Pilot Cities: Piercing through the Gridlocks

Progress Report

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HÁSKÓLI ÍSLANDS

Reykjavík

Pilot Cities: Piercing through the Gridlocks

Progress Report

August 2025

Prepared by the Sustainability Institute at the University of Iceland for the City of Reykjavík as part of the *Pilot Cities: Piercing through the Gridlocks* project, funded by NetZeroCities.

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1. Introduction

Pilot Cities: Piercing through the Gridlocks is a collaborative research and innovation project between the City of Reykjavík and the University of Iceland. The project focuses on transportation patterns and waste sorting challenges of residents in the city and capital area, aiming to accelerate the reduction of greenhouse gas emissions and advance Reykjavík City's objective to achieve carbon neutrality by 2030.

The project began in September 2024 and will run until August 2026. It is funded through NetZeroCities, a programme that connects 112 "Climate Cities" across Europe. In Reykjavík, road transportation and waste generate over half of the city's emissions. To address this, the project will test and implement practical methods, solutions, and services that promote greener transport and improved waste sorting, helping to reduce greenhouse gas emissions.

2. Project Team

The *Pilot Cities: Piercing through the Gridlocks* project is led by the City of Reykjavík and managed by the Department of Environment and Planning at the Office of Climate Issues, under the Director. Project management is carried out by Ásdís Karen Waltersdóttir, with Hrönn Hrafnsdóttir, Head of the Climate Change Unit at the City of Reykjavík, contributing to the project's strategic leadership.

The University of Iceland is the main academic partner, and the project benefits from strong interdisciplinary cooperation across various divisions.

Professor Jukka Heinonen and Postdoctoral Researcher Johanna Raudsepp from the Faculty of Civil and Environmental Engineering lead Work Package 3, *Networks of power, practice and decision making*. They are supported by interns who have contributed to research and development tasks throughout the project.

Hafdís Hanna Ægisdóttir, Ásdís Björk Gunnarsdóttir, Sólrún Sigurðardóttir, and Lára Hrönn Hlynsdóttir at the Sustainability Institute of the University of Iceland lead Work Package 6, *Outreach: dissemination, communication and knowledge exchange*, in collaboration with the City of Reykjavík.

Postdoctoral Researcher Ole Martin Sandberg at the Centre for Ethics, Assistant Professor Katrín Ólafsdóttir at the Faculty of Subject Teacher Education, and Auður Aðalsteinsdóttir, Director of the University of Iceland Research Centre in Þingeyjarsveit, work together with the City of Reykjavík on Work Package 2, *Ways of worldmaking: facts, fiction and storytelling*.

3. Communication and Dissemination

3.1 Project Website

A project website has been set up and is accessible at the following link: https://reykjavik.is/en/residents-environment-transportation-environment-nature-climate-change/pilot-cities.

The website serves as a central platform for sharing key information about the project. It includes a general project description, regular updates on progress, published results, as well as result reports. The site is continuously updated to ensure transparency and to keep stakeholders informed throughout the project lifecycle.

3.2 NetZeroCities Conference Poster

In May 2025, members of the project team took part in the NetZeroCities conference in Vilnius, Lithuania. As a twin city in Cohort 1 of the Twinning Learning program, Reykjavík was invited to share its twinning learning experiences and take part in an interactive workshop. The experience is described in a poster (see Figure 2), which presents insights from Reykjavík's learnings in the twinning program on how workplaces can motivate staff to commute sustainably, as well as outlining next steps for replicating these lessons.

At the conference, the City of Reykjavík also received a label for the Climate City Contract (CCC) in a mission label ceremony (see figure 1).

Figure 1. *Representatives from the City of Reykjavík receive a Climate City Contract label and present the conference poster.*

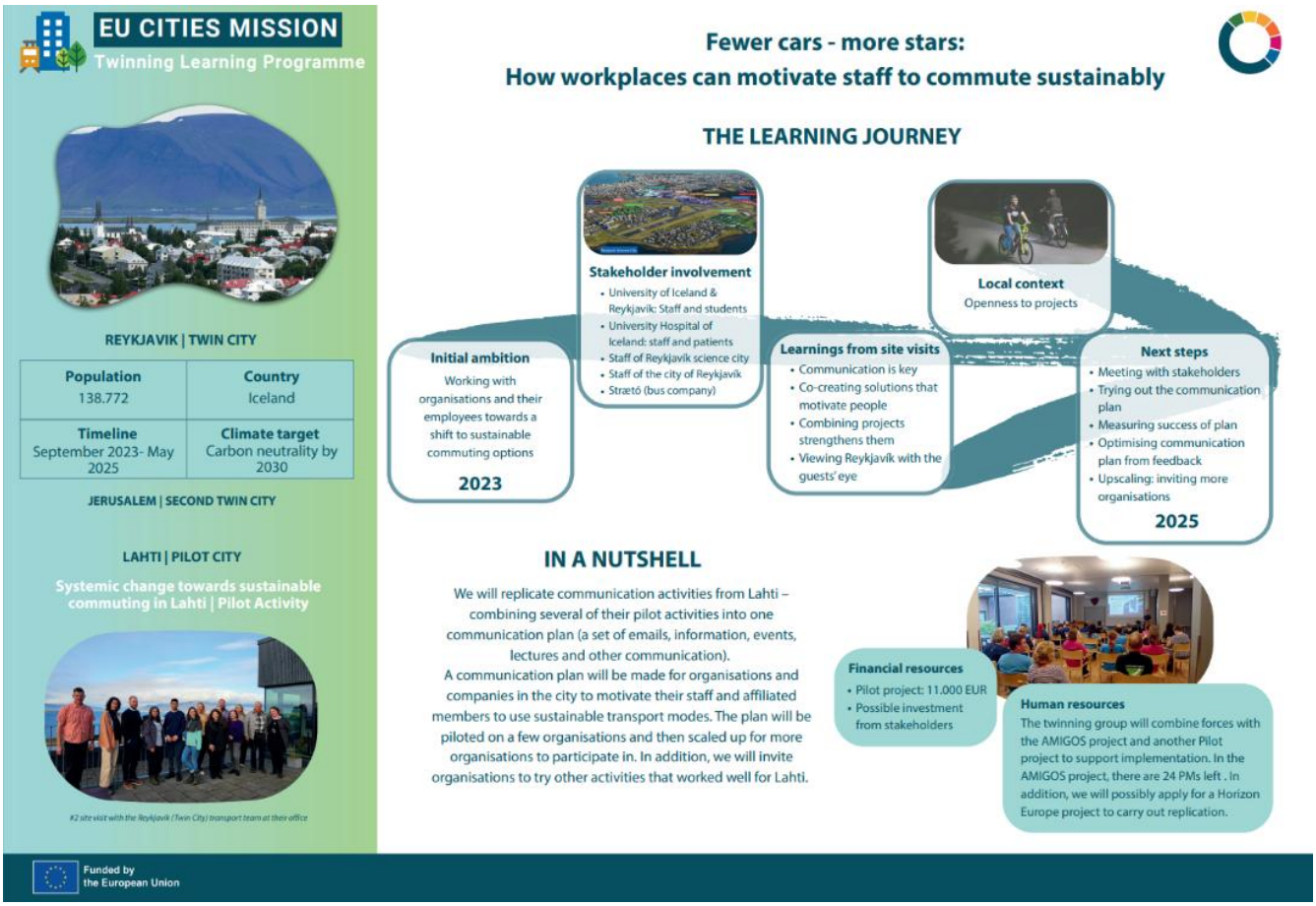


Figure 2. *Net Zero Cities Conference Poster.*

3.3 SCORAI Conference Poster

In April 2025, members of the project team took part in the SCORAI conference in Lund in Sweden. In the conference, which focused on sustainable. The team presented a poster to introduce the project and initial survey results (figure 3).

Piercing through the gridlocks: public participation towards a Net Zero City in Reykjavík, Iceland

Johanna Raudsepp (University of Iceland), Jukka Heinonen (University of Iceland),
Ásdís Karen Waltersdóttir (City of Reykjavík), Hrönn Hrafnsdóttir (City of Reykjavík)

PROBLEM

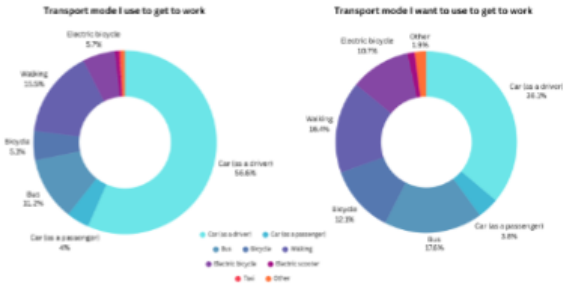
Globally, cities are home to over half of the world's population. They are also hubs of consumption and emissions. Thus, cities have a responsibility to mitigate climate change in a substantial way. In the City of Reykjavík, Iceland, the transportation fleet is dominated by car use, although it is transitioning to electricity. Household waste management systems have been refigured, but implementation has been challenging. The circular economy is promoted to encourage climate-friendly and zero-emission practices. Nevertheless, GHG emissions of the city have been increasing overall. Attitudes, behaviours and habits are not well understood in the planning processes.

AIM

The pilot project aims to better understand people's current behaviours and attitudes related to transport and waste management, as well as understanding the barriers to change among the residents of the City of Reykjavík. Part of the project involves civil engagement in planning processes by way of an online public participation GIS survey conducted in early 2025. The survey gathered about 1600 respondents. The results of the survey will be used to plan interventions to encourage more climate sustainable behaviours.

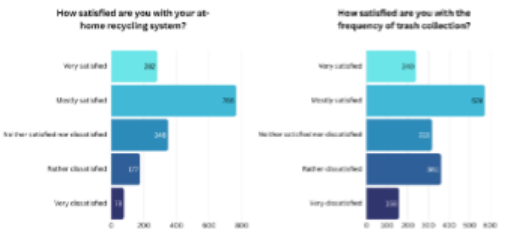
TRAVEL BEHAVIOUR

Car use is predominant in Reykjavík mobility. However, initial analyses reveal a considerable willingness to change from driving to public or active travel modes, with about a third of people who currently drive to work willing to change their mode. Main barriers for change are an unreliable and expensive bus network, which makes running errands challenging without a car. Open-ended questions indicate a strong disbelief in future changes, as changes in the transportation system have been slow and yielded no visible results to the public.



RECYCLING

The survey also mapped recycling habits among Reykjavík residents. Although most respondents are generally satisfied with the recycling system they have at home, some respondents indicated that a it is a challenge to sort all the various categories at home due to lack of space. Over half of the respondents are to some extent dissatisfied with the frequency of trash collection in the city. Typical city-issued bins include paper, plastic, organic, and general waste. Anything in addition to that must be taken to a separate recycling station or collection point. Most respondents drive to those locations. New residents to Iceland also voiced concern about the system being complex and pointed to the lack of simple instructions.



KEY TAKEAWAYS

Public participation surveys offer great insights into both the current habits of residents but also to any barriers to changing their behaviour. They can be a valuable tool for cities to plan interventions. In the coming months, the data will be analysed in depth. Based on the results and stakeholder workshops, the City of Reykjavík will design and test interventions aimed at encouraging behavioral change.

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Figure 3. *SCORAI Conference Poster.*

4. Research and Findings

4.1 Public Survey Results

As part of the project, a public survey was conducted to gather insights into residents' behaviours, attitudes, and perceived barriers related to sustainability, particularly in the areas of transportation and recycling. The survey was launched on the 10th of February 2025 and remained open for eight weeks. In total, approximately 1,800 responses were collected.

The survey covered several key themes, including transportation and recycling behaviours, barriers to sustainable choices, climate concern, life satisfaction, and socio-demographic background. The aim was to inform the project's direction with evidence-based insights from the public, while also identifying potential areas for targeted interventions.

The results already indicate several noteworthy trends. In terms of recycling, the vast majority of respondents, over 90%, reported regularly recycling key waste types such as plastic, paper, and food waste. Beverage container recycling was even higher, with over 97% participation. Satisfaction with the recycling system at home was moderately positive, while satisfaction with collection frequency was lower. The most commonly reported barriers to improving recycling behaviour were related to infrastructure, such as inadequate or insufficient bins, lack of space at home, and infrequent emptying of containers. A smaller but significant portion of respondents cited a lack of trust in the waste management system and insufficient access to information.

Regarding transportation, private car use remains prevalent. Around 79% of respondents own a car, and 60% reported using it daily. However, when asked about preferred modes of commuting, a notable portion of current drivers, approximately one third, expressed a willingness to shift to public or active transportation. This points to an untapped potential for behavioural change, provided that existing barriers can be addressed. Among these barriers, respondents most frequently mentioned the length of travel time by bus, lack of direct routes, challenges with running errands or transporting children, cost, and weather conditions. Active transport faced similar challenges, with weather, distance, and time constraints cited as the main limiting factors. Satisfaction with the public transport system was generally low, particularly among daily drivers.

Overall, these initial results provide a useful baseline for understanding current behaviours and highlight both opportunities and challenges in encouraging behavioural changes with the goal of reaching carbon neutrality.

4.2 Interviews with Families

The project benefited from the collaborative research efforts of Dr. Auður Magndís Auðardóttir, Associate Professor at the University of Iceland, and Dr. Utsa Mukherjee, Senior Lecturer at Brunel University of London. They conducted interviews with environmentally conscious families living in the Capital area of Iceland in an independent project, exploring how they view public transport and waste management. They have shared their findings with the project team, who have analysed them to inform intervention planning, supplementing survey results.

Their research revealed both motivation and barriers to sustainable practices. Many participants were eager to use low-carbon transport such as cycling and public transit but faced obstacles such as an underdeveloped public transport network, infrequent services, limited routes, and cultural stigma that associated not owning a car with poverty. As a result, families often combined walking, cycling, and buses with car use for longer trips or emergencies.

In waste management, participants were quite positive and valued the city's recycling services and local sorting stations, but found that access to larger facilities was challenging without a car or for those with mobility issues. The most common concern, however, was distrust in the recycling process, stemming from reports of past mismanagement and lack of transparency, which discouraged less committed residents.

5. Interventions

5.1 Waste Sorting in City-Owned Buildings

As part of the project, an intervention was carried out to improve waste sorting practices in buildings managed by the City of Reykjavík's Welfare Department. The intervention took place on May 13th, 2025, and focused on understanding and addressing barriers to proper waste sorting, particularly among foreign residents living in city-owned housing (figure 4)

The initiative targeted a residential building with a multicultural population where sorting behaviour was known to be minimal. Prior to the intervention, interviews and observations confirmed that the building lacked proper sorting infrastructure, only mixed waste bins were available outdoors, and most apartments lacked sufficient indoor containers. Despite these limitations, residents expressed high awareness of and willingness to engage in waste sorting, indicating strong potential for positive change.

The intervention was implemented as a joint effort between the Department of Environment and Planning and the Welfare Department at the City of Reykjavík. It followed a five-phase process: preparation, interviews, data processing, implementation, and evaluation. During the preparation phase, materials such as translated sorting instructions, indoor bins, and paper bags for organic waste were assembled. Informal interviews with residents from 18 apartments provided insights into their current habits, perceived barriers, and attitudes toward sorting.

The main event, referred to as “Sorting Day”, was held on-site at the residential building, with great participation. The event combined hands-on learning with community engagement. Residents received indoor containers, access to new outdoor bins, and printed instructions in their native languages. A sorting game, designed to educate in an interactive and non-judgmental way, helped clarify what belongs in each bin. This was followed by a garden clean-up and a social gathering, encouraging a sense of ownership and community.

Initial results following the intervention showed clear improvements. The cost of waste collection, which previously involved private services dropped to zero within two weeks, a goal originally set for the end of 2025. Resident satisfaction with the waste sorting system increased from 50% before the intervention to 85% within four weeks. The volume of mixed waste also declined sharply, from 14 large bins every two weeks to just three, reflecting a substantial behavioural shift and progress toward the target of a 60% reduction.

Key lessons from the intervention highlight the importance of adequate infrastructure, clear and accessible communication, and continuous engagement. Residents emphasised the need for simple, multilingual sorting instructions and ongoing reminders about how to access sorting resources. Interestingly, many had already begun separating some waste despite the lack of infrastructure, underscoring a strong baseline motivation.

The intervention not only improved waste sorting in the pilot location but also provided a valuable model for future efforts.

Figure 4. *Reykjavík City staff on Sorting Day.*

5.2 Coordinated Actions with Vatnsmýri Working Group

The City of Reykjavík has been working closely with businesses and institutions in the Vatnsmýri area for a while, to address mobility challenges and support sustainable development. With approximately 20,000 people commuting to and from Vatnsmýri daily, and new residential development in the area, there is a growing need to reduce car dependency and improve access to sustainable transport options.

Building on this long-standing collaboration, a new intervention was developed as part of the *Pilot Cities: Piercing through the Gridlocks* project, supported by the Twinning Learning Programme initiative. Through the programme, Reykjavík partnered with the city of Lahti in Finland to exchange knowledge and experiences in promoting climate-friendly commuting habits. Lahti had piloted a variety of workplace-based interventions to encourage staff to shift toward sustainable transportation, and Reykjavík used these lessons to inform this intervention.

The result was a replication plan that brings together key businesses and institutions in Vatnsmýri through the Reykjavík Science City collaboration platform. The plan focuses on replicating the most effective measures identified in Lahti, particularly workplace-driven communication strategies that influence staff commuting behaviour. A central component of the intervention is the development and implementation of a communication package designed for workplaces to use internally. This package includes promotional materials, guidance on supporting staff in making sustainable transport choices, and recommendations for workplace infrastructure improvements, such as bike facilities or e-bike lending schemes.

To expand the impact of the communication package, a reward system was implemented to incentivise employees to reduce private car use and increase sustainable commuting. An app that tracks participants' travels using GPS data is used to measure the effectiveness of both the reward system and the communication plan.

The intervention is scheduled for October 2025 and is being coordinated in partnership with several key stakeholders in the Vatnsmýri area, including some of Reykjavík's largest workplaces. These stakeholders are actively involved in co-creating the communication materials, testing them within their institutions, and providing feedback for future adaptation and scaling

5.3 Sustainable transportation among university students

A collaborative intervention with students in the University of Iceland and the University of Reykjavík will be implemented from August to October 2025. It will make use of a mobile application to track participants' travel behaviour through GPS data.

The aim of the intervention is to reduce the number of private car trips and increase the share of sustainable transport modes among university students. To achieve this, a reward system will be introduced, encouraging students to shift towards more environmentally friendly mobility choices.

If the findings of the intervention demonstrate that a reward system can effectively support behavioural change in travel habits, the universities plan to continue the initiative and scale it up in the coming years.

6. Workshops, Visits and Events

6.1 Workshop with CCC Participants

On March 18, 2025, a workshop was held as part of Reykjavík's Climate City Contract (CCC), bringing together 45 participants from 18 businesses and institutions that have committed to supporting the city's goal of achieving carbon neutrality by 2030 (see figure 5). The aim of the workshop was to identify key barriers, explore practical solutions, and strengthen collaboration among stakeholders with the ultimate goal of paving the way towards climate neutrality in cooperation with local businesses and institutions.

Participants were divided into four thematic groups based on their areas of commitment: Planning and Energy Transition, Transport, Buildings, and Proposals in Development (focused on waste and tourism). Each group was tasked with discussing the main challenges hindering progress toward CCC goals, identifying potential solutions, and reflecting on how cooperation could be enhanced moving forward. As the project focuses on transportation and waste management, key results from these sectors will be discussed.

In the *Transport group*, discussions focused on the city's high dependency on private cars, insufficient public transport options, and the lack of adequate infrastructure for active travel modes. Proposed solutions included revising parking policies, improving public transport services ahead of long-term projects like the Bus Rapid Transit system, incentivising shared mobility, and making cycling and walking more accessible and visible.

Participants in the *Proposals in Development group* pointed to challenges in waste sorting infrastructure, low trust in recycling systems, lack of effective incentives, and high emissions from tourist transport. Solutions focused on increasing transparency and public education around waste management, creating engaging incentive schemes, improving public transport access for tourists, and implementing simple, low-cost improvements such as better cycle routes visibility on platforms like Google Maps.

The workshop concluded with a joint discussion on future collaboration. Participants underlined the importance of shared responsibility, stronger alignment of climate-related actions, and improved communication - especially in areas like waste and infrastructure. There was a call for bolder leadership and for broadening participation in the CCC initiative to include a more diverse group of stakeholders, with particular attention to engaging national authorities. The event marked a significant step toward building collective momentum and fostering the cooperation necessary to achieve Reykjavík's ambitious climate goals. A second meeting will be held with CCC participants in October 2025.

Figure 5. *Workshop discussions.*

6.2 Twin City Site Visit from Jakobstad

On May 20–21, 2025, Reykjavík hosted the first site visit from its Twin City, Jakobstad in Finland, as part of the Twinning Programme under the Pilot Cities initiative. The visit aimed to strengthen collaboration between the cities and facilitate mutual learning.

The delegation included two representatives from Jakobstad, one facilitator from Tallinn University of Technology, three participants from the City of Reykjavík, and five from the University of Iceland. Over the course of two days, the programme featured nine presentations, two site visits to Hellisheiði Geothermal Power Plant and Reykjavík City Hall, a guided city tour, and a reflection workshop. See figure 6 and 7.

The main objectives of the visit were to deepen the relationship between the Pilot and Twin Cities, gain insight into Reykjavík's local context and climate neutrality strategy, and explore its governance model and stakeholder engagement practices. The visit also served to refine the focus of knowledge exchange, identify potential barriers to practice transfer, and begin mapping relevant stakeholders for future collaboration.

Figure 6. *Site visits in Hellisheiði Geothermal Power Plant (left) and Reykjavík (right)*

Figure 7. *Twin City meetings in Reykjavík.*

6.3 One-Year Seminar

A midway seminar focusing on the progress and early results of the project was held at the University of Iceland on August 11th, 2025 (see figure 8). The event brought together project partners to present preliminary findings, discuss implications, and explore opportunities for exploiting the results.

The seminar opened with an introduction to the Pilot Cities Project by Ásdís Karen Waltersdóttir from the City of Reykjavík, followed by an overview of the project's survey by Johanna Raudsepp from the University of Iceland. Victor Schlencker and Chloé Ruiz, interns on the project from ENTPE in France, then presented their analysis of the survey data on transport and recycling behaviours and barriers to change. Building on these findings, they presented their propositions for actions that Reykjavík could take to move towards climate neutrality.

Their propositions included redesigning the city centre road network to make private car travel more challenging, inspired by the example of Houten in the Netherlands. By removing through-traffic in the city centre, public and active transport would gain a significant advantage in convenience. They also suggested pairing the new public transport network with an e-bike rental scheme to improve coverage and accessibility, and reducing parking lots in the city alongside the increased use of public and active transport.

The seminar concluded with a lively discussion between the project group and participants about the research results and how they could inform the next stages of the project and contribute to Reykjavík's path towards climate neutrality.

Figure 8. *Presentations at the one-year seminar.*

6.4 Environmental Education Day

On August 18, 2025, an Environmental Education Day was organised for elementary school teachers across three neighbourhoods in Reykjavík. The event aimed to raise awareness of sustainability and social issues while showcasing diverse teaching approaches rooted in creativity, critical thinking, and active student participation.

The programme placed a strong emphasis on dialogue and hands-on examples, encouraging teachers to integrate sustainability into their practice regardless of subject area.

As part of Reykjavík's commitment to its climate neutrality goals, principals from seven schools in the participating neighbourhoods decided to make the event mandatory. A total of 300 teachers took part,100 from each school level, with sessions tailored to different age groups. See figures 9-10.

***Figure 9**. Speakers on the education day.*

***Figure 10.** Teachers on the education day.*

6.5 Site Visit to Sorpa

On November 5, 2024, the project team visited SORPA to learn about its waste management operations. The visit included a tour of Góði hirðirinn, a reuse-focused thrift market where donated items are repaired and resold, promoting circular practices. The team also visited the reception centre in Gufunes, where household and business waste are received, and Gaja in Álfsnes a facility that processes organic waste into compost and methane. The visit offered valuable insight into strategies for waste reduction and resource recovery in Reykjavík. See figure 11.

Figure 11. *Project team visit to Sorpa.*

7. Next Steps

Project activities will continue until the planned conclusion in August 2026. Over the coming months, the team will continue ongoing interventions and work with the survey results to design and implement additional interventions to speed up the reduction of greenhouse gas emissions from transportation and waste in Reykjavík.

In the coming months, focus groups will be held with residents in Reykjavík to gain deeper insight into the issues identified in the survey, including the barriers and needs they face in adopting more climate-friendly behaviours. These discussions will help shape future interventions. A conference will be held with participants in Reykjavík's Climate City Contract in October.