers:

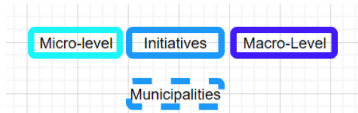
- **Voluntary Engagement:** The engagement and many hours of voluntary work from the residents are essential for the success of projects such as these. When it comes to upscaling, their willingness to share knowledge and experiences will help others.
- **Support from local politicians:** If the local mayor and council are supportive of the project, they can do many things to help the process of development. Passing new municipal legislation/ rules, prioritising fast regulatory processes and showing support in other ways can be a great help in the development phase and later on if the ecovillage wishes to expand.

Impact Chain Model Denmark

Figure 4 Impact Chain Model Denmark



Map Legend:



3.4. France - Tiny Houses

Case study conducted by Négawatt:

<p>Description of Case Study:</p>
<p>The sufficiency initiative chosen for the case study is a non-profit organization that helps people build their own tiny house in a cooperative mode and advocates to normalize the "tiny house way of life".</p> <p>As expressed by the initiative leaders: "We help each other self-constructing our tiny houses and living there as our principal residence. The association deals with popular education and knowledge sharing. We are seeking to promote and support minimalists towards a comfortable, safe and legal living environment. The formalisation of the association was decided to embody a trusted interlocutor. Explaining and raising awareness of the "tiny" way of life is a first step towards the administrative legalisation of the locations of those semi-nomadic and earth-friendly homes."</p>
<p>The initiatives' influence on personal lifestyles:</p> <p><i>How does the initiative influence transformations of individual lifestyles? (including multiple effects e.g. health, gender, spillover or rebound)</i></p>
<p>The initiative focuses on tiny houses as principal residence. Therefore making this choice embraces one's entire way of living.</p> <p>Sufficiency is one of the goals of building a tiny house. Between 13 and 16m² on the ground, the limited space available drives inhabitants to drastically reduce the quantity of objects owned. In addition, these homes seek to be as independent as possible. Very ingenious with low-tech systems, interior design or even lifestyle (natural household products, slow cosmetics, veganism, zero waste, etc.)! All energy needs are calculated to adjust to the power of solar panels or the capacity to collect rainwater. This drives people to develop a higher awareness of their impact on the environment. The dry toilets are compostable. The compactness of this housing -the constraint of a limited living space- leads to very interesting technical innovations that we experiment (ex: fridge with motor located under the trailer to avoid overheating the habitat during summer). As expressed by the initiative leaders: "Self-building one's tiny house with the initiative, is a way to develop togetherness, to break away from 'objects ownership' by favouring social connection and live a joyful and shared sufficiency."</p>
<p>The role of municipalities:</p> <ul style="list-style-type: none"> • <i>How does the municipality support the initiative (supporting infrastructures and/or supporting the cause)? What could it do differently? How can municipalities facilitate local initiatives? (see task 4.2)</i> • <i>How do initiative and municipality cooperate?</i>
<p>The "tiny house way of life" suffers a lack of legitimacy and recognition. Living in a tiny house as principal residence is not yet normalized.</p> <p>Normalisation could be achieved by giving tiny houses the same rights and obligations as any main residence (regarding tax, garbage collection, mailbox and addressing, housing or energy allowance etc.). Some of those rights and duties are defined at municipal level. For tiny house inhabitants, their houses are their principal residence, but from the administrative perspective, it is much more complicated:</p> <p>Development of tiny houses as principal residence is hampered by the legal complexity of land acquisition. If areas of town development plans were provided for this lifestyle, many</p>

more people would get started. Another option for municipalities to enable tiny house projects would be to propose urban areas or zones suitable for eco-friendly camping to allow tiny house owners to be fully environmentally respectful.

The tiny house minimalist way of life is often associated - in the mind of parts of the general population - with an anti-social population, even with illegal practices. Politicians may have the same bias as the general population and don't want to be criticized so might not be in favour to enable tiny house projects.

On the other hand, some municipalities pay attention to possible abuses in the area of "reversible housing²³" or non-permanent housing such as high land rental fees from landowners or impacts on existing public service infrastructure requirements.

Some municipalities identify tiny house (and other 'non-permanent housing') as an affordable access to housing. In rural areas for example, it helps bringing new life to villages that are deserted or full of second residences. In this case, municipalities are willing to facilitate their settlement.

Local authorities are called to support normalisation: by gaining knowledge on "Habitat Léger", facilitating TH settlement (by implementing legal solutions at local level: STECAL, BIMBY, emphyteutic lease...) or lending a dedicated land for example.

As analysed in detail in D4.2, when considering the initiatives in general, the involvement of local authorities / municipalities is progressive, and usually in accordance with social acceptance of the general population. Some municipalities are ahead, most are behind the pace of the general population. As stakeholders, municipalities and initiatives are rarely in a cooperation mode, unless the new practice has raised a certain maturity level (already on the path to normalisation, from a social perception, and/or having a business model, which is linked). To allow for better cooperation, some questions remain: *How could initiative and municipality consider each other stakeholders of a co-operated project? How can the constraints of both parties be better considered by the other party and lead to creative experiment and social acceptance?*

The role of macro level policies:

- *How is the initiative influenced by macro level policies (EU, national policies)? (e.g. limitations of planning)*
- *How could macro level policies facilitate cooperation between initiatives and municipalities? What are enablers and barriers?*

Social normalisation could be achieved if tiny houses were given the same rights and duties as any principal residence (regarding tax, garbage collection, mailbox and addressing, housing or energy allowance...). Some of those are defined at the national level. However, living in a tiny house as principal residence currently hardly fits in the regular administrative processes. The regulatory framework mainly involved here is related to town development planning rules and land usage.

The national French land saving policy (called "zero artificialisation nette"), as well as regulatory mechanism as STECAL (secteurs de taille et de capacité d'accueil limités), or BIMBY (« densification parcellaire » in French, which authorizes new housing settlement in the gardens of buildable properties to densify urban areas) should create the right conditions for tiny houses to be recognized as principal residence or at least for experimentation in town planning. However, mainly because this is new (technically), risky (politically), the system is reluctant to take advantage of those opportunities, as well as to experiment. Implementation calls for caution to accompany the normalisation process phase and avoid creating a non-satisfying precedent.

²³ A reversible housing is an ecological construction that can be dismantled or moved to allow the land to return to its initial state. The impact on soils and the environment is minimised (no concrete or soil sealing) Ref : <https://hameaux-legers.org/>

Considering the initiatives in general (see also D4.2)²⁴, we see that they often reach a similar point that is to call for an adaptation of the national legal frame. Either because it is a blocking point for them to stay legally compliant or because it hampers their development. Usually, this step requires a structure at a higher level: initiatives create or join a network. A national representative role must be legitimate to voice the concerns of the network members. Another tipping point revolves around the required resources to support such a lobbying long-term role. When coming from initiatives that are themselves mainly relying on volunteers, and struggling with limited resources, this is a major question.

Multiple effects

Which are direct or indirect, positive or negative effects of this initiative? (Including rebound and spillover effect, impact on gender equality, environmental, social, political, gender, health etc.)

Intrinsically, living in a tiny house means a reduced residential space (between 13 et 16 m² per capita in TH) and resource savings (water, material, energy). This entails reduced housing GHG emissions in both the building (grey energy) and usage phase (sufficiency, efficiency and renewables).

Building one's own tiny house leads to construction skill acquisition. On top of that, doing it with the support of other self-builders (as the initiative is promoting) enables social skills development. All of this is about individual and collective empowerment!

Moreover, when a tiny house is occupied as principal residence, people are often part of collective dynamics that promote the adoption of a low impact way of life. The values promoted in those social groups lead to spillover effects. (eco-friendly household products, slow cosmetics, zero waste, dry toilets, veganism, ...).

The place where the tiny house is settled is also important when considering impacts. A co-benefit on resource conservation is land saving -assuming that less surface is artificialized (this needs to be checked, depending on the reference situation it is compared to)-, and that this housing settlement is reversible. Nevertheless, people may wish to settle in a natural environment, which may trigger a rebound effect on mobility to access to services and shops.

Negative effects mainly appear when tiny houses are not principal residences. In this case, they may increase residential space per capita or challenge not adapted infrastructure when settled in some rural areas.

Gender dimension and inequalities:

How could possible effects on gender/ the care economy and other inequalities be addressed?

The initiative was initiated by a woman. This non-profit organisation has a very horizontal way of working, members being each interdependent in the process of building their own tiny house. Gender did not appear to be discriminating for this activity.

The initiative makes it possible to access housing for low income people (mainly single or couple). In this way it allows flexibility in residential choices.

With the BIMBY approach (see above)²⁵, multigenerational aid is made possible, for example, when tiny houses are settled in the garden of an isolated elderly person.

²⁴ Buschka, Michael, Philipp Schepelmann, and Hans Haake. "Report on Municipal Sufficiency Strategies and Policies. FULFILL Deliverable D 4.2." Accessed September 29, 2023. <https://fulfill-sufficiency.eu/wp-content/uploads/2023/07/D4.2-D21-Report-on-municipal-sufficiency-strategies-and-policies.pdf>.

²⁵ « densification parcellaire » in French, which authorizes new housing settlement in the gardens of buildable properties to densify urban areas

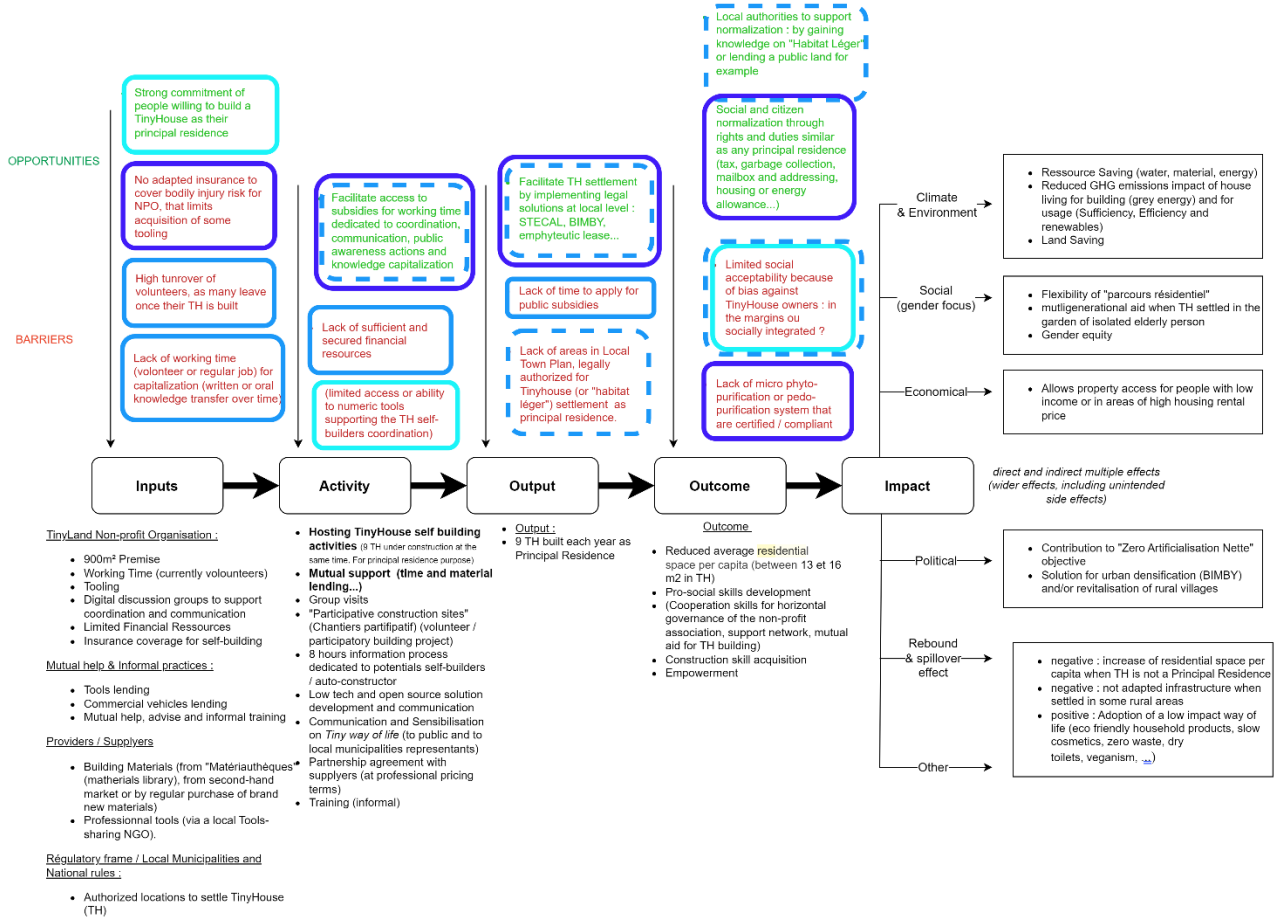
Potential to upscale (key barriers and enablers):

- *Which are the key barriers and enablers? What does this say about the potential of the initiative to be upscaled/ replicated elsewhere?*
- *Does the initiative have an interest to upscale?*

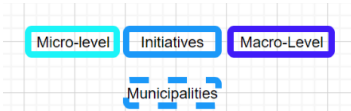
The concept of "Hameaux Légers" may be the next step for scaling up. It is defined as a "participatory living area, welcoming a small number of reversible housings, accessible to households with modest resources, created in partnership with the municipality that hosts it" by the NGO initiative that promotes and supports those projects. It envisages a holistic concept of individual housing and collective organisation, connecting with local authorities and existing inhabitants of the village. It goes beyond tiny houses, including any type of reversible housing. The idea is to raise a complete "district project" in partnership with all stakeholders : future inhabitants, the local municipality etc.

Impact Chain Model France

Figure 5 Impact Chain Model France



Map Legend:



3.5. Latvia: freecycling initiative

Case study conducted by Zala Briviba

<p>Description of Case Study:</p>
<p>The case study focuses on place-based freecycling initiatives in Latvia, specifically two groups established in different cities. These initiatives are affiliated with NGOs and are operated by volunteers. Functioning as alternative "shops", both initiatives accept donations of items with the only criteria being good quality and usability. Clothing and household items can be obtained for free. The freecycling activists prioritise the integration of environmental and social aspects, emphasising inclusion and communication as core values, while material resources are considered secondary.</p> <p>Although managed separately by different organisations in distinct cities, the freecycling initiatives share similarities in their operations and association with local NGOs. They are independently run by activists and volunteers, with a core group of 3-5 individuals and a varying number of volunteers who work shifts as needed. The number of customers depends on the location and size of the shop (e.g., a small room next to the office; two larger rooms with a separate entrance; one floor of a wooden house and the yard), with more accessible and central places attracting a larger volume of visitors who tend to become repeat visitors. Both initiatives originated a few years ago (in 2018 and 2019), drawing inspiration from similar projects in Berlin. Key activists have participated in short-term or long-term exchange visits to Germany, gaining insights from their experiences. The freecycling initiatives do not receive regular public funding but rely on donations or projects managed by the hosting NGOs for financial support.</p> <p>In addition to the established initiatives, there are temporary free exchange projects and related pop-up events. Furthermore, there are numerous Facebook groups with a significant number of members (>10K) dedicated to giving away or seeking used items for free. However, these online groups lack a localised connection, and personal interactions depend on the visibility of virtual identities and posted content. While the group moderators enforce rules (e.g., no advertisements or financial rewards), they do not directly engage with group members or assist with logistics</p>
<p>The initiatives' influence on personal lifestyles:</p> <p><i>How does the initiative influence transformations of individual lifestyles? (including multiple effects e.g. health, gender, spillover or rebound)</i></p>
<p>The interviewees in this study have either held current or past management or coordination roles in the initiatives, either as volunteers or leaders. While two interviewees were more active in the past, they currently prefer an observant and occasionally supportive role. They all mentioned changes in their habits and a prioritisation of used items in their wardrobes. Moreover, they have developed a greater awareness of the environmental impacts and lifecycles of products, particularly textile waste. Many of the activists are involved in civic movements related to sustainability and volunteer work in urban areas. The ethics of care are important in the relationships between hosts, volunteers, and clients involved in freecycling. The interviewees also highlighted the formation of new social connections and local support systems as motivating factors. Active participation in freecycling requires a personal time commitment, but the leading activists go the extra mile to organise daily routines and sustain interest in regular maintenance tasks to keep the activities running smoothly in a volunteer capacity.</p>

The role of municipalities:

- How does the municipality support the initiative (supporting infrastructures and/or supporting the cause)? What could it do differently? How can municipalities facilitate local initiatives? (links with task 4.2)
- How do initiative and municipality cooperate?

Representatives from both freecycling groups emphasise the need for public support from the municipality, as there is currently a lack of cooperation, despite freecycling providing a form of social service at the local level. Public support could involve granting access to premises or providing funding for utility bills. Given that consistency is highly valued in maintaining freecycling activities over time, project-based funding programs are generally not suitable for financing freecycling initiatives. Looking towards the long-term, volunteering should be complemented with paid work. In one freecycling group, coordinators have incorporated the group into international volunteering programs, but there is a constant need for permanent contributors. One potential avenue for development is to promote freecycling within neighbourhood regeneration and community-building projects. For instance, several neighbourhoods in Riga have organised events such as object swapping days and repair workshops, typically hosted in areas where freecycling activists, members, or like-minded organisations are located. Freecycling has also become an integral part of summer festival programs.

The role of macro level policies:

- *How is the initiative influenced by macro level policies (EU, national policies)? (e.g. limitations of planning)*
- *How could macro level policies facilitate cooperation between initiatives and municipalities? What are enablers and barriers?*

The EU Green New Deal calls on countries to further transition to a circular economy. In this regard, Latvia has prepared a "Circular economy strategy for Latvia" which includes several action points which are in line with the initiative:

- Action 9. "Creation of support tools, promotion of new business models in production and distribution of goods"
- Action 11. "Support for social innovations and social commercial activity"
- Action 12. "Support for the development of the service/remedial sector"

Freecycling is relevant to the EU's Right to repair policy for its synergies with repair shops and DIY skills.

Multiple effects:

Which are direct or indirect, positive or negative effects of this initiative? (Including rebound and spillover effect, impact on gender equality, environmental, social, political, gender, health etc.)

The initiative promotes and is built on the culture of reuse, making people accustomed to seeking used goods, saving money in the process and, therefore, potentially needing lower incomes. This reduces the need for the production of new goods and makes certain goods more accessible to low-income groups. At the same time, free access invites some customers to over consume the available goods, possibly even increasing their individual consumption in the amount of used low-quality goods (rebound effect). Additionally, the initiative works best in conditions of overconsumption and sometimes can give a false sense of doing good for people with higher incomes donating clothes that get evaluated as in bad condition when sorting. Therefore, it is a patchy solution and remains marginal and (often

youth) community-reliant in countries where the secondary market of goods is already high due to lower incomes. It does little to directly challenge the treadmill of the production and waste management system if not scaled up with institutional support.

It is necessary to gather data regarding the reduction in waste and resource consumption resulting from freecycling and other sharing activities. The issue of limited access to affordable resources is closely tied to problems of overproduction and an abundance of used items. Finding solutions for the utilisation of low quality and damaged goods remains unresolved.

Gender dimension and inequalities:

How could possible effects on gender/ the care economy and other inequalities be addressed?

The initiative is political in its anti-capitalist imperative of non-profit exchange and furthers it in not asking customers to pay for employees' labour. At the same time, this makes the labour rely on volunteers and donations for the maintenance of the facilities and sorting labour. The initiative is also a part of the non-monetary care economy and both its coordinators and customers are mostly women earning little despite the intense labour and expertise needed. This, therefore, also reproduces dominant gendered norms and practices. To counter this, the initiative could promote stable wages for its employees and aim to expand the goods to other sorting-intensive categories, such as electronics, construction materials and car parts.

Potential to upscale (key barriers and enablers):

- *Which are the key barriers and enablers?*
- *What does this say about the potential of the initiative to be upscaled/ replicated elsewhere?*
- *Does the initiative have an interest to upscale?*

Key barriers to upscaling freecycling initiatives include:

- **Lack of Awareness:** Many people may be unaware of the concept of freecycling or possibilities for participating in such initiatives. Limited awareness hinders the expansion of freecycling networks and reduces the potential user base.
- **Trust and Safety Concerns:** Participating in freecycling requires a level of trust between participants. Concerns about the quality or safety of items being exchanged can discourage people from engaging in freecycling activities.
- **Organisation and Infrastructure:** Setting up and maintaining efficient logistics and infrastructure for collecting, storing, and distributing items can be complicated and expensive.

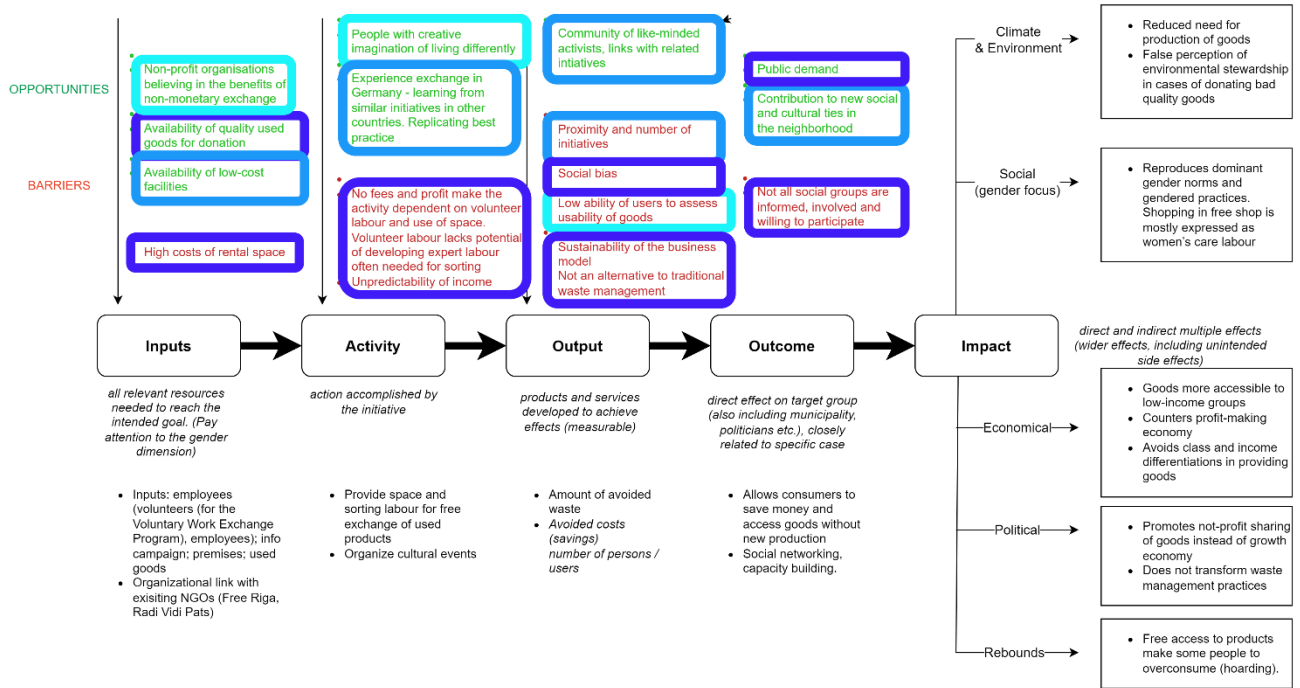
Enablers for upscaling freecycling initiatives include:

- **Collaborative Networks and Platforms:** The availability of user-friendly online platforms and networks specifically designed for freecycling can facilitate participation and communication among users.
- **Access to public funding:** Place-based freecycling would benefit from regular income to fund basic maintenance costs. Predictability of support would allow planning for new activities and organisational development.
- **Community Engagement and Support:** Strong community engagement, involvement, and support are vital for the success and expansion of freecycling initiatives. Active participation from individuals, local organisations, and community leaders can help raise awareness, build trust, and encourage broader adoption of freecycling practices.

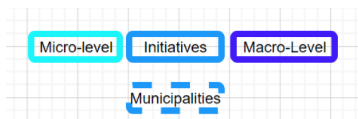
- **Education and Promotion:** Educating the public about the benefits of freecycling, sustainability, and resource conservation can generate interest and motivate individuals to participate. Effective promotion through various channels, including social media, local events, and community networks, can enhance the visibility and reach of freecycling initiatives.
- **Policy and Regulatory Support:** Supportive policies, regulations, and incentives from government bodies can provide a favourable environment for upscaling freecycling initiatives, e.g. the EU Green New Deal, the "Circular economy strategy for Latvia" with its specific action points, and the relevance of freecycling to the EU's Right to Repair policy.

Impact Chain Model Latvia

Figure 6 Impact Chain Model Latvia



Map Legend:



4. Discussion

The analysis of the five exemplary case studies of sufficiency initiatives has provided valuable insights into the interplay between micro-, meso-, and macro-level transformations. These initiatives, operating at the meso-level, have demonstrated their potential in supporting and shaping micro-level transformations while being influenced by both meso- and macro-level policies and frameworks. In the following, the key findings and implications derived from the case studies are laid out, addressing the research question posed in this analysis: **how the meso-level transformations can support micro-level transformations and be supported by macro-level transformations.**

Meso-level transformations and their impact on micro-level transformations

Based on the findings of the literature review of FULFILL, sufficiency extends beyond personal investment decisions and individual behaviour change and emphasizes the essential role of **infrastructures** and **social frameworks** in sustaining lasting changes in habits of individuals²⁶. Accordingly, sufficiency initiatives have found to have the potential to foster micro-level transformations (individual lifestyle changes) through providing infrastructures, services, and a social framework for individuals.

To start with **infrastructures**, sufficiency initiatives often provide infrastructures that enable sufficiency habits to their members or the wider public, even if they remain small-scale. For example, the German cargo-bike initiative provides citizens the opportunity to use a sustainable form of transport to move their goods by offering cargo bikes and the necessary service infrastructure free of charge. Likewise, the Latvian freecycle initiative offers an alternative to consuming new goods by providing citizens with free items and an opportunity to dispose of unwanted things without wasting them.

However, the provision of some services by sufficiency initiatives entails the risk of a **rebound effect**, which describes the effect that the savings resulting from the adoption of one form of pro-environmental behaviour are later used to support behaviours that harm the environment²⁷. To illustrate, getting used items free of charge, might incentivise users of the freecycle shop to get more things than they would if they had to pay for them or get free stuff on top of consuming as they normally would. Likewise, donating items to a freecycling shop might induce the feeling in people that they did something good and that they can now reward themselves by buying something new.

On the other hand, sufficiency initiatives can also come with positive **spillover effects**, which refers to the uptake of additional pro-environmental behaviours that go beyond the behaviour initially addressed in a particular intervention²⁸. For example, living in an eco-village provides residents not only with sustainable housing, but also with the access to various sharing services that avoid consumption. Items such as tools and cars are easily shared but also tasks such as cooking can be shared to allow for an overall reduction of energy use of inhabitants. Similarly, living in a tiny house drastically reduces the space available to store items and hence disincentives consumption going beyond addressing sustainable living space.

Considering **social norms and values**, which are an important part of **societal frameworks** enabling sufficiency habits, the intentional cultivation of environmental and social values that is fostered in many sufficiency initiatives can influence the mindsets and habits of initiative

²⁶ Lorenzo Pagliano and Silvia Erba, "Literature Review for Analysis of Lifestyle Changes" *Fulfill Project*. December 2022. <https://fulfill-sufficiency.eu/wp-content/uploads/2022/12/D2.1-Literature-Review.pdf>.

²⁷ Elf, Patrick, Birgitta Gatersleben, and Ian Christie. "Facilitating Positive Spillover Effects: New Insights From a Mixed-Methods Approach Exploring Factors Enabling People to Live More Sustainable Lifestyles." *Frontiers in Psychology* 9 (2018): 2699. <https://doi.org/10.3389/fpsyg.2018.02699>.

²⁸ Ibid.

members as well as individuals outside of the organisations. For example, by raising awareness on pollution and spreading information on how individuals can contribute to an improved air quality, the Italian advocacy group inspires citizens beyond their members to make changes towards more sufficient lifestyles. Further, the Danish eco-village seems to foster a strong sense of community amongst its members, allowing its inhabitants to feel like part of a movement that works towards a more sustainable world. By prioritizing sustainability, reuse, and resource conservation, intentional communities have the potential to inspire their residents to embrace these principles in their daily lives. This shift towards sustainability is not merely theoretical but often translates into tangible actions and practices, such as reduced consumption, sharing resources, and adopting eco-conscious behaviours.

Moreover, the grassroots and volunteer-driven approach adopted by many initiatives encourages **active participation** from individuals. Members of intentional communities and participants in sufficiency initiatives often become personally invested in the collective effort to live sustainably. As a result, their lifestyles evolve to incorporate used items, environmentally conscious choices, and a heightened awareness of the social and environmental impacts of their actions.

Sufficiency initiatives can further bring about **multiple benefits** beyond their environmental impact for their members or users. In line with the dual focus of the sufficiency concept which is about both reducing the use of earth's resources and guaranteeing people's well-being²⁹, sufficiency initiatives often provide health benefits including mental health, foster community spirit and a sense of belonging for their members. They also teach skills, provide education and information and might provide financial advantages, as many services are offered for free or at low cost. For example, active forms of transport such as using a cargo bike has health benefits compared with using a car and is less polluting. Further, building a tiny house in cooperation with fellow builders provides the opportunity to learn new skills and creates a sense of community.

The impact of sufficiency initiatives on **gender** equality is ambiguous. On the one hand, many initiatives rely on volunteers and unpaid work, which is often performed by women, presenting an unintended negative side effect of initiatives. Besides the risk of reproducing gender disparities by relying on women's unpaid work, volunteers also need to be able to afford to invest their time for an initiative, which excludes many citizens. On the other hand, several initiatives reported to have women in leadership roles, which can contribute to breaking traditional gender norms. Further, some sufficiency initiatives have the potential to save time that would otherwise have to be spent doing unpaid care-work, which is often performed by women. For example, sharing tasks such as cooking or grocery shopping between members of eco-villages and distributing them equally amongst members can contribute to a more equitable distribution of labour. Finally, due to their higher share of doing unpaid care work, which often results in less financial means, women might benefit especially from sufficiency initiatives providing services free of charge.

²⁹ Lorenzo Pagliano and Silvia Erba, "Literature Review for Analysis of Lifestyle Changes" *Fulfill Project*. December 2022. <https://fulfill-sufficiency.eu/wp-content/uploads/2022/12/D2.1-Literature-Review.pdf>.

Municipal Support for Meso Level Initiatives

Municipalities have a critical role to play in facilitating meso-level initiatives at the local level. While the case studies demonstrate the effectiveness of grassroots movements, municipal support can significantly enhance the reach and impact of these initiatives. Public support from municipalities, such as providing access to premises, financial support for utility bills, and logistical assistance, can help sustain these initiatives in the long run. Likewise, a lack of municipal support can hinder the development of sufficiency initiatives. By recognizing the value of meso-level transformations in addressing local sustainability challenges, municipalities can forge partnerships with initiatives that benefit both their municipality and the initiatives.

In the following, we delve into the **key enablers and barriers for the cooperation between sufficiency initiatives and municipalities**, shedding light on the intricate dynamics that shape their interactions.

Enablers for Cooperation: Municipal Interest as a Cornerstone

A pivotal enabler for cooperation is the **genuine interest and commitment of municipalities** in supporting sufficiency initiatives, which hinges upon financial and human resources, as well as regulatory and political realities. In the following, drivers for successful cooperation are laid out, which could help to overcome barriers to successful cooperation:

- **Aligning goals:** Finding common interests between initiatives and municipalities seems to be a driver of successful cooperation. Various aspects of the initiatives work can incite an interest in municipalities. For example, municipalities that want to attract inhabitants to live in their municipality seem to be more willing to cooperate with housing initiatives and solve difficult issues such as land rights. Further ways to align goals between municipalities and initiatives include:
 - **Municipal Carbon Budgets:** The implementation of carbon budgets at the municipal level can serve as a catalyst for cooperation. Setting clear sustainability and climate goals to which initiatives can contribute with their activities could incite an interest in municipalities to support sufficiency initiatives in helping them reach their municipal climate goals.
 - **Integration into Municipal Climate Plans:** By incorporating sufficiency and sufficiency-related initiatives into their climate plans, municipalities can demonstrate a shared commitment to sustainability, potentially leading to increased budget allocation for such endeavors, including sufficiency initiatives.
- **Engaged individuals and good communication:** Engaged members of municipalities or specific departments of the local administrations often act as the driving force behind fruitful collaborations between municipalities and initiatives. Clear communication and a personal contact point for initiatives can facilitate cooperation. The lack of such a personal relationship between members of the initiative and municipality can be a barrier for cooperation.

Barriers to Cooperation:

- **Financial Constraints:** The lack of financial and human resources that is available for the municipalities to support sufficiency initiatives often poses a significant barrier to cooperation. For example, insufficient time of members of municipalities to dedicate to sufficiency initiatives can hinder their progress and collaboration with initiatives. Further, municipalities' limited budgets and competing priorities can divert attention away from sufficiency initiatives, making it challenging for them to secure necessary resources. Municipalities could enhance cooperation by allocating dedicated personnel and offering longer-term funding to sustain sufficiency initiatives, thus ensuring their stability and growth. However, such decisions are often influenced by macro-level policies and may be beyond the control of municipalities.

- **Regulatory and legal hurdles:** Stringent regulations and a lack of adaptation to innovative approaches by municipalities often deter cooperation, making it difficult for sufficiency initiatives to flourish within existing frameworks. The current legal and regulatory framework often promotes unsustainable practices and hence, runs counter to the goals of sufficiency initiatives. For example, existing insurance policies, such as car insurance policies designed for individual ownership and utility regulations, make it difficult for car-sharing initiatives to operate. The same applies to land and building practices, where the legal framework is designed for less sustainable forms of housing and often does not align with the needs of sufficiency initiatives, impeding their development.
- **Lack of independent evaluation and measurable success:** One difficulty of initiatives that became apparent through the case study analyses is that they often do not possess the resources to provide independent evaluations on how much carbon emissions they help to avoid, resources they save and how valuable they are for citizen's well-being. The absence of official evaluations for sufficiency initiatives and the difficulty of measuring their outcomes pose challenges in garnering municipal support. Finding a common language on how to measure results that are in the best interest of both municipalities and initiatives could facilitate cooperation.
- **Reluctance of the System:** Resistance and reluctance within existing systems can be a barrier. Political and administrative systems may be hesitant to embrace innovative approaches, particularly when they are perceived as risky or unfamiliar and take up more time than sticking to the status quo. Sufficiency initiatives run counter to the current growth oriented paradigm that is reliant on the abundance availability of fossil fuels. Like any citizen, members of the municipalities might be biased towards familiar structures and organisations and hesitant to embrace innovative concepts and organisations that disturb the status quo and question the current growth paradigm.

Macro Level Policies: A Catalyst for Cooperation?

Macro-level policies, encompassing both national and EU regulations and policies, have a profound influence on meso-level sufficiency initiatives. These policies can either act as catalysts for the success of these initiatives or present barriers that impede their progress. In the following, the multifaceted relationship between macro-level policies and meso-level sufficiency initiatives is explored, highlighting how these policies can either enable or hinder their growth and impact.

Enablers

- **Framework Alignment:** Macro-level policies, including the EU Green New Deal and national climate mitigation strategies, provide a broad framework that aligns with the goals of meso-level sufficiency initiatives. They serve as legitimizing forces, validating the efforts of these initiatives in the broader context of sustainability. When macro-level policies align with the objectives of meso-level initiatives, they have an enabling effect, as illustrated by Latvia's Circular Economy Strategy that aligns with the objectives of the freecycle initiative. Specific actions within these policies promote social innovations, sustainable service sectors, and community-driven initiatives, fostering an enabling environment for local movements to thrive and prosper.
- **Financial Support:** Financial support from macro-level policies plays a pivotal role in the direct support of sufficiency initiatives or in enabling collaboration between municipalities and initiatives. For instance, German national funding programs provided essential resources for initiating the cargo bike initiative.
- **Infrastructure Development:** The development of necessary infrastructure to enable sufficiency behaviours often depends on both meso- and macro-level policies and funding. For instance, the potential for upscaling the cargo bike initiative hinges on local cycling infrastructure and national mobility regulations.

Barriers

- **Regulatory and legal hurdles:** Regulatory frameworks, particularly in town development and land usage, may prove inflexible and inadequately accommodating of innovative housing models, such as tiny house communities. Further, national and EU tendering rules are not favourable for sustainable building projects, potentially obstructing eco-friendly developments. Moreover, existing electricity regulations may restrict the use of locally generated power, discouraging the adoption of renewable energy sources.
- **Municipal responsibilities:** When national legislative measures define municipal responsibilities, they hold the potential to facilitate collaboration between initiatives and local governments by aligning the goals of municipalities and initiatives. This could take the form of including climate mitigation or sustainable mobility, housing or circular economy in the responsibilities of the municipalities. Without including these sectors, municipalities lack the budget and human resources to support sufficiency initiatives.

Reciprocity

- **Advocacy and Engagement:** Meso-level sufficiency initiatives, such as the Italian advocacy group for clean air, actively engage with macro-level policies through advocacy networks. Their goal is to influence decisions at higher levels, including the EU, and advocate for environmental and health considerations. This engagement underscores the reciprocal influence between initiatives and macro-level policies.

5. Conclusion

In conclusion, the five case studies that have been examined in this report serve to show that the interplay between micro-, meso-, and macro-level transformations is a dynamic and complex process. Sufficiency initiatives and intentional communities emerge as powerful catalysts for micro-level transformations (individual lifestyle changes). These initiatives thrive when municipalities recognize their value and offer support, while macro-level policies are needed to provide the necessary framework for collaboration and growth. The key to success lies in fostering successful cooperation by aligning the goals of municipalities with those of sufficiency initiatives, to work towards more sufficient cities together.

To sum up, **key enablers** for sufficiency initiatives include support from municipalities, favourable macro-level policies and legal frameworks, as well as resource availability, enabling infrastructures and committed volunteers. Conversely, **key barriers** for sufficiency initiatives include legal hurdles, social acceptance issues, resource limitations, and reluctance of existing systems. Addressing these barriers and leveraging enablers is essential for the success and upscaling of sufficiency initiatives, ultimately contributing to more sustainable and environmentally friendly lifestyles on the meso- and the micro-level.

Drivers and Barriers for sufficiency initiatives

Key Enablers:

- **Municipal support:** Municipalities play a pivotal role in enabling sufficiency initiatives. They can offer financial support, legal consultation, and give access to resources, such as finances or facilities. Aligned goals of initiatives and municipalities such as a municipal carbon budget further enables cooperation between the players.
- **Supporting macro-level policies and legal frameworks:** Macro-level policies, whether at the national or European level, can provide a supportive framework for sufficiency initiatives. These policies can create opportunities for innovation and sustainable development, fostering a conducive environment for such initiatives to thrive.
- **Resource Availability:** Having sufficient resources, including funds and facilitates is crucial for the success and upscaling of sufficiency initiatives. Adequate resources allow initiatives to expand their networks and activities, increasing their impact.
- **Infrastructures:** Infrastructures are vital drivers for sufficiency initiatives as they provide the physical and logistical framework necessary for these initiatives to function effectively and promote sustainable lifestyles. This includes for example sufficiency mobility infrastructures or physical spaces where sufficiency initiatives can be implemented.
- **Engaged individuals:** Sufficiency initiatives largely rely on committed volunteers who are willing and able to donate their time, skills or expertise to the initiative's cause. However, many sufficiency initiatives face a high turnover of volunteers, which can turn this success factor into a challenge for initiatives.

Key Barriers:

- **Legal Complexities:** Legal barriers, such as complex land acquisition processes and regulatory frameworks, can impede the development of sufficiency initiatives. Overcoming these hurdles requires changes in laws and policies that favour unsustainable habits to accommodate new ways of living. Such policies include for example laws and investments that favour cars over more sustainable forms of transport.
- **Social Acceptance:** Many sufficiency practices, such as living in tiny houses or sharing resources, may have been stigmatized or considered unconventional in the past. Changing social norms can help destigmatize these practices, making them more socially acceptable and attractive to a broader audience.

- **Resource Limitations:** Resource constraints, including a lack of volunteers, funding or facilities pose a substantial challenge for sufficiency initiatives. Limited resources can hinder their ability to expand and reach a broader audience or to continue their activities in the long run.
- **Reluctance of the System:** Resistance and reluctance within existing systems can be a barrier. Political and administrative systems may be hesitant to embrace innovative approaches, particularly when they are perceived as risky or unfamiliar and run counter to the current growth paradigm.

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