



Utrecht University

Futuring for urban climate adaptation governance

Dr. Heleen Mees - CLICCS-C1 lecture - 9/11/2021

**Copernicus Institute of
Sustainable Development**





Utrecht University

Towards a climate resilient future together

An introduction to a new toolbox with participatory foresight methods, tools and examples from climate adaptation and food governance

INNOVATIEVE VERBINDINGEN



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COLOPHON

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Structure

1. Context
2. Introduction to the toolbox
3. An application example

1. Context



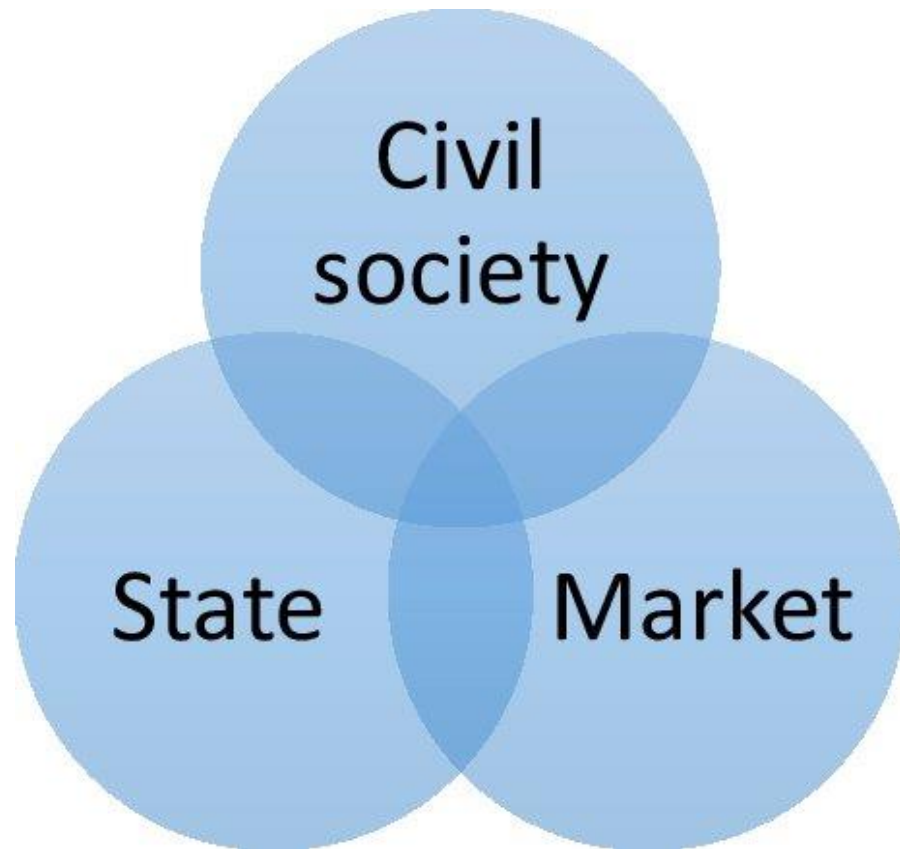
Governance challenges for climate adaptation

- Deep uncertainty, aggravated by long term character
- Social complexity
- Controversies
- Institutional fragmentation
- Weakly defined responsibilities, risks, goals, solutions



Climate adaptation governance

- Current control-based governance modes not apt to deal with wickedness of climate adaptation
- Responses in the form of a multiplicity of experiments in climate governance, most prominently in cities (Wakefield, 2019; Smeds et al., 2018)
- In need of 'heterogenous practices of identifying, calculating and governing futures', so 'new ways of governing future crises amidst uncertainty' (Wakefield, 2019)



Climate adaptation governance

- Novel governance approaches to guide the planning of collective action to moderate climate risks and impacts
- Polycentric system of governance with multiple venues for decision-making
- Involvement of all sectors in society: **state, market & civil society**

Reactive pathway:

Alleviate undesirable impacts after the impact - emergency response programs

Proactive pathway:

Reduce the risk of undesirable climate impacts occurring in the future:

Proactive spatial planning: no building in flood prone areas

Hard Infrastructure: dykes, dams, sluices, sewers, culverts

Green infrastructure: green space, green roofs, permeable paving

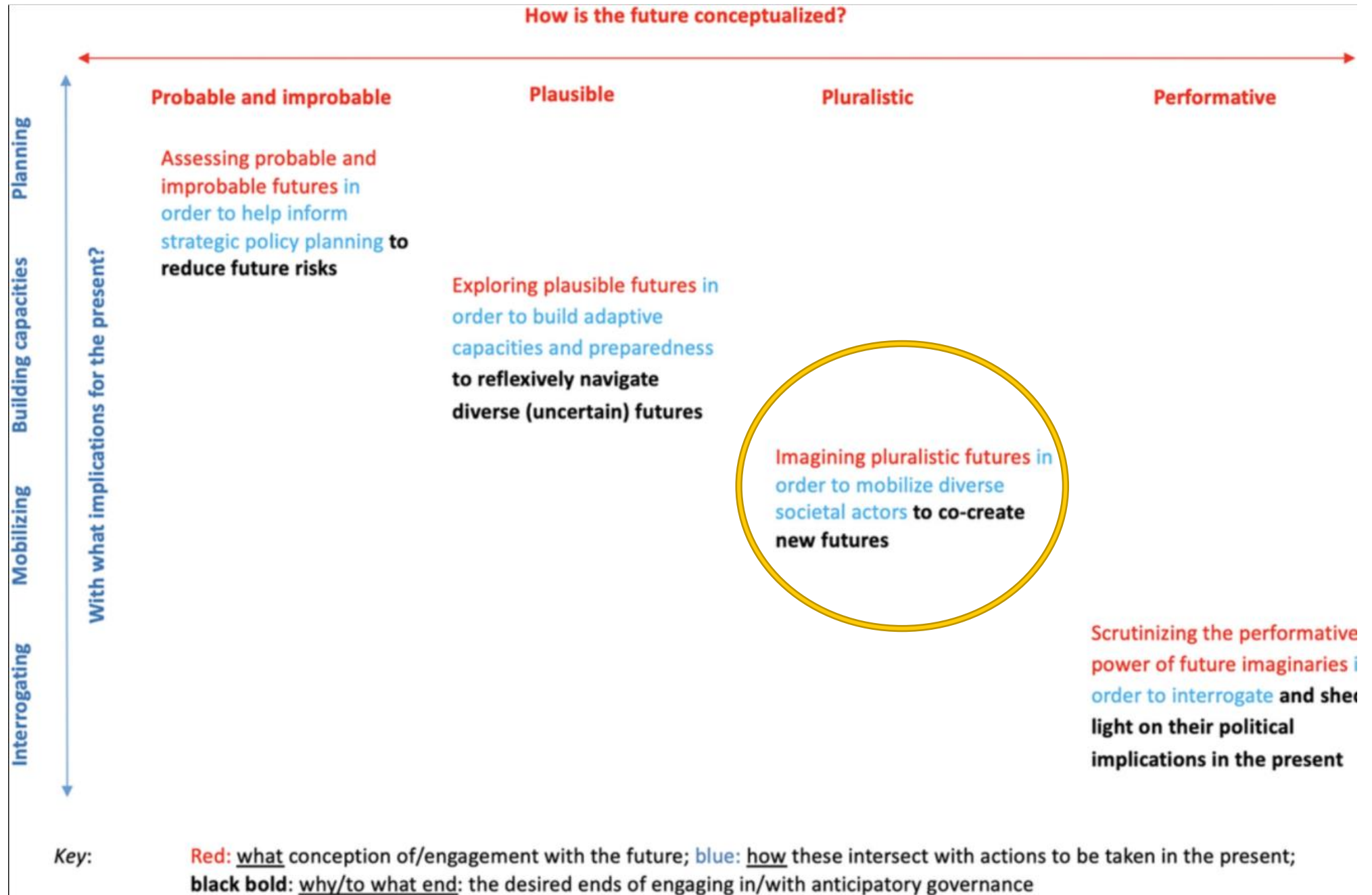
Adapt buildings



Anticipatory governance

Governing the present to adapt or to shape uncertain futures

Muiderman, K., Gupta, A., Vervoort, J., & Biermann, F. (2020). Four approaches to anticipatory climate governance: Different conceptions of the future and implications for the present. *WIREs Clim Change*, 673.



Mobilizing citizens to co-create new futures for proactive adaptation

Citizens are essential actors in making a place more climate-resilient and sustainable:

- they can improve the quality of new climate policies and plans with their holistic, locally grounded perspectives;
- they are needed to support the implementation of new climate policies and plans;
- they can implement certain adaptation measures themselves

Local authorities often underline the role of citizens in climate action but many experience difficulties with organizing **citizen participation** in a way that is meaningful to both citizens and policymakers

‘The future’ is often a rather abstract thing to people. That requires some **practical tools** that help them structure this process of thinking and designing

2. Introduction to the toolbox

Towards a climate-resilient future **together**

A toolbox with participatory foresight methods, tools and examples from climate and food governance



Help

Toolbox foresight ... x

8 / 72 61%

Who can use it?

The toolkit is developed for municipalities and governments (e.g. policymakers), NGOs and community leaders/organizers, and third parties (e.g. consultants), who want to engage citizens in thinking about how to become more climate-resilient and sustainable in the future. The step by step guidance makes it suitable for readers without any experience in citizen participation and/or foresight whatsoever. At the same time, more experienced readers will find innovative combinations of methods and tools that are unique within the field of citizen participation and foresight. Interested readers will be given more detailed background information as well as be updated with the latest case study examples.

How to use it?

We will walk the reader through the toolkit in two phases: one is prior to the exercise, or what we call [the preparation phase](#), and one is during the exercise itself - [the action phase](#).

In the preparation phase we discuss important matters to consider when preparing exercises that involve citizens. [Chapter 1](#) invites project leaders to formulate *why they want participation*. This goal is important as it closely relates to the question of *who to involve* ([Chapter 2](#)) and *what foresight methods to use* ([Chapter 3](#)).

After this preparation phase it is time for action. The exercise can start. [Chapter 4](#) elaborates on the foresight methods introduced in Chapter 3 by explaining *how* to use them in combination with several practical tools.

The Chapters give a basic idea on how to organize foresight exercises in practice. We provide more background information at the end of the toolkit. We also provide two example cases which we illustrate along the four Chapters; one participatory foresight exercise organized in an urban delta in The Netherlands and one in a rural area in Africa.

Towards a climate-resilience future together – Toolkit 8

to search

“[...] for municipalities and policymakers, NGOs and community leaders/organizers, and third parties (e.g. consultants)”

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The preparation phase / *before the exercise*

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The preparation phase comprises three Chapters (see Figure 4). In **Chapter 1** 'Why citizen participation?' we invite you to critically think about what you want to achieve with organizing citizen participation to critically think about why they want citizen participation. We made a distinction between three goals of citizen participation: 1) policy development; 2) community building; and 3) knowledge and capacity building. In **Chapter 2** 'Who to involve?', we look into the question of who to involve in the exercise and how they can be motivated to participate. Then in **Chapter 3** 'Which foresight methods to use?' we discuss what foresight methods lend themselves to be used in participatory exercises. There are three categories: 1) *exploratory scenarios* to explore a range of plausible futures; 2) *visioning* to imagine what a climate-resilient and sustainable future would look like; and 3) *pathways* to explore ways that could lead to that climate-resilient and sustainable future.

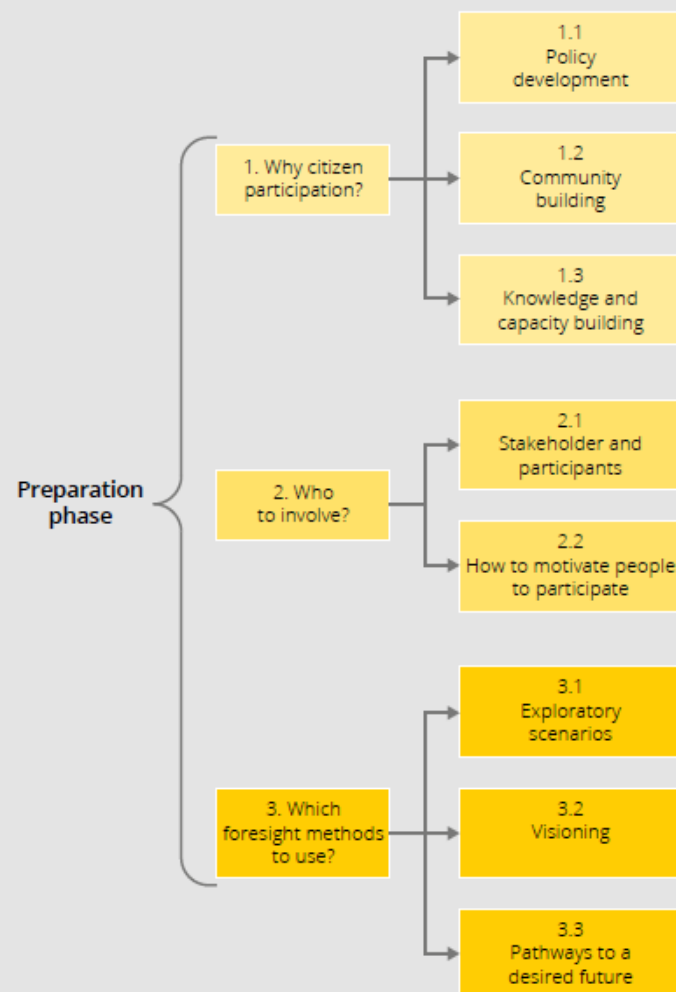


Figure 4. Overview of the preparation phase.

1 Why citizen participation?

Participatory exercises ask for considerable investments of time, money and efforts. The first step of the preparation phase is therefore to critically think about the actual goal of citizen participation [14]. Why do you want to involve citizens? And how would citizens benefit from the output or the process of the exercise? [4]. We assume project organizers to pursue a (combination of) participation goals (see Figure 5):

1. To use citizen knowledge in policy development for climate adaptation and mitigation (section 1.1).
2. To raise public awareness about climate change, stimulate learning and gain support for climate adaptation and mitigation plans through community building (section 1.2).
3. To find what specific information or support local stakeholders would need to adapt to and mitigate climate change in terms of knowledge and capacity building (section 1.3).

The choice of *who to involve* (Chapter 2) and *which foresight method to use* (Chapter 3) largely depends on these objectives [14].

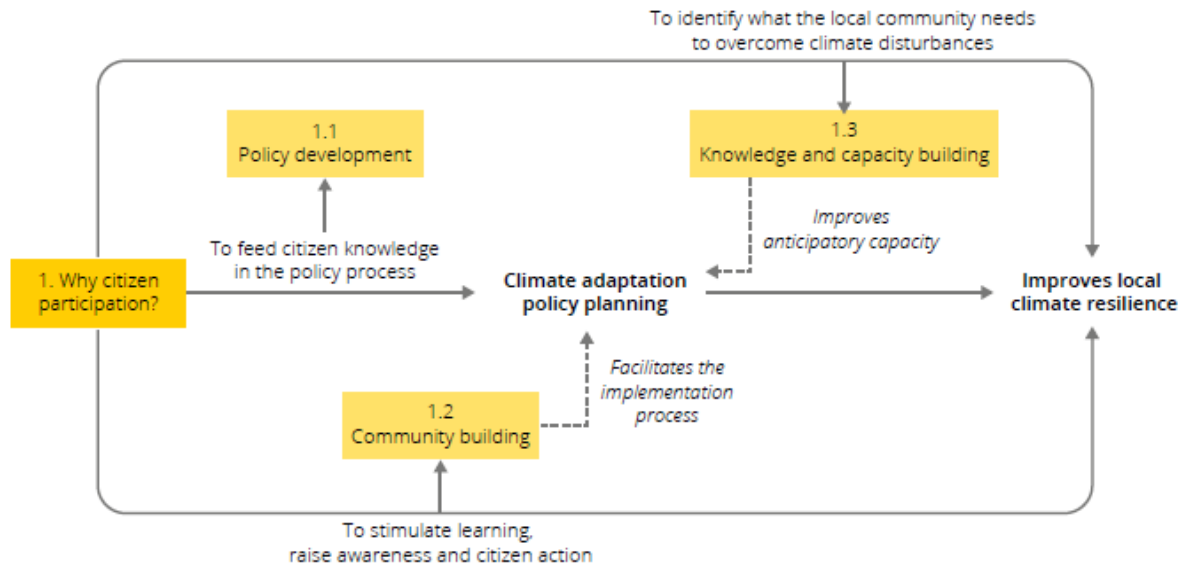


Figure 5. Overview of Chapter 1.

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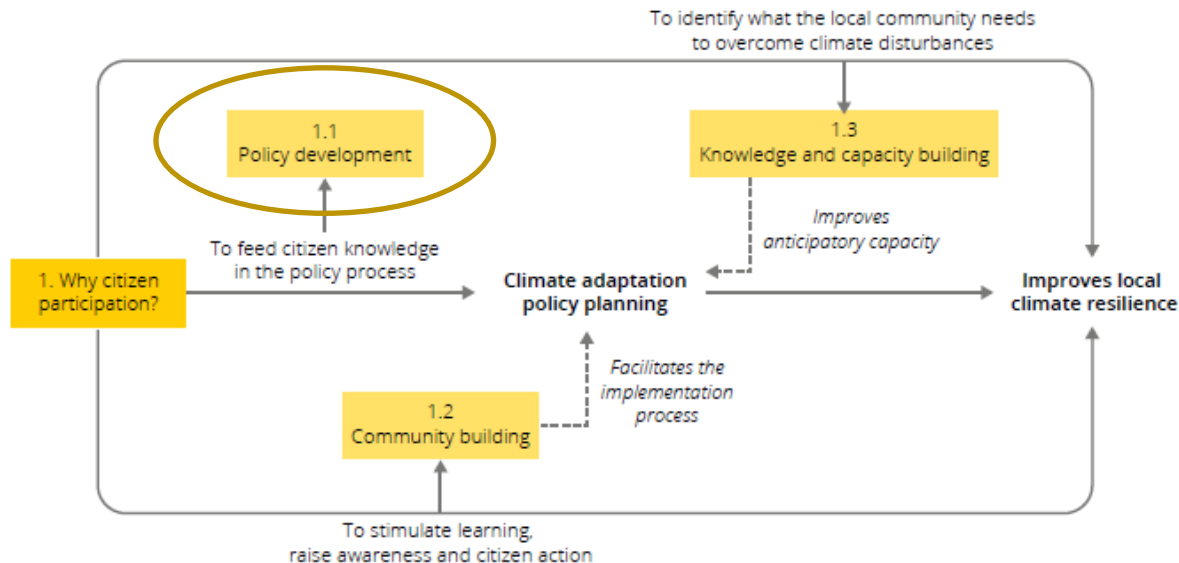


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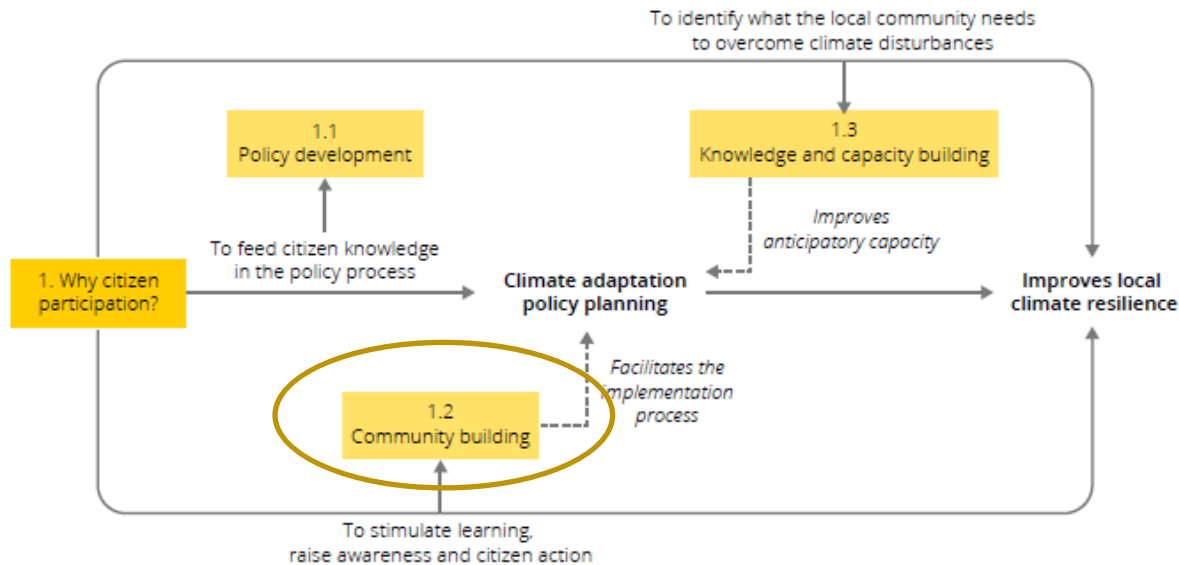


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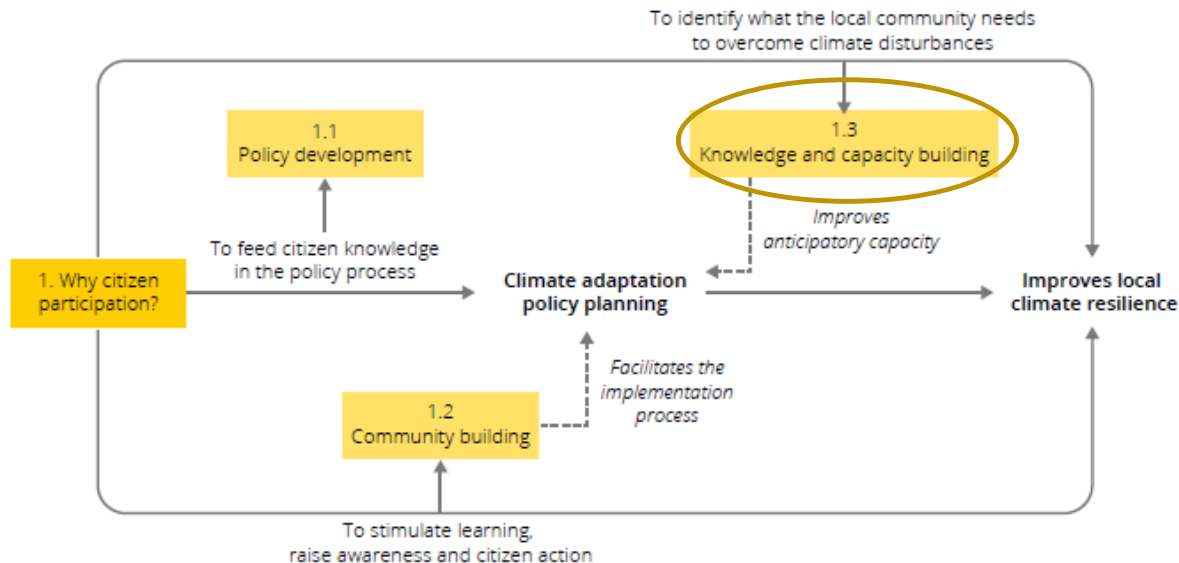


Figure 5. Overview of Chapter 1.

2 Who to involve?

With the participation goal in mind, organizers can start thinking about who to involve in the participatory foresight exercise. This is the next step of the preparation phase. The current Chapter helps project organizers to identify relevant stakeholders and looks into the question of which participants to invite when (section 2.1). We also give practical tips on how to get people motivated to participate (section 2.2) (see Figure 7).

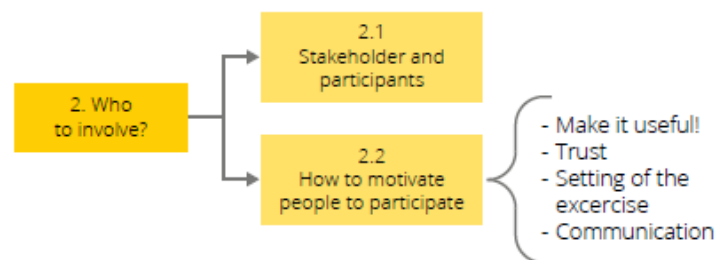


Figure 7. Overview of Chapter 2.

2.1 Stakeholders and participants

Stakeholders

Stakeholders are local people with an interest in, or whom are influenced by climate impacts in a particular city, neighborhood, village or rural area [31]. Traditionally, local governments are primary actors when it comes to developing and implementing adaptation measures to protect the community from droughts, flooding, storms or heat stress. Yet the efforts of multiple local stakeholders, among which citizens, is needed to truly enhance climate-resilience. Step one is to involve them in thinking about appropriate climate adaptation measures [8]. Relevant stakeholders in this toolkit therefore include **at least local citizens** and optionally municipal workers (e.g. policymakers), local NGOs, companies and (scientific) experts. Ideally, the process is initiated by or with key local actors. It is very useful to work with local ‘connectors’ or hubs, both in the municipal organization and in neighbourhoods (e.g. community centres or similar meeting spaces, social workers, social entrepreneurs, etc.).

Participants

When relevant stakeholders are identified, the next step is to decide who to invite for the exercise, which depends on the participation goal. For instance, goals related to *community building* and *knowledge and capacity building* benefit from a diverse group of citizens in order to gain a realistic understanding of knowledge needs in the community. Participation exercises with these goals ideally attract participants that are highly diverse in professional background, interests, cultural background, age, gender and experiences. The input of heterogeneous groups of participants is also valuable in early phases of *policy development*, when the problem definition and the question of what a climate-resilient future would look like is still flexible and open for debate [32, 33, 24]. Participatory exercises that engage a diverse group of participants should be designed in such a way that people do not necessarily require specific knowledge, meaning everyone should be able to participate and share their voice [18].

Some participation practices require additional technically sound or expert knowledge. For instance, there will be phases later in the *policy development* process where more expertise is needed to develop concrete and effective adaptation plans (see page 59 for more information on various degrees of citizen participation). Also projects focused on *knowledge and capacity building* may require more expert knowledge to design climate information that fits the local needs. Organizers may then choose for skewed representation [14].

2.2 How to motivate people to participate?

Although a diverse group of participants is often preferred, participatory exercises usually attract the same groups of people – middle-aged, high-income, interested in sustainability and/or with a strong commitment to the neighborhood [4]. It requires more efforts to address those without any interest in climate-related issues and those who lost trust in authorities. At the same time, not everyone is able to participate in person due to a lack of time, money, or mobility [31, 25]. Engagement with citizens prior to the exercise helps to gain an understanding of local needs as well as to identify potential obstacles for participation [31]. There are some general principles when it comes to stimulating participation.

> Make it useful!

First and foremost it is important to embed the participatory foresight exercise in people's practices. Knowing that people have diverse priorities, how could the exercise be valuable for them? Experience shows that there are several possible reasons for stakeholders like citizens to participate in foresight exercises. One is that they may want to feed their input in municipal adaptation planning

It is usually short low-key evening sessions in the neighborhood that attract relatively many citizens [15]. Such community gatherings generate a representative idea about people's desires and concerns, raise awareness and provide a platform for discussion. This is particularly useful for participation exercises with goals related to *community building*. Short exercises may however not produce output that is specific enough to feed in policy planning [15]. Longer backcasting workshops (of half, whole or multiple days) obviously generate more detailed and thus useful material for *policy development* [29]. At the same time, long exercises attract less participants, which can make the output less representative [4]. A way to solve this is by conducting **interviews, surveys, or focus groups** during short exercises with a larger group of citizens to get a first idea of their perspectives. If people are not available to attend exercises physically, online surveys can serve as an ultimate way to involve them anyway (see Box 3) [23]. Information collected through interviews, focus groups and (online) surveys can then be analyzed by **data analysis tools** and used as a basis for longer, follow-up exercises with less participants [4]. Particularly for longer sessions it requires thinking on how to compensate participants for their attendance (e.g. with incentives like money or a gift card). It is also important to be aware of the experience that exercises usually take longer than expected. This can result in a tendency to rush the end, which may again have consequences for the usefulness of output [4, 42].

Finally, with regards to **the location** of the participatory exercise, experience shows that people prefer exercises that are organized close to their homes, as it leaves them in their safe space and does not require much travelling. Besides practical reasons, organizing participatory exercises in the area of context (e.g. the local neighborhood or farmland) is also a way for organizers and authorities to their show their willingness to truly engage [15].

> Communication

Creating the right physical setting for participation is one part. The second part is to frame the exercise properly [23].

- Show the relevance of climate adaptation

Although the issue of climate change has obtained increasing attention in the public debate, it is mainly climate mitigation (e.g. the energy transition) that people are aware of and act upon. When it comes to adapting to climate change, there is much less attention to direct action. Especially in Western Europe, many people have not experienced major impacts on their livelihood yet. A lack of urgency could lower the motivation for people to participate in exercises related to climate adaptation. It is therefore essential to first raise awareness with tools that show what their neighborhood, city or farmland could look like in the future under climate change impacts [35, 25]. For instance, the Vrije Universiteit Amsterdam (VU) [36] has organized **guided walks** through

Box 3. Case study example: online visioning

UN Environment's Global Environment Outlook-6 for Youth collected visions on a desired future of more than 1900 young people. Respondents were asked to fill in an online survey where one question was: *'What does your desired future look like in 2050?'* Participants first had to choose at least one SDG that they thought would represent their desired future best. Then, participants were able to freely elaborate on their vision in a blank space. The outcome is a broad idea of how young people globally see their desired future [45].

SUMMARY TOOLS PREPARATION PHASE

- **1. Interviews** (p.19)
 - To gather a first set of citizen perspectives as a basis for visioning exercises
- **2. Surveys** (p.19)
 - To gather a first set of citizen perspectives as a basis for visioning exercises
- **3. Focus groups** (p.19)
 - To gather a first set of citizen perspectives as a basis for visioning exercises
- **4. Data analysis tools** (p.20)
 - To analyze citizen perspectives
- **5. Guided walks** (p.20)
 - To engage with the local community
 - To raise awareness about climate change impacts
 - To let citizens and policymakers meet in an informal way
- **6. Visual maps** (p.21)
 - To raise awareness about how global trends may impact the local context
- **7. Future experiences** (p.22)
 - To raise awareness about future climate change through experiential imagination

Tool 1. Interviews

LEVEL ORGANIZER: ■■■ LEVEL PARTICIPANT: ■■■■

DURATION: 30-60 minutes

What?

Project organizers can conduct interviews to get an understanding of the local context. The process of conducting interviews can contribute to trust building and help create an opening when participants need to be recruited for the actual participatory exercise.

When?

In the preparation phase.

How?

Questions can be on experiences of climate change impacts like heavy rainfall events or extreme droughts and how they affect the people's daily life [11].

Questions can also be on desires for the future. Projects with limited resources can use these citizen visions as a basis for participatory visioning exercises [15]. This makes interviewing a tool to represent a larger group of stakeholders in visioning exercises without the need to physically attend the exercise.

For more information about interviews, see [11 – p.161 & 162 for example questions]

Tool 2. Surveys

LEVEL ORGANIZER: ■■■ LEVEL PARTICIPANT: ■■■■

DURATION: 15-30 minutes

What?

Project organizers can conduct surveys to get an understanding of the local context. Online surveys can reach a broader and diverse group of citizens. They do not necessarily require personal contact. A lack of direct contact between organizers and participants means there is less trust building.

When?

In the preparation phase.

How?

Questions can be on experiences of climate change impacts like heavy rainfall events or extreme droughts and how they affect the people's daily life [11].

Questions can also be on desires for the future. Projects with limited resources can use these citizen visions as a basis for participatory visioning exercises [15]. This makes surveys a tool to represent a larger group of stakeholders in visioning exercises without the need to physically attend the exercise.

For more information about surveys, see [11 – p.161 & 162 for example questions]

Tool 3. Focus group

LEVEL ORGANIZER: ■■■■ LEVEL PARTICIPANT: ■■■■

DURATION: 1-2 hours

What?

Project organizers can conduct focus groups to get an understanding of the local context. Focus groups are particularly effective to stimulate group discussions and is due to the personal character a good way for local stakeholders to get to know each other and build trust. Focus groups usually include a maximum of about 10 participants.

When?

In the preparation phase.

How?

Questions can be on experiences of climate change impacts like heavy rainfall events or extreme droughts and how they affect the people's daily life [11].

Questions can also be on desires for the future. Projects with limited resources can use these citizen visions as a basis for participatory visioning exercises [15]. This makes focus groups a tool to represent a larger group of stakeholders in visioning exercises without the need to physically attend the exercise. They do however need to physically attend the focus group.

For more information about focus groups, see [11 – p.161 & 162 for example questions]

Tool 6. Visual maps

LEVEL ORGANIZER: ■■■ LEVEL PARTICIPANT: ■■■

DURATION: 30-60 minutes

What?

Visual GIS maps (e.g. 2D, 3D, fly-over) of the neighborhood, city or rural area under different (climate) scenarios can be used as a tool to imagine plausible future situations. The map can contain any information about climate change impacts and how it affects the local area – from flooding to extreme heat. Visual maps make use of people's emotional connection to the place and as such bring climate issues to life.

When?

In the preparation phase.

How?

Maps with the effects of climate change (e.g. the impact of an absence of trees in times of heat stress) on posters in the neighborhood or in local newspapers to raise awareness about the importance of climate adaptation.



Adaptation plans under alternative local climate scenarios. Source: [35].

For more information about visual GIS maps, see [35].

3 Which foresight methods to use?

The term *foresight* is used by research scholars to cover a wide range of methods for dealing with the future [55]. In this Chapter we discuss different foresight methods and how they can be useful particularly in thinking about local futures that are climate resilient. Which methods to use depends on how you want participants to interact with the future.

Do you want participants to ...

- ... *explore* what the future may bring, for instance to raise awareness about climate change or to prepare for possible impacts? **Exploratory scenarios** (section 3.1) describe how *plausible* futures may evolve under several drivers of change like temperature rise, extreme weather events and economic growth (see Figure 9, left).
- ... *shape* a more desirable future? **Visioning** exercises (section 3.2) invite citizens to think about what their city, neighborhood or farm would ideally look like in a climate-resilient state (see Figure 9, right – the focus point).
- ... *find concrete options* to achieve a more desirable future? Citizens can develop their own **pathways of actions** (i.e. backcasting) (section 3.3) that lead to more a climate-resilient and sustainable city, neighborhood or farmland (see Figure 9, right – the dotted lines).

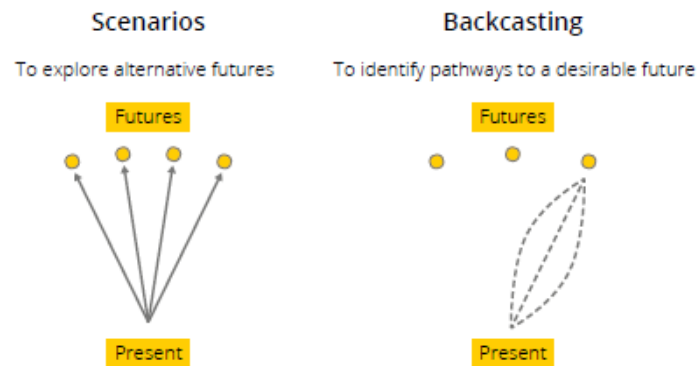


Figure 9. Different perceptions of the future – scenarios and backcasting methods. Source: [29].

In the next sections, we discuss how these three categories of foresight methods can be used in participatory practices with different participation goals.

Experience shows that organizers often use a combination of foresight methods in their participatory exercise (see Figure 10). In [section 3.4](#) we suggest different combinations of foresight methods and explain how they complement each other.

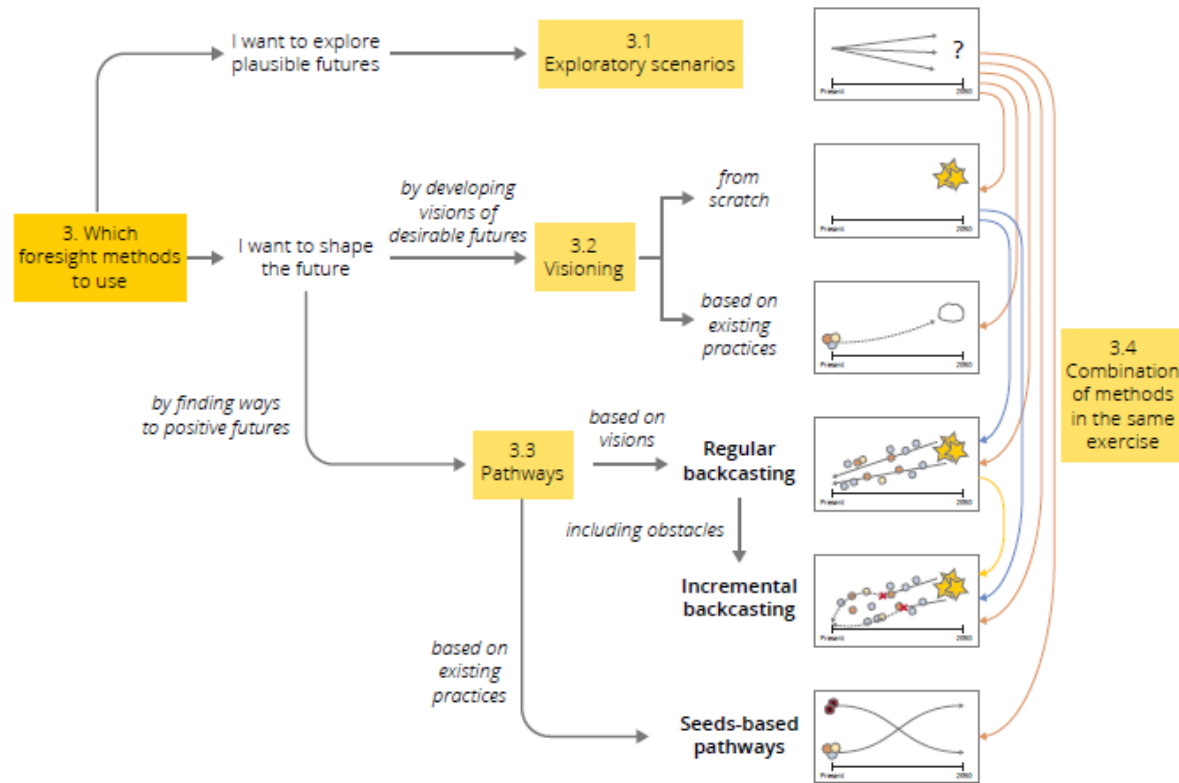


Figure 10. Overview of Chapter 3.

3.1 Exploratory scenarios

3.1.1 What are exploratory scenarios?

Scenarios have an explorative character: they describe a range of alternative plausible futures – future situations that *may* happen (see Figure 11). Exploratory scenarios work from the basic understanding that it is not possible, in complex systems under uncertain futures, to predict the most likely future. Instead, with multiple scenarios one can explore the ‘what if’ question: what happens to our plans and strategies under very different assumptions about future trends like climate change, demography, lifestyle and technology – creating completely different, challenging scenarios? [54].

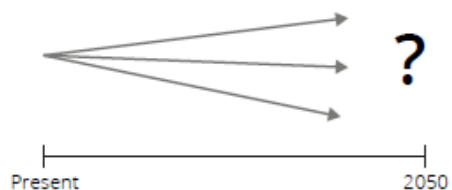


Figure 11. Exploratory scenarios of plausible futures.

3.1.2 Why use exploratory scenarios?

This toolkit specifically focuses on building desirable, climate-resilient futures – be it a city, neighborhood or farmland. In the process of designing a desired image of the future, exploratory scenarios are useful to reveal how concrete action plans can potentially be affected by plausible trends of drivers of change [40]. Exploratory scenarios are thus particularly useful in combination with other foresight methods like visioning and backcasting.

In this section we discuss how exploratory scenarios can be a valuable foresight method in participatory exercises with different participation goals.

- **Participation goal #1: Policy development.** Exploratory scenarios to assess the feasibility of visions and pathways of change.

When the goal of a participatory exercise is to use citizen knowledge in policy processes, it can be valuable to consider to what extent their input (e.g. desired visions - [see section 3.2](#), or pathways of concrete measures that lead to these visions - [see section 3.3](#)) is feasible and effective under different socioeconomic and climate scenarios [5, 41, 42, 24]. For instance, scenarios can shed light on questions like: *what would extreme low/high water levels mean for proposed climate adaptation plans in the neighborhood?* [29]. This way desired visions and pathways and subsequent climate action plans become more resilient in the face of future uncertainty [44].

The action phase / during the exercise

4	How to use foresight methods?	35
4.1	How to use exploratory scenarios in participatory exercises?	36
4.2	How to conduct a visioning exercise?	41
4.3	How to conduct a regular backcasting exercise?	49
4.4	How to conduct an incremental backcasting exercise?	54
4.5	How to develop seeds-based pathways?	56

As soon as the goal of participation is formulated, participants are invited and relevant foresight methods are chosen, the exercise can finally start – *the show begins*. We gently move from the preparation questions of *why* (Chapter 1), *who* (Chapter 2) and *what* (Chapter 3) to the question of *how* to use the foresight methods in practice (Chapter 4).

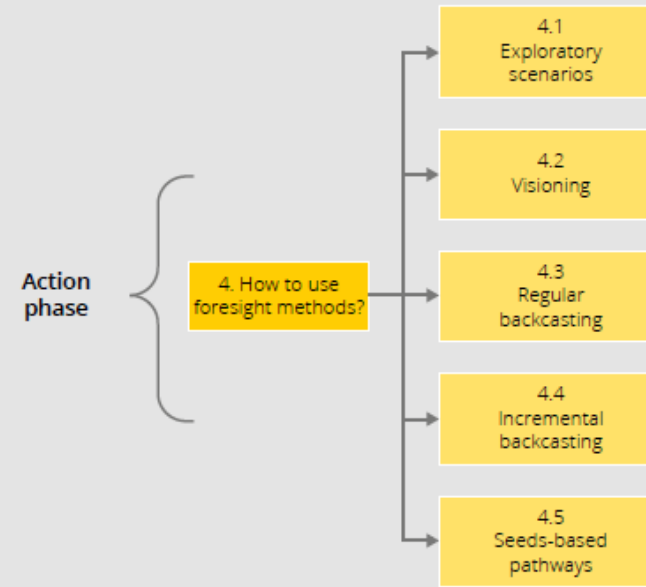


Figure 18. Overview of Chapter 4.

4 How to use foresight methods?

This Chapter provides a step-by-step guidance on how to use exploratory scenarios (section 4.1), followed by visioning (section 4.2), regular backcasting (section 4.3), incremental backcasting (section 4.4) and finally seeds-based pathways (section 4.5) (see Figure 19).

Before start working with any of these foresight methods, it is important to first determine a relevant time horizon and geographical area to focus on [20, 25, 40] (see Box 7).

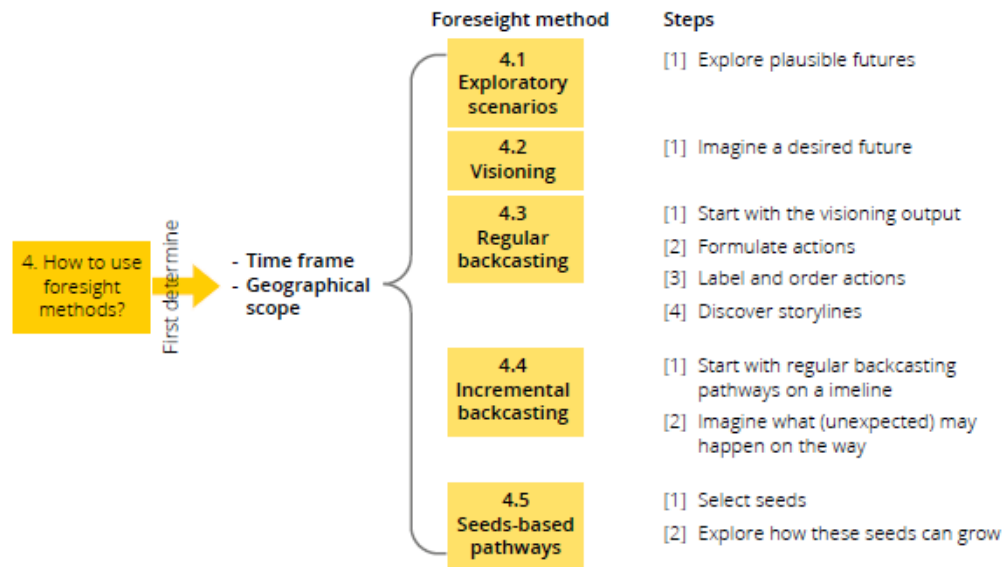


Figure 19. Overview of Chapter 4.

Box 7. Determining the scope of foresight methods

Time horizon

Since the topic of climate resilience inherently links to the future, foresight exercises demand a long time frame (25-50 years) as focus point: adaptation measures to protect local communities must be effective not only tomorrow but also under climate change impacts that occur in 2070. Similarly, a long-term focus is needed since transitions of neighborhoods, cities or rural areas to become climate-resilient and sustainable take many years of dedicated efforts and actions. For most citizens a time frame of up to 40 years is still relevant as it is roughly their working life or that of their children [7].

A short/medium time frame (0-25 years) enables participants to zoom in on concrete adaptation actions that lead to more resilience [20]. Identifying concrete actions is particularly important for participatory exercises with a *policy development goal* – exercises that focus on the far away future only may produce output that goes beyond the interest of policy makers and therefore risk the chance of becoming more of a theoretical exercise rather than a basis for policy [4, 29]. A short/medium time frame is also important for participatory exercises with a *knowledge and capacity building goal* as to focus on the question of what climate information or support would be needed when. Wardekker et al. [4] therefore suggest to use multiple time frames for thinking about climate resilience and sustainability.

Geographical scope

In the light of this toolkit, future thinking requires a focus on the local level (e.g. city, neighborhood, river basin, farm) to make output relevant for citizens and policymakers [20, 24, 27]. At the same time global and national scenarios play a role as context material to assess local visions and pathways on their feasibility [20].

4.2 How to conduct a visioning exercise?

Step 1: Imagine a desired future

> Option 1: *Freely!*

One way to imagine a desirable future is for participants to freely develop visions based on their own imagination – so not guided by questions or using existing examples as inspiration source. Real imagination that deliberates the mind from present-day constraints happens when people are stimulated to use all their senses [32, 38]. Creative tools like **Predict Future Headlines** and **creative collage** (see Figure 21) stimulate imagination in a playful way and invite people to freely develop their own desirable future [31, 32, 25, 15]. Creative and artistic tools also set the tone for a relaxed informal sphere in which participants feel safe to be open-minded [31].

> Option 2: *A bit more guidance*

- Questions about the past
Sometimes participants need more guidance to be able to imagine the future. One way is to ask guiding questions during the exercise. Visions reflect a future state, yet experience shows that citizens often build their visions on memories and experiences from the past [52]. Therefore, instead of asking *‘What will happen to us? How should we respond?’*, organizers could ask participants *‘What do we need to carry through with us? What should we tend to?’* [19]. There may also be problematic elements in the present that citizens would like to see change in the future. Possible questions to get participants started are: *‘Given the trends in our region/city/area – what do we value, what do we see as problematic, and what would we really like to achieve here? Who live and work in the neighborhood, what are their desires? What are vulnerable groups and how to help them? What is already present and what needs improvement? What is missing and what should be added/removed?’* [25, 4]. Answers on these questions can be written down on **post-its** to structure the output of the group discussion.
Organizers can also choose to use a visualization tool called **Photovoice**. It asks participants prior to the workshop to make pictures of places or issues that are personally relevant [28] which can be further discussed and elaborated on during the visioning exercise.



Figure 21. Collages as a tool to write down characteristics of a desirable neighborhood in a visioning exercise [4].

Box 8. Case study example: free visioning

ToolSust organized a one-day workshop in Stockholm. Firstly, facilitators explained the exercise to participants after which they were asked to travel ahead in time and imagine that they had arrived in 2040, where Stockholm was more sustainable than now (i.e. imaginary visioning). They were asked to describe future daily life. Images were used to stimulate their imagination. After some reflection time participants were asked to write down their impressions.

After this visioning step, the facilitator asked participants to share one of their ideas, put it on labels on the wall and cluster them accordingly. The group discussed on any missing ideas. Then participants were asked to prioritize ideas on highly valued (green dots) or unpopular. The result was a shared vision of what a sustainable city in 2040 should look like in the form of clustered ideas.

- Existing good examples

Additional inspiration for imagining a positive future can come from sustainable local initiatives that already exist in a different context (see Figure 22). These *seeds* or ‘pockets of the future’ can serve as examples for participants to identify certain elements, skills or objectives that they would like to see in their own context too [46, 19, 12]. Participants can come up with their own examples of good initiatives, organizers can prepare cards with examples (see Figure 23), or participants can be inspired by existing databases of good examples like the Cities 100: an annual list of the 100 best urban climate change solutions [49].

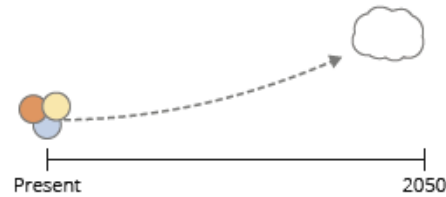


Figure 22. Seeds-based pathways.

The **Future Wheels** technique is a way for participants to envision how individual or innovative combinations of seeds can lead to potentially interesting futures in their neighborhood, city or farmland [19]. For instance, an initiative like a community garden could improve the quality of the neighborhood and give job opportunities while at the same time it helps to adapt to climate change [28, 19, 7].

- Existing citizen narratives

In the preparation phase we discussed the possibility of conducting **interviews, surveys or focus groups** to collect citizen narratives and use them as a basis for visioning exercises. **Data analysis tools** can be used to categorize and structure the large amount of data that is collected with these tools. Categories of citizen narratives can be turned into **dimension cards** that participants can use as inspiration material during the visioning exercise.

Output examples

The very least result of visioning exercises is that the *process* builds awareness among participants about alternative futures. The following quote illustrates that the value of such creative processes should not be underestimated [53, p. 104]:

*“Valuable ideas and experiences cannot be easily quantified, are not readily susceptible to planning [...]. Artistic research without a precise goal, loafing as method, claiming non-productive time, extended work processes and slow productions – all are forms of an alternative approach to time that allow for **meaning**”*



Figure 23. Seeds cards as inspiration source [51]

Creative visioning is an accessible method and effective way to attach meaning to current trends that do not bring us a climate-resilient future and that there are alternatives [29].

In terms of the *product* or content, visioning exercises generate diverse images of the future.

- > **Post-its** can be used to write down concrete aspects of future visions.
- > **Collages** and **Predict Future Headlines** are both creative ways for participants to visualize their desires for the future.
- > **Art designs** of visioning output can be developed by professional artists that attend the exercise too.
- > Poetry or spoken word are a verbal way to communicate visions.

SUMMARY VISIONING TOOLS

- **Tool 8. Poker design cards** (p.43)
To provide participants with inspiration of a better future (based on citizen narratives)
- **Tool 9. Predict Future Headlines** (p.44)
To let participants develop personal visions in a playful, creative way
- **Tool 10. Creative collage** (p.44)
To let participants freely visualize alternative futures
To facilitate interaction and collaboration between different groups of stakeholders (e.g. citizens and policymakers)
- **Tool 11. Photovoice** (p.45)
To invite participants to make photos of places that are personally relevant as a basis for visioning
- **Tool 12. Future Wheels** (p.45)
To use local sustainable initiatives as a basis for visioning by imagining them their dominant version and exploring the wider impacts on the local context
- **Tool 13. Post-its** (p.46)
Allround tool to structure thoughts and ideas during all sorts of visioning exercises
- **Tool 17. Art designs** (p.47)
To visualize visioning output in an artistic way

Tool 8. Poker design cards

LEVEL ORGANIZER: ■ ■ ■ LEVEL PARTICIPANT: ■ ■ ■

DURATION: 30-60 minutes

What?

Poker design cards can be used by participants to explore futures based on local citizen narratives collected in early interviews, surveys or focus groups.

When?

In participatory visioning exercises.

How?

Citizen can also narrate about more desirable futures with regards to their local context. Visions of a better future can also be used as content of poker design cards as inspiration source for participants when developing their own visions.

Wardekker et al. [4] focused in Bergen (Norway) on the main challenge to make Bergen climate-resilient in 2050. The visioning exercise started with randomly allocating people to one of three broad visions of Bergen in 2050: control the climate (*a 1.5 degree city*), live with the climate (*let it rain*), or make the most of the climate (*high-tech haven*). These were prepared in advance based on citizen interviews but left broad with only a title, photo and short mission. Participants were then asked to add more detail using cards with important elements that lend Bergen a sense of place according to interview findings. Participants were free to debate and vote for five cards to add to their vision. Poker design cards have proven to generate lively discussions as well as let the group get used to each other's viewpoint.

1 A compact city	5 A climate science city	9 Freeing the waterways	13 A city linked to nature
2 Climate-proof buildings	6 Resilient Bergensers	10 Safe from climate impacts	14 Diverse and international
3 A port city	7 A historical city	11 Rain-friendly spaces in the city	15 Green spaces in the city
4 Walkways and cycle-ways	8 A local democracy	12 Busses, boats and 'bybanen'	16 Blank card

Dimension cards for visioning exercises.

For more information about poker design cards, see [4].

Tool 9. Predict Future Headlines

LEVEL ORGANIZER: ■■■ LEVEL PARTICIPANT: ■■■

DURATION: 30-60 minutes

What?

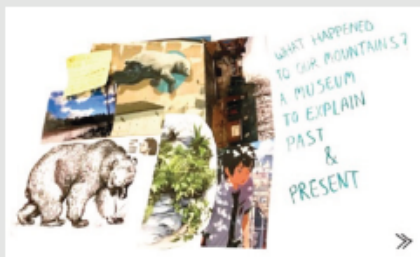
This accessible visioning tool invites participants to time-travel to a celebrative future moment in which the neighborhood, city or farmland has turned into a climate-resilient and sustainable place. This tool stimulates participants to expand their sense of time and challenges them to articulate their desired vision with a headline [31].

When?

In participatory visioning exercises.

How?

Participants develop an imaginary newspaper headline as if it was that moment in time. They can use creative material from journals or magazines to visualize their headline.



Predict Future Headlines. Source: [31].

For more information about Predict Future Headlines, see [31].

Tool 10. Creative collage

LEVEL ORGANIZER: ■■■ LEVEL PARTICIPANT: ■■■

DURATION: 30-60 minutes

What?

Collage is a creative visioning tool to structure brainstorm sessions in groups and turn loose ideas about the future into physical output [38]. The tool is easily accessible for people of all ages and cultures and gives a fair chance to people without a dominant voice to share their ideas too [31]. Collages can be a basis for deeper reflection on what actions are needed to achieve the desirable future, for instance in backcasting exercises.

When?

In participatory visioning exercises.

How?

Collages can be made by participants from scratch or designers can develop a template. One case worked with designers that visualized three thematic templates of a future neighborhood: water safe, community-oriented and innovation-oriented [15]. These themes were based on citizen narratives that were collected prior to the workshop [11].

During the workshop, participants can elaborate on these broad visions by using creative material like pictures of trees, people and electric cars to come to a rich detailed vision in the form of a collage. Some out-of-the-box images can be provided to let people get out of their habituated reasoning and stimulate innovative ideas [15].



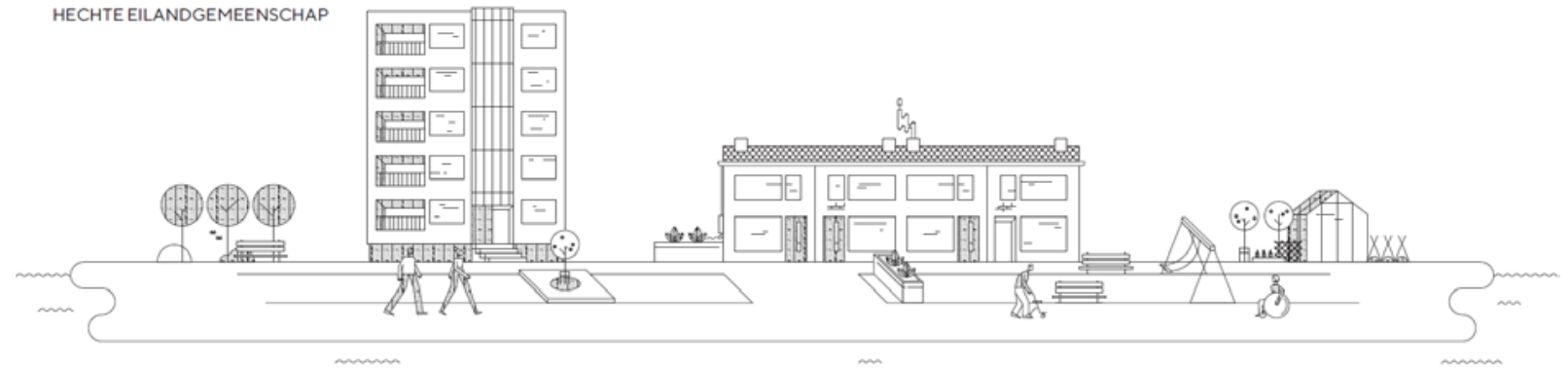
Collage template. Source: [15].

For more information about creative collage, see [15 & 31].

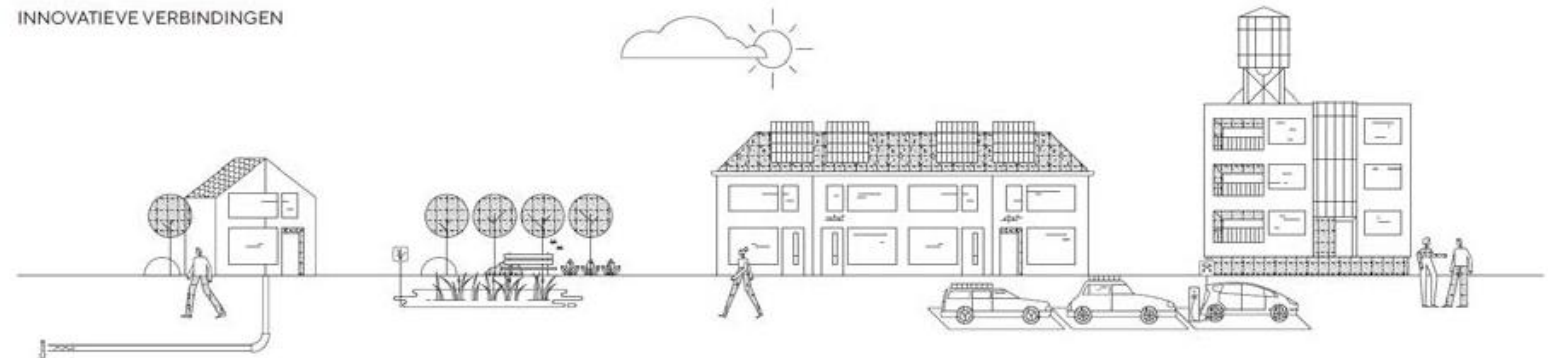
3. Application example

Futuring for Dordrecht ‘Vogelbuurt’

‘Close-knit island community’



‘Innovative connections’

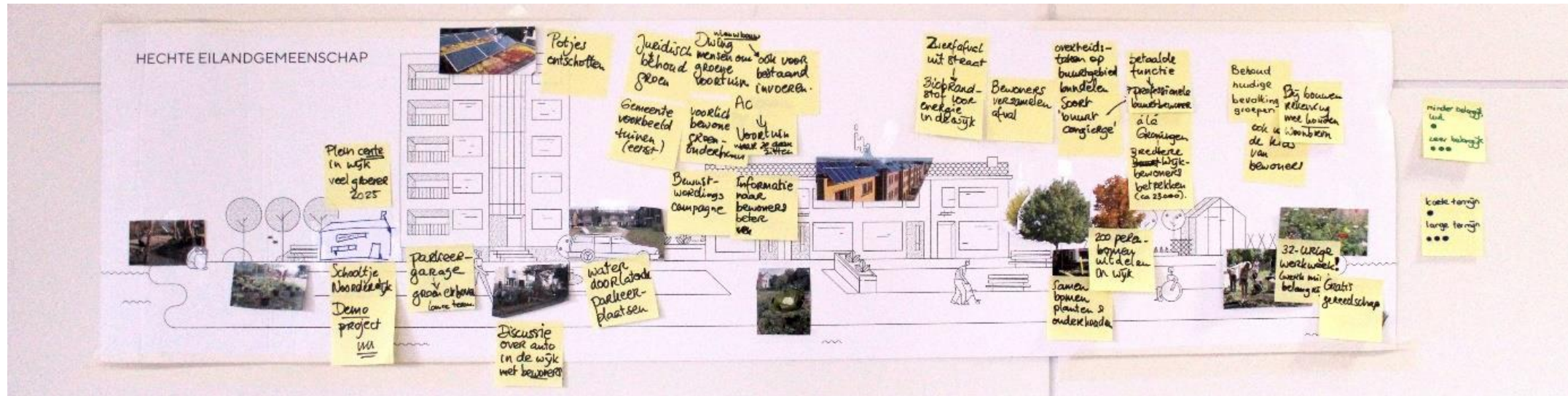
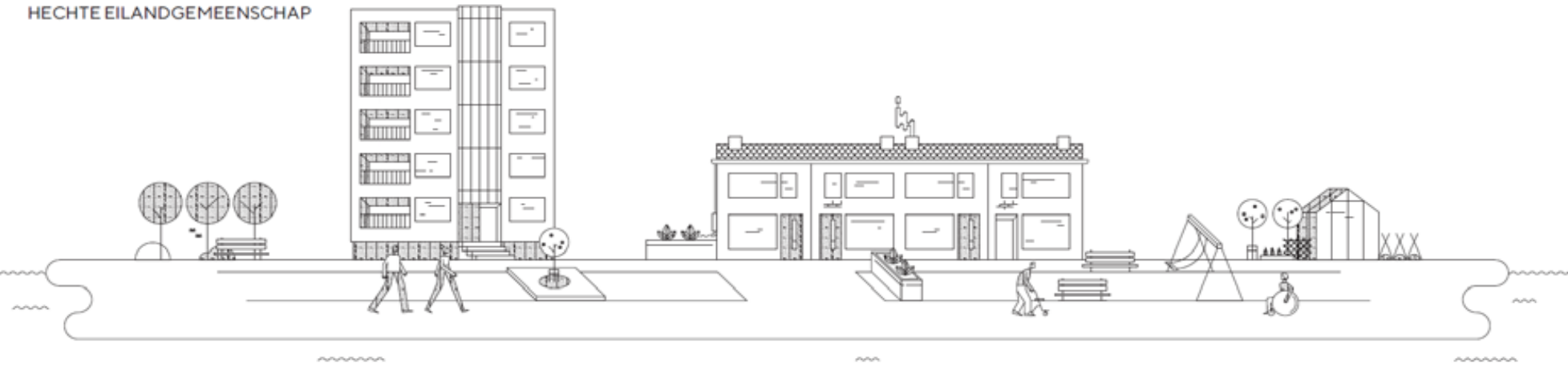


<http://dspace.library.uu.nl/handle/1874/395211> Marschutz et al. (2020)

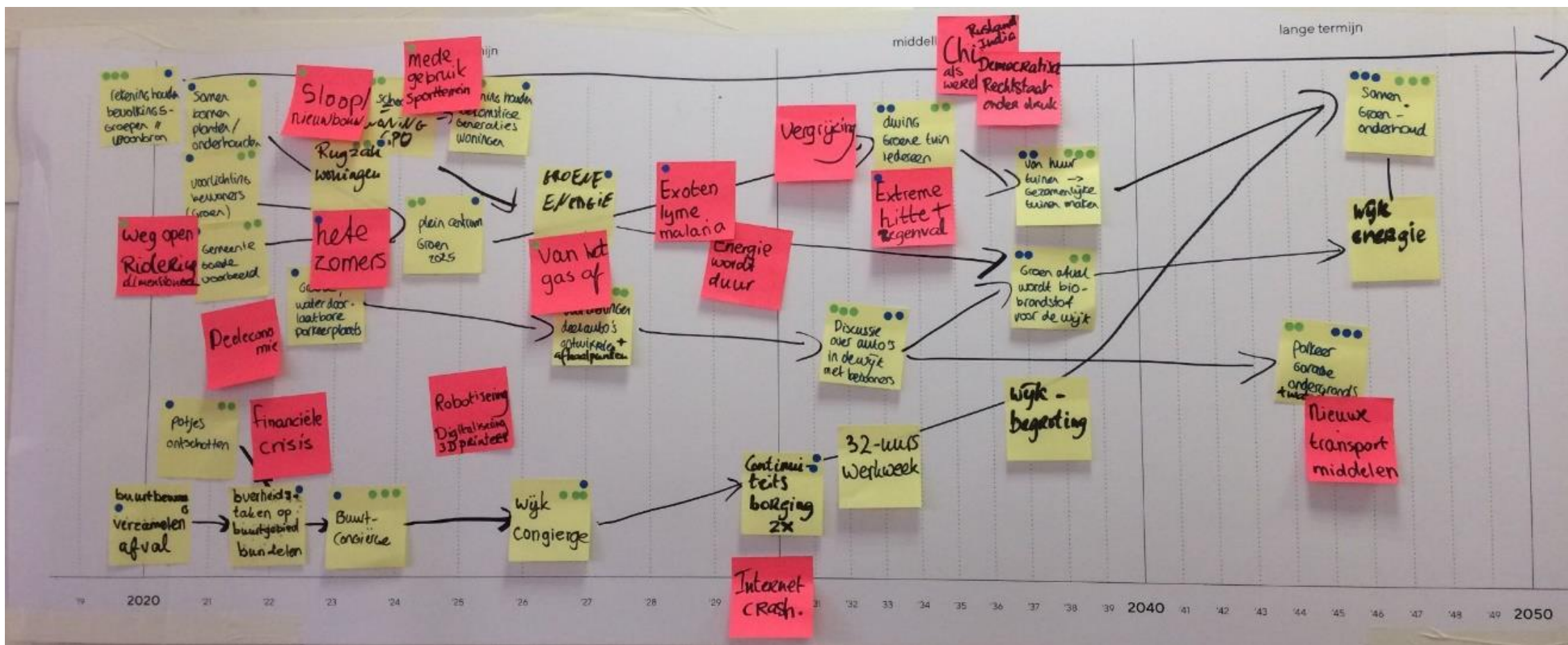
Close-knit island community visioning



HECHTE EILANDGEMEENSCHAP



Close-knit island community backcasting



Outcomes of futuring workshop for close-knit island community

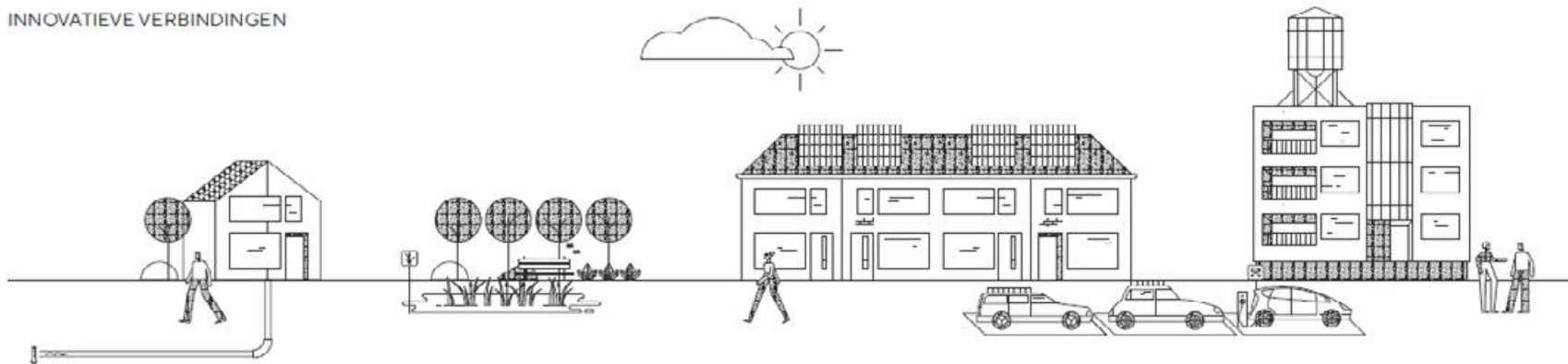


- Community energy, community green, community cooperation
- Important role for municipality in the beginning to initiate and activate several short-term activities
- Future challenges: linking funds of different municipal departments; decentralization of tasks, ownership for community

Thank you for your attention!

The link to the toolbox can be found [here](#)

INNOVATIEVE VERBINDINGEN





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