D9.17: Report on Intra-Project Collaboration Including Study Visits and Peer-to-Peer Workshops 7

+CityxChange | Work Package 9, Task 9.1

Final delivery date: 22-06-2022

Deliverable version	v.04
Dissemination level	Public
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This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No. 824260.

Document Information

Project Acronym	+CityxChange
Project Title	Positive City ExChange
Project Coordinator	Annemie Wyckmans, Norwegian University of Science and Technology
Project Duration	1 November 2018 - 31 October 2023
Deliverable Number	D9.17: Report on Intra-Project Collaboration Including Study Visits and Peer-to-Peer Workshops 7
Dissemination Level	PU-Public
License	CC-BY4.0 Creative Commons Attribution, except where otherwise noted. https://creativecommons.org/licenses/by/4.0/
Status	Completed
Due Date	30-04-2022
Work Package	WP9 – Inter-Project Collaboration and Clustering
Lead Beneficiary	NTNU
Contributing Beneficiaries	LCCC, TK, MAI, MP, SB, SMO, VORU

Revision History

Date	Version	Author	Substantive changes made
29-12-2021	v.01	Elisa Junqueira de Andrade (NTNU)	Report structure
25-05-2022	v.02	Elisa Junqueira de Andrade (NTNU)	Inclusion of partners' contributions based on +CxC tracker
14-06-2022	v.03	Annemie Wyckmans, Elisa Junqueira de Andrade (NTNU)	Updates based on feedback from partners, learning experiences, text adjustments
22-06-2022	v.04	Elisa Junqueira de Andrade (NTNU)	Final adjustments

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List of Acronyms

R&D	Research and development
ENEA	Energia Nucleare ed Energie Alternative
EU	European Union
IOTA	IOTA Foundation
IPCC	International Panel on Climate Change
IREC	International Renewable Energy Conference
ISOCARP	Internationale Vereniging van Stedenbouwkundigen
KPI	Key Performance Indicator
LCCC	Limerick City and County Council, Ireland
LHC	Lighthouse City
MAI	Municipality of Alba Iulia, City of Romania
MP	Mesto Pisek, City of Czeck Republic
PEB/D	Positive Energy Blocks/Districts
RES	Renewable Energy Sources
SB	Sestao Berri 2010 Sociedad Anonima
SCC01	Horizon 2020 Smart Cities and Communities call
SMO	Obshtina Smolyan, City of Bulgaria
TK	Trondheim Kommune
UL	University of Limerick
VORU	Võru Linnavalitsus, City of Estonia
VTT	Technical Research Centre of Finland
WP	Work Package

Executive Summary

This report provides an overview of the study visits, peer-to-peer workshops, and other intra-project learning activities performed by the Lighthouse and Follower Cities and the other partners in +CityxChange, between 1 November 2021 and 30 April 2022 (M37-42).

These activities form part of Work Package 9 "Inter-Project Collaboration and Clustering", Task 9.1 "Intra-Project Lighthouse and Follower City Cooperation". They are designed to address the needs of the participating cities and solution providers in an effective manner, to better align goals and priorities, to promote cross-cultural communication, understanding and collaboration between the partners, and to speed up the learning process and iteration of results across the entire value chain.

This report (D9.17) is complemented by D9.18: Report on attendance at events held by other SCC-01 co-ordinators 7. Some general content is repeated from the previous D9.14: Report on Intra-Project Collaboration, including study visits and peer-to-peer workshops 6.

1 Introduction

While an intensive series of Learning Sessions and Consortium Week was held in October 2021, M37 - M42 focused more on discussing every-day critical barriers and identifying potential pathways forward, in the monthly Technical Board meetings (all Work Package Leads) and Executive Board (all Lighthouse and Fellow Cities). This focus was vital after a long period of delays and uncertainties due to COVID, and new unrest due to the war in Ukraine.

During the meetings, partners discuss whether all cities can still reach a Positive Energy Block, which objectives, impacts and KPIs can be reached, whether all tasks are still achievable, and whether funding streams need to be re-budgeted in order to make these targets work. Other activities within the partners' own networks contributed further to these discussions and understanding of their challenges and accomplishments. A considerable amount of time was dedicated to delays and modifications in the implementation phase, and the corresponding need for change requests and amendments in dialogue with CINEA's Project Officer.

In the following sections, we describe some of the core activities discussed in these fora across the partners.

2 Restructuring energy measures

In several +CxC cities, the original plans for the deployment of Positive Energy Blocks have been changed multiple times. Common reasons for these changes have been that technical equipment needed to be replaced, integration of equipment did not work as originally planned, solution providers did not find successful business models, locations or sites were no longer available or suitable according to project needs, delivery and installation of technical equipment were delayed due to COVID-19, and similar challenges. In the project's fourth year, such delays can easily become critical, as less time will be available for testing, as well as monitoring and evaluation of the implemented solutions.

Concepts and solutions for obtaining Positive Energy Blocks require integrated interventions and measures that need to act and play together: substantial new RES, innovative solutions for local trade of energy - capacity - system services, deregulation of energy markets, sector coupling EL - thermal, extensive energy asset and system integration, and energy efficiency measures.

The consortium wants to avoid an extension of the project, as an extension would mean an extension of all activities across the project, stretching of the available budgets across a longer period of time, delay of final payments, and extension of the period for monitoring and evaluation during which all interventions need to be kept available.

The experienced challenges and risks have been frequently shared in the Technical and Executive Board meetings, and potential pathways forward, such as alternative sources of renewable energy, or alternative locations for their implementation, discussed in detail among the partners.

3 New partnership models for value creation

Trondheim has received full acceptance and dispensation from the national regulatory authorities for running open energy and flexibility markets at demonstration sites Brattøra and Sluppen. The authorities consider the Trondheim approach and solution to be particularly interesting, and they will use the Trondheim demonstrator as a test case and learning arena for potential future regulatory changes. The process behind this achievement was described in D5.9: Playbook of regulatory recommendations for enabling new energy systems. The next steps will be to summarise further project recommendations towards the regulatory authorities to try and change energy regulations - as these are currently outdated compared to the ambitious target of achieving positive energy districts and climate-neutral cities, in particular regarding optimal use of energy flexibility.

This achievement would never have been accomplished without innovative partnerships between the Trondheim solution providers and the municipality. In this section we summarise reflections from the partners.

While technological solutions have changed from the ones originally planned, the project has been very important to create an environment for the solution providers to discuss and try out different options, together with other companies. These discussions have contributed to make the flexibility in terms of processes and solutions more visible - partners have been able to broaden their minds with the perspectives provided by the others, and to build on each other's experiences to find new solutions to large-scale challenges. This has given rise to new opportunities described in D5.10: Trondheim Innovation Lab Solutions Catalogue[1]. Not all solutions have worked in practice, but, as one of the leaders remarked, "those that stand still do not leave a trace".

Several of the solution providers have developed new business models based on different cooperation models and roles within and between the partners that were developed during practical challenges within the project demonstrators. For these solution providers, optimising value creation has been more important than minimising costs. Technology is not the main barrier; optimising use of technologies through good cooperation between different solutions providers, and getting this properly supported through digitalisation, is more challenging.

Another important challenge going forward, will be to keep the engagement high while project activities move from implementation to monitoring and evaluation, and project staff efforts get reduced correspondingly. A third challenge will be to be able to expand capacity within the companies, municipalities and universities to integrate project learnings within organisations and mainstream them into everyday activities.

The experiences of the project thus far have also shed new light on the role of the universities in the project. Based on the experiences of the solution providers, NTNU and UL have contributed in 5 distinct roles (beyond NTNU being the Project Coordinator):

[1] https://cityxchange.eu/knowledge-base/d5-10-trondheim-innovation-lab-solutions-catalogue/

- Knowledge-creating: Developing new close-to-practice knowledge together with public and private sectors, citizen organisations, other academic partners etc.
- Coordinating: Implementing knowledge in practice through on-the-ground pilots, citizen innovation labs and other co-creation activities
- Providing directionality: Contributing to policy and politics
- Activating: Empowering citizens and professional stakeholders
- Capacity-building: Education and training of current and next-generation experts

4 Additional events

4.1 57th ISOCARP World Planning Congress (8-11 November 2021, Qatar/online)

+CityxChange partner ISOCARP organised the World Planning Congress, featuring the +CxC project in the session "Innovative Solutions for Climate Resilient Cities and Communities: From research to practice". The session discussed key elements regarding the shaping of strategies to enhance climate resilience in cities and promoted cross-learning and knowledge transfer between participants and speakers, including NTNU and a representative of JUSTNature.

4.2 Delegation visit of Polish city of Zdunska Wola to Sestao (13 December 2021)

8 representatives (+ interpreter) from the Polish city of Zdunska Wola, including the mayor, went to visit Northern Spain. The purpose of the visit was to familiarize the representatives with the Smart City solutions and the project "60+ Smart City: innovations as a result of intergenerational cooperation". The participants were interested in innovative social solutions used in Basque cities. They had a meeting with Bilbao during the morning, with Sestao Berri during the afternoon (when +CxC was presented), and the following day with Santander. The visit consisted in an exchange of good practices and expansion of knowledge.

4.3 Innovation for energy-positive societies (27 January 2022, Trondheim)

The Smartgrid Center organised a webinar on innovation for energy-positive societies. Trondheim municipality was invited to talk about +CxC's main energy concept and solutions including the need for deregulating energy markets, and the necessary interactions between deregulation and functioning local energy systems.

Participating in this event allowed for a concrete dialogue with national stakeholders (energy consultants, National Smartgrid Centre, research institutions, students, and a few companies within energy) and anchorage for +CxC's piloting precommercial (TRL7) solutions, which received significant attention.

4.4 Limerick's Georgian neighbourhood (1 February 2022, Limerick)

4.4.1 Energy Retrofit of Traditional Buildings

Peter Cox, Managing Director of Carrig Conservation International, shared his experience on restoring and improving energy efficiency in heritage buildings. Gearoid Kerin, Executive Engineer from Limerick City and County Council, represented +CxC and presented guidance on taking a tiered approach to Energy Retrofits, tailored to Limerick's Georgian Neighbourhood.

4.4.2 A Sustainable Energy Future

The workshop "What are the next steps in a clean energy transition for Limerick's Georgian Neighbourhood?" was held on 01/02/2022 and focused on property owners in the area. It explored developments in energy retrofitting, management and generation in the historic core of the city, as well as new possible sources of funding for interventions.

4.4.3 Enhancing and Optimizing Energy Efficiency in Smart Cities

IOTA participated in the virtual panel "Enhancing and Optimizing Energy Efficiency in Smart Cities", where it presented solutions developed within +CxC.

4.5 Decarbonisation of buildings (2 February 2022, online)

TK participated in a conference to discuss the decarbonisation of buildings held by the Norwegian Academy of Science and Letters. The discussions focused on the possible contributions of energy efficiency of buildings, the correct use of materials, and improved construction processes in Norway, which could allow for reduced electricity prices and the release of clean electrical energy to other sectors and the export of energy to other countries.

TK highlighted the importance of +CxC focusing on the finance side of the green energy shift and on area/district levels, as few R&D actors appear to be doing that.

4.6 Greenstorming webinar. The Norwegian and Icelandic Experiences of Climate and Energy Planning (9 March 2022, online)

Representatives of local authorities in Iceland and Norway shared their experience and useful lessons in drafting a climate and energy plan. An Energy and Climate Advisor from Trondheim Municipality held a presentation entitled "The Municipal Climate Plan in Trondheim as driver for system innovation" at this webinar organized for Estonian local governments.

4.7 Introducing a systematic approach to financing smart solutions in Czech Republic (6-8 April 2022, Czech Republic)

Písek attended the sessions organised by the Dutch association Vereniging Nederlandse Gemeenten (VNG). This was part of a project aimed at helping plan and finance innovative (smart) projects in the Czech Republic. It also wants to show ministries or other program and fund administrators the possibilities and ways to help the territory finance innovative projects and how to address the various procedures and processes that precede the planning of these projects. There were discussions regarding the differences between the Netherlands and Czech Republic in terms of cooperation and quality of civil servants, which could be partially explained by the relics of communism.

4.8 Climate Fresk Smolyan (11 April 2022, Smolyan)

The fresk was a fun, collaborative and creative workshop to raise awareness about the connection between human activities and climate change. The format was created using data from the International Panel on Climate Change (IPCC) report. The +CxC team from the Municipality of Smolyan together with members from the organization Wind of Change, official facilitators for Climate Fresk in Bulgaria, organized a Climate Fresk workshop with students from the two local universities in Smolyan. The main goals were to engage university students with climate change and to better the connection with the universities for future partnerships.

5 Next steps

Learning Sessions are an internal forum for +CxC cities and solution providers to discuss cross-cutting challenges, exchange experiences, and develop solutions. In the first years of the project, they aimed to support the Lighthouse and Follower Cities in their development of Positive Energy Blocks, in particular related to the tacit knowledge that is accumulated among partners and stakeholders in preparation of their PEB processes and solutions.

In the last phase of the project, the implementation challenges, risks and barriers, but in particular also the achievements and every-day victories of the cities and solutions providers in reaching the final project targets, will be addressed in detail.

The EU Cities Mission, the New European Bauhaus and REPower EU are highly welcomed as open invitations for the cities, solution providers and universities to continue their efforts and to engage in the new communities that are being formed.