



TRONDHEIM KOMMUNE
Tråanten tjeilte

NetZeroCities Pilot Cities Programme Cohort 2:
CCWaSte4NetZero - Cities as a Test Bed for Climate Neutrality:
Implementing CCS in Waste-to-Energy for a Net-Zero City

Twinning Learning Programme

Trondheim, Norway (pilot city)
Tomar, Portugal (twin city)



Tomar's first visit to Trondheim, April 2025

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Connection with CCWaSte4NetZero

WP2/DEL07/ACT13: Share findings with the forthcoming twinning programme

WP3/DEL11/ACT23: Share findings and interventions through peer learning with twinning programme (the NZC city learning programme)

WP3/DEL11/ACT24: Visit each Twin once with a small delegation. The Twins also visit Pilot City.

Text and photos:

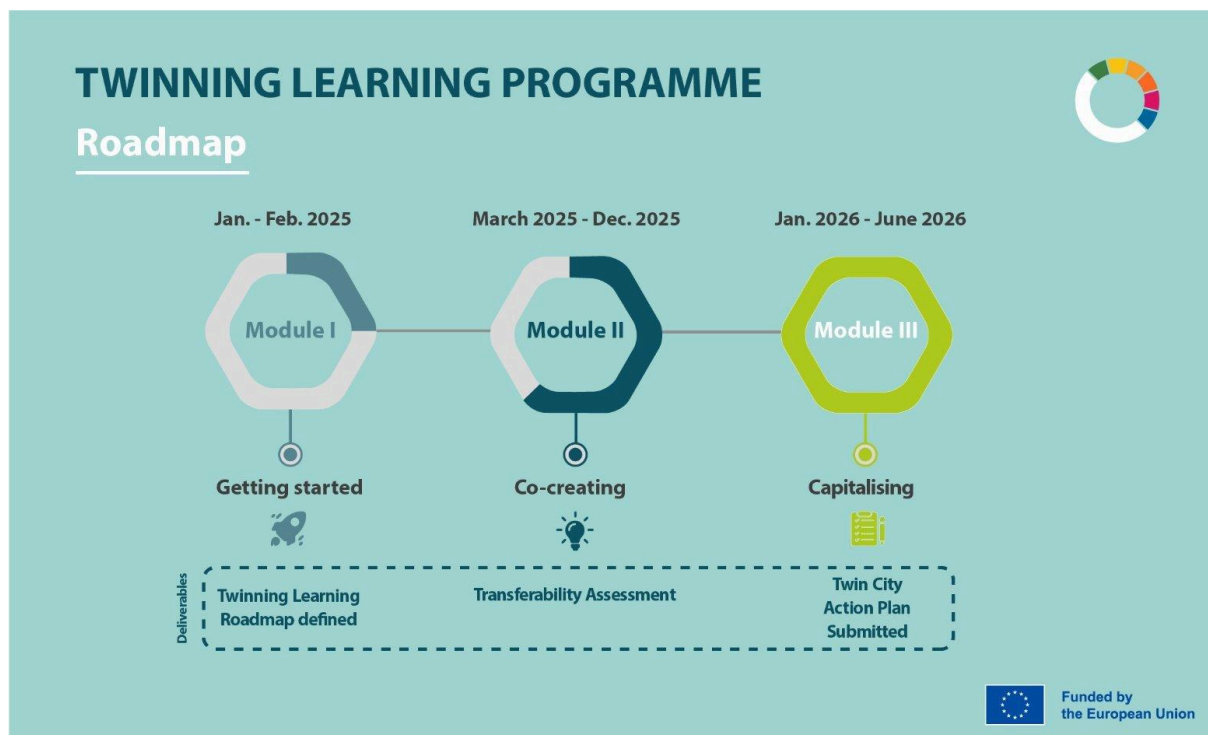
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NetZeroCities Twinning Learning Programme

NetZeroCities is the operating platform for the EU Mission *Climate-Neutral and Smart Cities*, also known as Cities Mission. NetZeroCities supports Europe and in particular European cities to drastically cut greenhouse gas emissions through climate actions in order to achieve *climate neutrality*, one of the biggest challenges we face today.

Pilot Cities Programme and Twinning Learning Programme are two capacity building programmes established and run by NetZeroCities. The **Pilot Cities Programme (PCP)** supports European cities to test and implement innovative approaches to rapid decarbonisation, working across thematic areas and functional silos in support of systemic transformation. The **Twinning Learning Programme (TLP)** is a peer-learning initiative bringing together Twin cities with Pilot and Mission cities. It is built on mutual exchange and focuses on learning and replication efforts. The programme has a practical focus on implementing systemic transformation methodologies and innovative approaches on the journey to climate neutrality.

The TLP programme not only helps accelerate progress towards climate neutrality but also fosters innovation and long-lasting partnership between cities. The programme follows a clear three-step structure and gives cities the flexibility to adapt the pace and content of their exchanges to their needs. The entire process is facilitated by NetZeroCities.



This report briefly summarises the twinning learning activities of Trondheim, Norway (PCP cohort 2) and Tomar, Portugal (TLP cohort 3), from the perspective of the Pilot City Trondheim.

Kick-off and roadmap definition

Each TLP project is assigned with a NetZeroCities facilitator. The NZC facilitator has the responsibility to facilitate the contact between the Pilot City and Twin City and the implementation of workshops and site visits. By the end of this phase, cities will have designed a Twinning Learning Roadmap, tailored to the needs and expertise of paired cities.

The representatives from Trondheim and Tomar held the first digital meeting in January 2025. The purpose was to get to know each other and be familiar with the TLP process. Later in February they had an online workshop to identify the learning needs. During the workshop, the cities made individual presentations covering the following:

- Local context
- Climate neutrality ambitions and overall strategy
- Pilot activity and related projects or initiatives (Pilot City)
- Challenges and learning needs
- Good practices or initiatives (Twin City)

The paired cities then jointly defined a Twinning Learning Roadmap, which laid the foundation for three site visits.

Twin City Tomar:

Transferable practices from the Pilot City		Description	Justification
1.	Climate Budget	Integration of environmental projects into the municipal environmental budget.	We understand that it is essential to involve policymakers in any environmental project. In this regard, how did you engage policymakers in the project? How can we allocate a budget for environmental projects within the municipal budget? How to get policymakers committed to a climate budget? How were the policymakers made aware of the importance of integrating a climate objective?
2.	Carbon capture and storage (CCS)	The Waste-to-energy facility accounts for almost 30% of Trondheim's direct GHG emissions, and at the same time plays an important role in Trondheim's energy supply.	For the Municipality of Tomar, it is very important to understand the path to the realization of the project. What challenges and difficulties were encountered? How to convince policymakers to allocate the needed money to implement this kind of contract, since it seems an expensive project. How did the project come about?
3.	Citizens Engagement and Stakeholder Involvement	Plan for dissemination, communication, citizen engagement and policymakers engagement.	Community involvement is crucial to achieve the established goals. What methodologies did you use in the process of engaging citizens and stakeholders?

Pilot City Trondheim:

Transferable practices from the Twin City		Description	Justification
1.	Multi-level governance and investment platform “Plataforma do Tejo”	A good practice in Tomar’s presentation. It consists of an investment mechanism to integrate small-scale renewable generation projects scattered throughout the region, both private and public, adding dimension to the projects it integrates, creating critical mass and attracting investors.	We are interested in learning about multi-level governance Tomar, Medio Tejo, Portugal , the EU, as well as mechanisms that promote green investments.
2.	"CISA - Environmental Interpretation and Awareness Center"	A good practice in Mario’s presentation. CISA is a recreational and educational space that includes: an area with environmentally themed exhibitions, an area for holding workshops / ateliers / information sessions and an experimental laboratory.	We are interested in learning how to improve knowledge and awareness of climate change at the local level, as this is the core for citizen engagement.
3.	“Vale Eficiência”	We found this under “social intervention”. The program is part of a set of measures aimed at combating energy poverty and reinforcing the renovation of buildings at a national level, enabling an increase in their energy and environmental performance, thermal comfort and living conditions, health and well-being of families, contributing to the reduction of the energy bill and the ecological footprint.	We are interested in learning about how to work with “just transition” and how to tackle issues like energy poverty.

Site visit #1: Tomar to Trondheim, 29-30 April 2025

Visitors: Catia Pouseiro (Tomar Municipality), Mário Carlos Gaspar Lima (MedioTejo21), Luiza Schuch de Azambuja (NZC facilitator)

Hosts: Chin-Yu Lee, Randi Irene Henriksen (Trondheim Municipality)

Other participants from Trondheim: Line Fjørstad, Tove-Lill Karlsen, Courtney Killion, Mie Abelgaard, Simon Loveland, Suzanne Øverlie (Trondheim Municipality), Bjørn Hølaas, Morten Fossum (Statkraft varme)

Day 1: 29 April 2025	
Time	Activity
09:30-11:30	Site visit to Heimdal Varmesentral: waste incineration, district heating and CCS
13:30-16:30	Thematic sessions: climate governance and climate budgeting <ul style="list-style-type: none"> ● Climate governance (climate plan, climate city contract, CDP) ● Climate budgeting ● Klimabarometer & climate communication
18:30	Dinner with PCP project partners
after dinner	A digestive walk in the Cultural Quarter: Britannia, PoMo, Nye Hjorten Teater
Day 2: 30 April 2025	
09:00-12:30	Walk and talk on urban development and citizen engagement: Bakklandet, Møllenberg, Lademoen, Nyhavna, Brattøra
14:00-17:00	Workshop and wrap-up <ul style="list-style-type: none"> ● Short intro about “share and repair” and Trondheim Public Library ● Twin City Tomar Presentation ● Workshop moderated by the facilitator ● Next steps & wrap-up

Some highlights:

- The visit started with a site visit to Heimdal Varmesentral, the core of Trondheim’s PCP project. The site covers key stages of the waste-to-energy (WtE) CCS value chain: waste incineration, energy recovery and carbon capture, which is under planning.
- Trondheim Municipality gave detailed presentations about their practices of climate management.
- The city walks gave the visitors an introduction to our achievements and challenges within urban development. “Walk and talk” is a good method to involve and discuss.
- Trondheim Public Library has for years been an arena for circular practices. The visitors got to experience activities.



Site visit #2: Trondheim to Tomar, 11-12 November 2025

Visitors: Chin-Yu Lee, Randi Irene Henriksen (Trondheim Municipality), Luiza Schuch de Azambuja (NZC facilitator)

Hosts: Catia Pouseiro (Tomar Municipality), Mário Carlos Gaspar Lima (MedioTejo21)

Other participants from Tomar: Marco Duarte, Marco Patricio, Margarida Fernandes, António Guerreiro (Tomar Municipality), Rita Luis (CIM Medio Tejo), Catarina Costa (MedioTejo21)

Day 1: 11 November 2025	
Time	Activity
09:30-10:30	Thematic session: energy <ul style="list-style-type: none"> • Presentation of the Tejo Platform (MT21) • Presentation of the Prezero Platform (Tomar Municipality)
11:00-12:30	Technical visit: the Levada Cultural Complex
14:00-15:00	Visit the Trays exhibition, Basketry Workshop
15:00-16:30	Thematic session: mobility (CIM Médio Tejo) <ul style="list-style-type: none"> • Public transport and promotion scheme • Transport on Demand project • MeioB bike-sharing project
16:30-17:30	Technical visit: mobility service
19:00	Dinner with the project partners at The Riding Arena
Day 2: 12 November 2025	
09:00-10:30	Thematic session: Environmental Awareness CISA (Tomar Municipality)
10:30-12:30	Visit: MNSM/Convent of Christ
14:00-17:30	Workshop and wrap-up <ul style="list-style-type: none"> • Pilot City Trondheim Presentation • Workshop on Transferability assessment • Wrap-up and next steps

Some highlights:

- The energy-related presentations covered mini and micro-generation energy projects and Public Lighting Management Platform through energy performance contracting (EPC).
- Tomar is a city of historic and cultural importance in Central Portugal. The site visits were enlightening.
- Similar to Norway, public transportation is organized at regional level. The presentation and site visit to the transportation hub gave a holistic picture and was insightful.
- The CISA center for environmental awareness is located at the entrance of a national forest, a perfect location for citizen involvement in nature. The center offered hands-on experience, with children and families as the main target group.



Site visit #3: Tomar to Trondheim, 18-19 March 2026

Visitors: Catia Pouseiro (Tomar Municipality), Mário Carlos Gaspar Lima (MedioTejo21), Luiza Schuch de Azambuja (NZC facilitator)

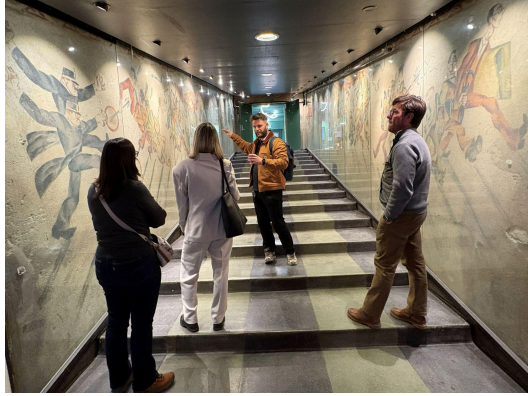
Hosts: Chin-Yu Lee, Randi Irene Henriksen (Trondheim Municipality)

Other participants from Trondheim: Linda Connie Thorsteinsen, Eirik Sande, Tove-Lill Karlsen, Bjørn Arild Silseth (Trondheim Municipality), Tone Berg (TRV)

Day 1: 18 March 2026	
Time	Activity
09:00-13:15	Energy Transition Conference (NTNU Energy Transition Week)
13:15-17:30	Circular economy and innovation district Elgester <ul style="list-style-type: none"> ● Site visit Studentersamfundet (The Student Society in Trondheim) ● Trondheim's ECT-pilot "From waste to resource" ● Innovation district Elgeseter ● Site visit Teknostallen ● City walk back to hotel
19:00	Project dinner Location: FutureBuilt-pilot Nordre gate 12
Day 2: 19 March 2026	
09:15-11:15	Waste management and environmental communication <ul style="list-style-type: none"> ● Site visit Heggstadmoen recycling station, with a school class ● Presentation Trondheim Eco Schools (Grønn barneby) ● Presentation of the Citizen's assembly (PCP activity)
11:45-13:30	Lunch and short visit to Sverreborg Folk Museum
14:00-17:00	Workshop and wrap-up <ul style="list-style-type: none"> ● Twin City Tomar presentation: recent storm events ● Transferability assessment and preliminary action plan ● Workshop: reflecting & planning

Some highlights:

- The main focus of this second visit was circular economy and citizen engagement.
- The visitors got to experience the technological capital of Norway. The Energy Transition Week brought many international experts to Trondheim for conferences and workshops.
- Site visits in the Elgeseter neighborhood showed student life and the innovation ecosystem.
- Site visit to Heggstadmoen recycling station showed circular practices in daily life.
- Trondheim Eco Schools is a project that echoes much of what CISA does.
- The citizen's assembly was one of the most important deliverables in Trondheim's PCP project.
- Trondheim is also an important city in Norwegian history. Sverresborg is a living arena for story-telling.



Summary and action plan

Through the Twinning Learning Programme, representatives from Trondheim, Norway and Tomar, Portugal got to meet each other for in-depth exchanges of both best practices and challenges in climate transition. There are differences and similarities to be found. Such in-person meetings are highly appreciated. The NetZeroCities facilitator played a vital role in the planning of the visits and during the visits.

Tomar does not have a case for carbon capture. Thus, our exchanges focused on other perspectives of Trondheim's PCP project: climate management, circular economy and citizen engagement. Energy and mobility are two strategic areas of Trondheim's climate transition. These were areas of interest for our visit to Tomar, which the agenda covered.

The follow-up of TLP belongs mainly to Twin City Tomar. During the end of the last visit, these areas of interest were identified:

- Climate budgeting
- Circular economy and waste management
- Resilient energy transition
- Citizen's assembly as a tool

Pilot City Trondheim shall continue to support with knowledge transfer, throughout the TLP project period and beyond.