TRANSITION-SCAPES

Navigating the in-between

Urban curators connecting institutions and communities

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Societal challenges like the energy transition are complex, requiring technological innovations to fit seamlessly into mostly existing neighbourhoods. The willingness of residents to embrace these changes is crucial to their success.

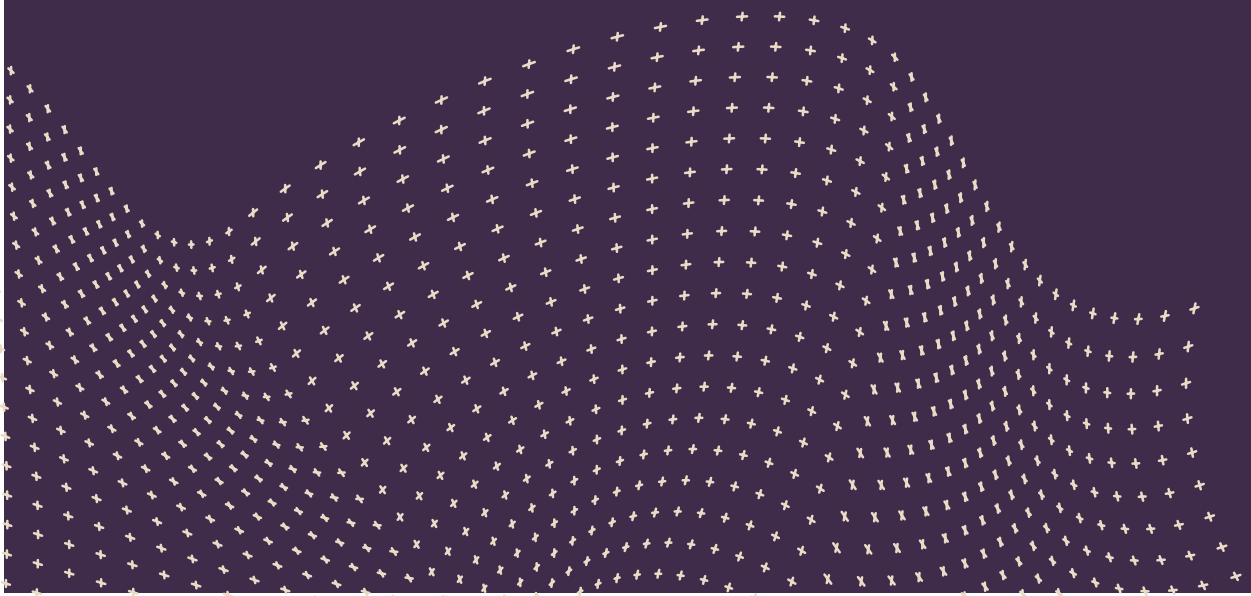
Architects, designers and artists are key players in helping people understand tomorrow's energy systems. They bring expertise and awareness of the complex processes behind designing the energy transition which involves technology, space, people, money and time. Working at different levels, they understand how to navigate the needs of institutions while engaging the community from day one and facilitating bottom-up initiatives.

However, these perspectives can sometimes clash. For example, an institutional top-down, technical approach often doesn't align with everyday community life or civic initiatives. As a result, these professionals are moving beyond their traditional design roles to become urban curators that bring together experts, institutions and residents to collaboratively explore new systems and find holistic solutions.

Transition-scapes are interactive tools that assist urban curators in making sustainability transitions fairer, more inclusive, and with greater chance of success. These tools, which can be interactive city models, annotated landscapes or sensory experiences, serve as testing grounds for future scenarios. They encourage people to have informed discussions, share experiences, build partnerships and explore different futures together.

The Transition-Scapes research project examined the potential role of these interactive tools in helping orchestrate the energy transition and what it takes to design and embrace them effectively.

DEFINITIONS



Transition-scape
A transition-scape is an interactive tool that helps urban curators guide communities and institutions in exploring, discussing and tackling big challenges like the energy transition. It's not a stand-alone tool; it's meant for group conversations led by an urban curator. Each transition-scape adapts to its unique context, evolving with the people and places it serves, and visualises quantitative and qualitative data to reveal hidden information and experiences. Its goal is to foster long-term dialogue, reflection and collective planning.

Urban curators
An urban curator is a professional—often with a background in design, architecture, the arts or social work—who organises, mobilises and mediates local change efforts. Their work responds to local needs and a desire to contribute to the common good. Urban curators find opportunities, foster collaborations and use creative methods to facilitate dialogue between communities and institutions. Though independent, they rely on various institutions for funding and resources.

Exploration
Exploration refers to a collaborative, open-ended process where communities and institutions tackle complex challenges with the help of an urban curator. Unlike explanation, it doesn't aim to teach or persuade. Instead, it imagines alternative futures and scenarios to achieve them, happening in real-life settings. At its core, it is about connections and relationships.

CASE STUDIES & PROTOTYPES

CASE STUDY #1

Huis van de Toekomst

Huis van de Toekomst (House of the Future or HvdT) is a workshop for residents, artists and professionals to prepare for the energy transition. HvdT started from The Human Power Plant, an artistic research project initiated by artist Melle Smets in 2017, which tests scenarios where human-produced energy powers human activities. Established in 2019, HvdT is a collaboration between The Human Power Plant, Bakkerij De Eenvoud and Academie voor Beeldvorming. It's located in the Bospolder-Tussendijken neighbourhood in the west of Rotterdam, in the J.J.P. Oudblok, a neglected 1920s social housing block on Visserijplein, the main neighbourhood square.

HvdT aims to shift the idea of 'energy' from technical to social, promoting a grassroots energy transition. In 2024, HvdT became an energy community supported by the city of Rotterdam, housing corporation Havensteder and energy supplier Eneco. In empty ground-floor apartments, neighbourhood initiatives – facilitated by HvdT – experiment with human-powered community building.

The core ideas for a human-powered neighbourhood are cooperation, sharing and learning from the past, each other and nature. Based on this, HvdT focuses on collective kitchens, laundry and food production powered by human energy. Local residents participate in experiments and activities like a community theatre, collective cooking with fire, gardening and cheesemaking. Twice a year, HvdT hosts an Energy Agora, a mini-festival about everyday energy needs for cooking, heating, washing and dressing etc.

How can HvdT be seen by institutions as a serious partner in shaping the energy transition in Bospolder-Tussendijken? What tools are needed to make community dynamics visible, enable collaboration and help both citizens and institutions imagine and build a shared energy future?

The team behind Huis van de Toekomst (HvdT) comprises a diverse group of creative professionals and locals from the Bospolder-Tussendijken neighbourhood in Rotterdam. Photo **Havensteder**

Cooking with fire is one of the human-powered activities that happens in the communal garden of J.J.P. Oudblok. Photo **Frank Hanswijk**

PROTOTYPE #1

Huis van de Toekomst

The interactive tool for HvdT is a digital visualisation of the community building process that can be used by both the community and institutional partners.

The prototype has two main goals:

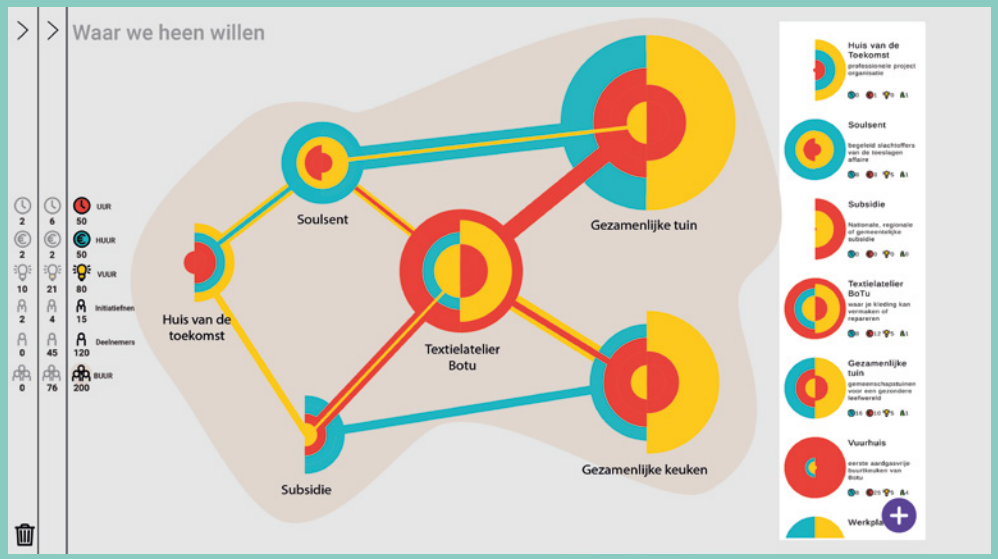
1. **Support community building** It helps community members identify available resources (such as money, time, skills and community interest) and test scenarios for using these resources to start or develop initiatives. The tool aids in negotiation and capacity-building, showing citizens they can make an impact with the resources they have.

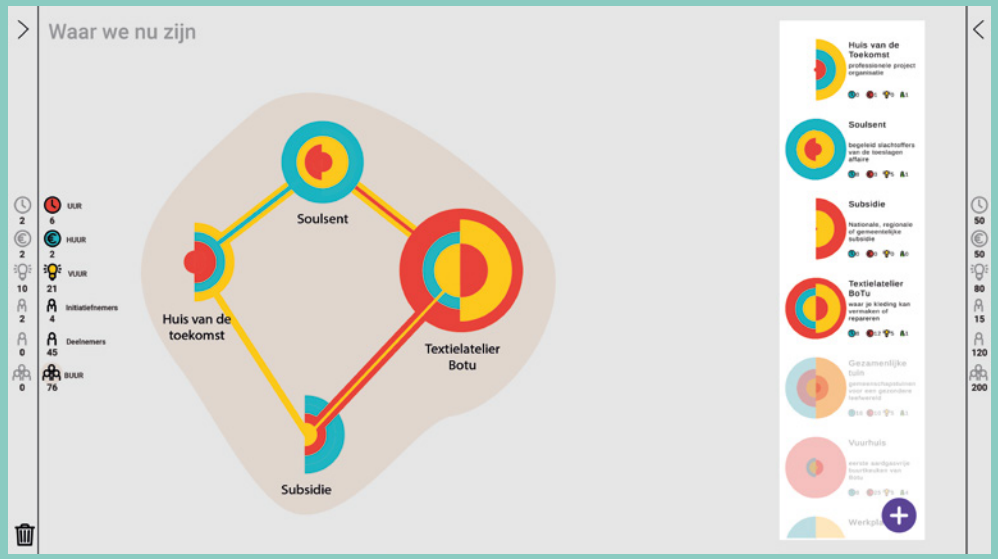
2. **Connect with external parties** It helps establish relationships with institutions and other citizen initiatives to share experiences, scale up efforts and influence local energy policy. The tool helps institutions recognise social and other benefits that are currently not visible in the day-to-way workings of these organisations.

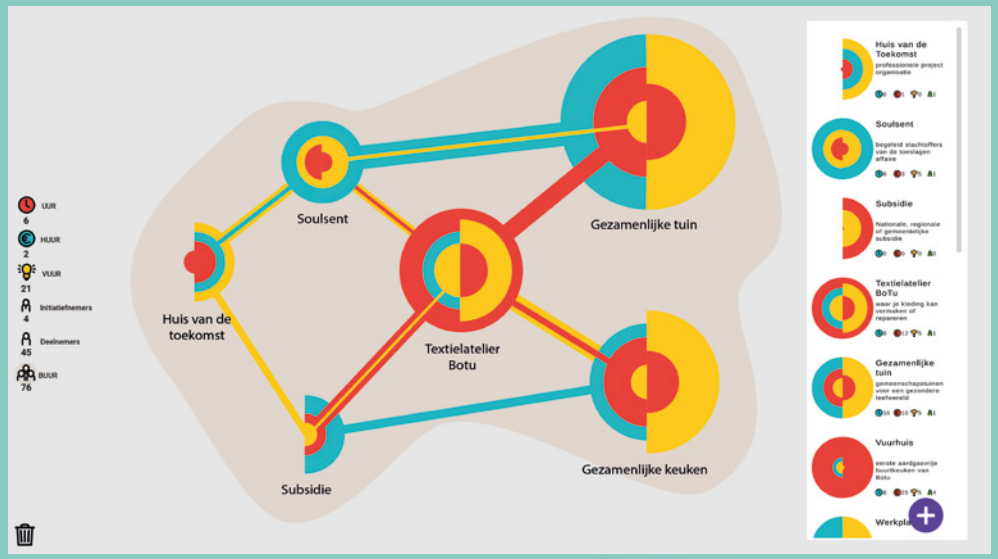
The digital simulation model visualises the network of initiatives in HvdT and connects them through different ‘energies’ flowing through the housing block:

1. **Huur (rent)** Represents financial resources, expenses and income
2. **Uur (hour)** Represents investments or savings in time
3. **Buur (neighbour)** Denotes the sense of community
4. **Vuur (fire)** Represents personal skills, growth and wellbeing

These resources act as inputs and outputs for individual initiatives.
Each initiative needs a mix of inputs that combines money, time, skills and community interest and gives back these same resources to the community and individuals. For example, a language café needs the input of someone with the time and skills to teach. The output is people with better language skills and a stronger sense of community. The visualisation tracks the balance of these resources, with surpluses directed to new initiatives.







Screen shots of the interactive tool for HvdT showing (from top to bottom, left to right):
How we start; Where we are now; Where we want to go.

The prototype was tested at HvdT during the After-Summer School 2024 organised by the Nieuwe Instituut, the Netherlands' national museum for architecture, design and digital culture. Photo **Cristina Ampatzidou**

The digital simulation model does not work alone but facilitates dialogue about and with the community, moderated by an urban curator. For community members, it aids decision-making, reveals untapped resources and encourages new initiatives by showing how small contributions can lead to significant impact. It also highlights vital aspects of community work which are less tangible, like motivation, belonging, care and shared responsibility.

For institutions, the prototype makes the value of community efforts clear. It helps policymakers, housing corporations and energy providers understand what's happening on the ground, recognise contributions and find ways to support these efforts.

CASE STUDY #2

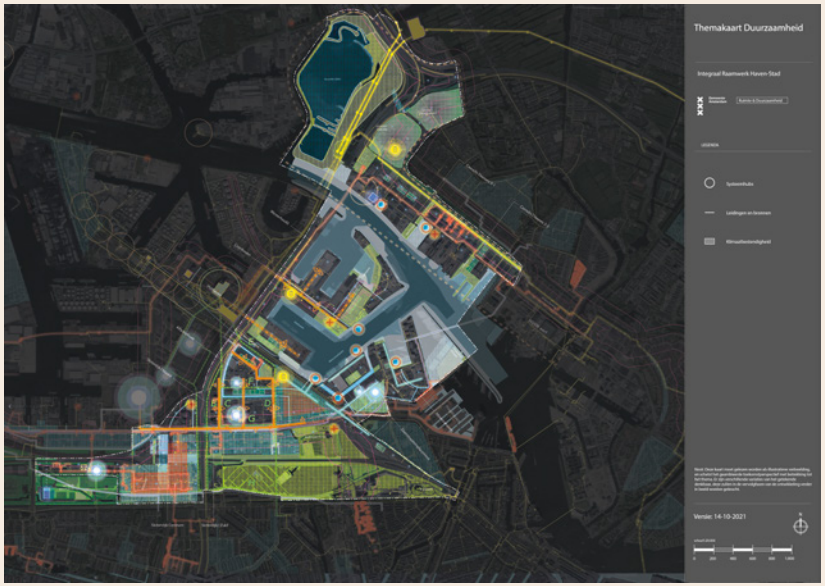
Haven-Stad

Haven-Stad is one of Amsterdam's biggest urban transformation projects, located in the northwest of the city. It covers about 650 hectares of former industrial and harbour areas along the IJ River, including areas like Sloterdijk, Houthavens, Westpoort, Cornelis Douwesterrein and Noorder IJ-plas. It consists of 12 sub-areas and is currently the largest urban expansion in the Netherlands. The plan aims to create 40,000 to 70,000 homes and 45,000 to 58,000 jobs by 2050. Some areas will start building homes from 2029, but construction in Sloterdijk has already begun, and the entire development will continue until at least 2055.

Haven-Stad will be a mixed-use urban area with housing, schools, sports facilities, shops, healthcare and green spaces. The district will be mostly car-free, with limited street parking (only one in five households will have a parking space). It will have many cycle paths, footpaths and public transport options, including a metro line to Amsterdam Central Station.

Compared to HvdT, Haven-Stad is much larger and has a longer development timeline, but it also doesn't have residents yet. The energy issue is different too. Only environmentally friendly energy sources will be used. Haven-Stad will be powered by renewable electricity and heat, making it a sustainable, fossil-free district with energy-efficient homes. The energy system will be mostly locally organised, with electricity and heat generated, stored and distributed within the neighbourhood, but also regional and national sources will be used.

Different technologies and the way they are implemented have a different impact on the urban landscape. For example, hidden infrastructures leave more room for green space and recreation areas but are more expensive to implement and maintain, compared to visible ones. How can we inform future residents about the organisation of the future energy system in Haven-Stad? And how can we understand their preferences for the impact of these various energy infrastructures?



Map showing the sustainability ambitions for Haven-Stad.
Source **City of Amsterdam (2021) – Integraal Raamwerk Haven-Stad**

Multimedia scale model of the Model-City Haven-Stad at Arcam (architecture centre of Amsterdam). Photo **Maarten Nauw**

PROTOTYPE #2

Haven–Stad

The interactive tool for Haven-Stad is an augmented reality interface designed for a growing youth council to discuss the future energy system of Haven-Stad.

The prototype has two main goals:

1. **Involve potential residents** Engage young adults (18-26 years old) in envisioning new ways of living and working with a future energy system in Haven-Stad. Although the exact energy system for 2050 isn't clear yet, informed choices need to be made now. This tool aims to make future residents aware of how the energy system could be arranged, give them a collective voice for their preferences and ideas and encourage ownership of that future.

2. **Engage the municipality** Help the municipality create a shared vision for the future by making informed choices based on feedback from potential future residents.

The prototype uses augmented reality to connect with the multimedia installation Model-City Haven-Stad in Arcam (architecture centre of Amsterdam) and can be used at other public locations with printed maps. Young adults are invited to join a youth council that will grow over time. Instead of being a stand-alone tool, the interactive model forms part of a series of moderated events.

Participants use the model to understand the complexities of a future energy system, exploring what it could look like and how it could be set up in Haven-Stad at three levels: home, street, and neighbourhood. They also receive extra information to help them make informed decisions and refine their ideas.

Transforming our energy system is complicated. Beyond numerous technological choices like heat networks, hydrogen, water pumps, geothermal energy, nuclear power and batteries, this transition involves new ways of thinking and collaboration between governments, residents, social organizations, businesses, energy suppliers and grid operators. At the neighbourhood level, it includes the possibility of collective ownership of the energy system. Are young adults willing to join energy cooperatives, or do they prefer the local government and market to handle things? Where should electricity and heat come from in their future neighbourhood, and how visible should these sources be?

The analysis of participants' answers and feedback can kickstart a long-term exploration led by an urban curator to build a community around a local energy system. For the prototype to be of value, the municipality must position itself as the owner of the question to potential residents and take the results seriously.

Screen shot of the interactive tool for Haven-Stad which visualises different scenarios for the organisation of a future energy system and explains the implications of each scenario.

The Haven-Stad prototype was tested in the entrance hall of the Jakoba Mulderhuis, Amsterdam University of Applied Sciences. Photo **Linda Vlassenrood**

The Haven-Stad prototype was also tested at Arcam. Photo **Linda Vlassenrood**

RAPID PROTOTYPING

Several student groups participated in Transition-Scapes to work on rapid prototyping exercises. For example, Master Digital Design students designed ways to facilitate conversations about energy in Haven-Stad. One team created an installation called Dinner Table Conversations. They found that citizens struggle to visualise and engage with future plans when presented on a map, so they created a more familiar setting, often suited to bringing out heated opinions and sparking discussions: the dinner table.

The table was set with plates for the participants and four trays filled with various 'snacks.' Each tray represented a lifestyle (food, drinks, leisure and shopping habits) with different choices like eating local fish, drinking imported tea, buying vintage clothing or designer sneakers. Participants selected their preferred snacks and placed them on their plates. Based on these choices, the view outside the window changed to show a speculative future view of Haven-Stad. The team analysed these preferences and used Generative AI tools to create different urban landscapes of the future based on these lifestyles. Different choices led to different images.

Design by Hugo Plazas Medina, Akhil Sukumaran, Julia Correia, Lila Nasim Masoumi.

An installation designed by Master Digital Design students. Dinner Table Conversations facilitates conversations about energy in Haven-Stad. Photo **Akhil Sukumaran**

LESSONS LEARNED

Through developing and testing two transition-scape prototypes in Rotterdam's Huis van de Toekomst (HvdT) and Amsterdam's Haven-Stad, we discovered that:

1. Shared visions are crucial to overcome uncertainty

Urban developments often lack a shared, developed vision and image for the future, making it hard for institutions and residents to handle uncertainty and long-term goals. Especially in the energy transition, there lacks investment, literally and metaphorically, in local energy systems. Additionally, intermediaries are needed to unite the diverse needs, ideas and initiatives from residents and institutions and support them in a time of change.

2. Communities thrive on connections and seek recognition

Communities gain strength from their relationships and strive to be recognised by institutions. The HvdT case shows how citizen initiatives share expertise and build collective resilience. These grassroots efforts want to openly communicate their needs, successes and failures to institutions, seeking validation and acknowledgement of their contributions. The prototype for Haven-Stad highlights the importance of local collective action to achieve the energy transition.

3. Effective communication is essential but challenging

Both communities and institutions see effective communication as key for securing long-term resources and commitment. Communities need institutional support and dialogue for the long-term sustainability of their initiatives, but institutions remain reluctant to engage meaningfully.

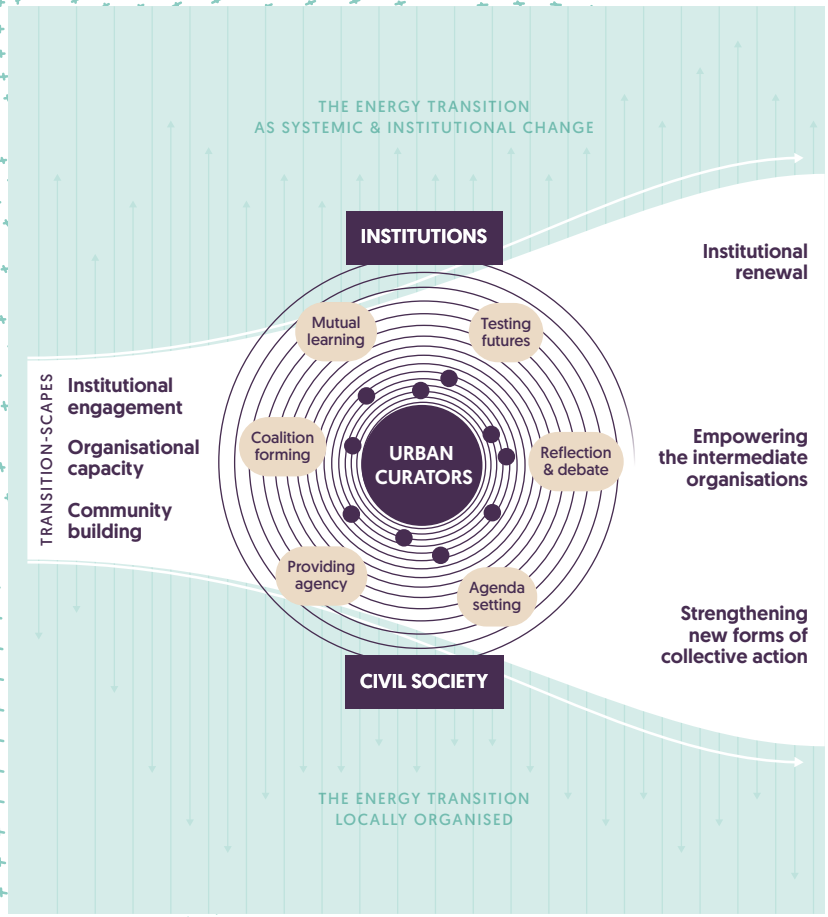
4. Institutional engagement is limited, conditional and requires mediation

Institutions are generally hard to reach and engage with, often only listening through established bureaucratic channels. Despite good intentions, their siloed and risk-averse nature clashes with open-ended exploration. Policymakers urgently need tools to navigate and support community-driven processes, with urban curators, as intermediaries, playing a crucial role.

5. Research fosters reflection and provides legitimacy

The Transition-Scapes research gave HvdT room to reflect on its role as an urban curator and to refine its organisational model, strengthening its position with both the community and institutional partners. Applied research can help community organisations gain recognition and respect from other stakeholders.

TRANSITION-SCAPES MODEL



The Transition-Scapes model shows how urban curators help drive the energy transition by connecting institutions and communities. The diagram departs from the need for big changes at both the systemic level and local level and identifies a middle ground where urban curators can make an impact.

At the heart of the model are urban curators, often with creative backgrounds, who bring people together around shared goals and work with institutions to organise shared opportunities for exploration. Serving as intermediaries, they use various strategies like mutual learning, setting agendas, forming coalitions, empowering others, facilitating reflection and dialogue and testing future scenarios.

Transition-scapes serve three main purposes:

1. **Building communities** They help communities connect, organise, articulate their needs, consolidate their influence and strengthen their sense of belonging.

2. **Engaging institutions** They enable communication and exchange of different opinions between institutions and communities.

3. **Creating legitimacy** They allow urban curators to reflect on their roles, improve their organisations over time, and gain recognition for their efforts.

By helping urban curators with these goals, transition-scapes can support institutional renewal, enhance collective action and empower intermediary organisations.

DESIGN DILEMMAS

Building and designing transition-scapes requires a context-specific approach tailored to each community's needs and way of working. Here are some design dilemmas that show how designers can customise different options in response to the context they work in:

1. Visualisation format

What type of visual representation best reflects the community's context and goals?

The visualisation format should align with the community's specific needs and the wider context where the model is applied. In HvdT, an abstract network visualisation effectively highlighted community relationships, fragility and interdependence. In Haven-Stad, a more spatial and visually realistic approach (e.g., with a map, interiors, scale models) was chosen to show the impact of energy choices more tangibly. Different contexts and phases of community building require different representations, for example, to emphasise spatial or technical aspects, other types of resources, data, timelines and more.

2. Static vs time-based Representation

Should the model capture a single moment or reflect how the community changes over time?

Community initiatives evolve over time, requiring different inputs and producing varying outcomes at each stage—this means that the network as a whole also evolves accordingly. A time-based representation can better capture these dynamics, allowing users to follow historical changes, imagine future scenarios and visualise cycles of growth, decline and renewal. This provides a realistic, real-time view for institutions monitoring and supporting the initiatives. However, a time-based representation can be more complex to simulate and harder to access compared to a static one.

3. Abstraction vs customisation

Should the focus be on a broad, simplified view or zoomed in on personal stories?

An abstract model is more broadly applicable and helps a wider audience understand systemic relationships, making it easy to adapt to different contexts. However, local communities and their institutional partners benefit from detailed, context-specific information like personal stories, testimonials and case-specific insights. This makes the model more appealing and accessible and connects it better to the specific community or context. The balance between abstraction and customisation could be solved by layered customisation, allowing users to switch between high-level system views and detailed, localised narratives.

4. Complexity vs accessibility

How can we include rich, realistic features without overwhelming users?

Features can be added to emphasise either individual efforts (e.g., time and skills of community members) or collective impact, or other aspects such as funding, risks, technical implications and external stakeholders. Introducing features that allow users to explore alternative pathways, risks, and 'what-if' scenarios is more akin to real-world decision-making, which better aligns with institutional expectations. However, too many features might overwhelm users and make the tool less accessible for a wider audience.

5. Quantifying values

How can intangible community contributions be shown without reducing them to numbers?

Combining quantitative and qualitative values can be tricky. Quantifying can help make community contributions understandable to policymakers, but it risks reducing social relationships to mere transactions. Particularly with digital designs, involved communities and institutions should carefully consider how to visualise intangible values without misrepresenting or commodifying them.

6. Audience appropriateness

Can one model meet the needs of different audiences or are tailored versions needed?

Different audiences have specific needs and speak different languages—one model may not potentially cover this. Designers should consider whether separate interfaces, user modes or tailored versions of the tool are needed to effectively address each audience's needs.

COLOPHON

Transition-Scapes
https://transitionscapes.nl

Transition-Scapes is a research project that explores how interactive exhibition forms can envision future scenarios for the energy transition. The goal is to help neighbourhoods understand the impact of the transition and enable residents, designers and institutional stakeholders to learn from each other and explore future pathways for the energy transition together.

Two prototypes were developed through a Research-through-Design process: one for Huis van de Toekomst (House of the Future or HvdT) in Rotterdam's Bospolder-Tussendijken neighbourhood, and the other for the upcoming Haven-Stad area in Amsterdam. Workshops were held at each location with designers, community members and institutional stakeholders to refine the research question, develop a joint approach for a transition-scape, and test the prototypes with different target groups.

Key questions included: How can a transition-scape be used in a process of change? How can it contribute to mutual learning and shaping a shared agenda? How can it help build coalitions and create ownership? Who owns the transition-scape and moderates the discussion? What are the key conditions for the development and final design of a transition-scape?

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The Transition-Scapes research project ran from 2023 to 2025 and was financed by Regieorgaan SIA – Raak MKB.

CIVIC INTERACTION DESIGN