



TRONDHEIM KOMMUNE  
Bærekraftssenteret



# Towards the Net-Zero City Transition Framework

SUSTAINABLE DEVELOPMENT GOALS



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09 12 2021

# Objective

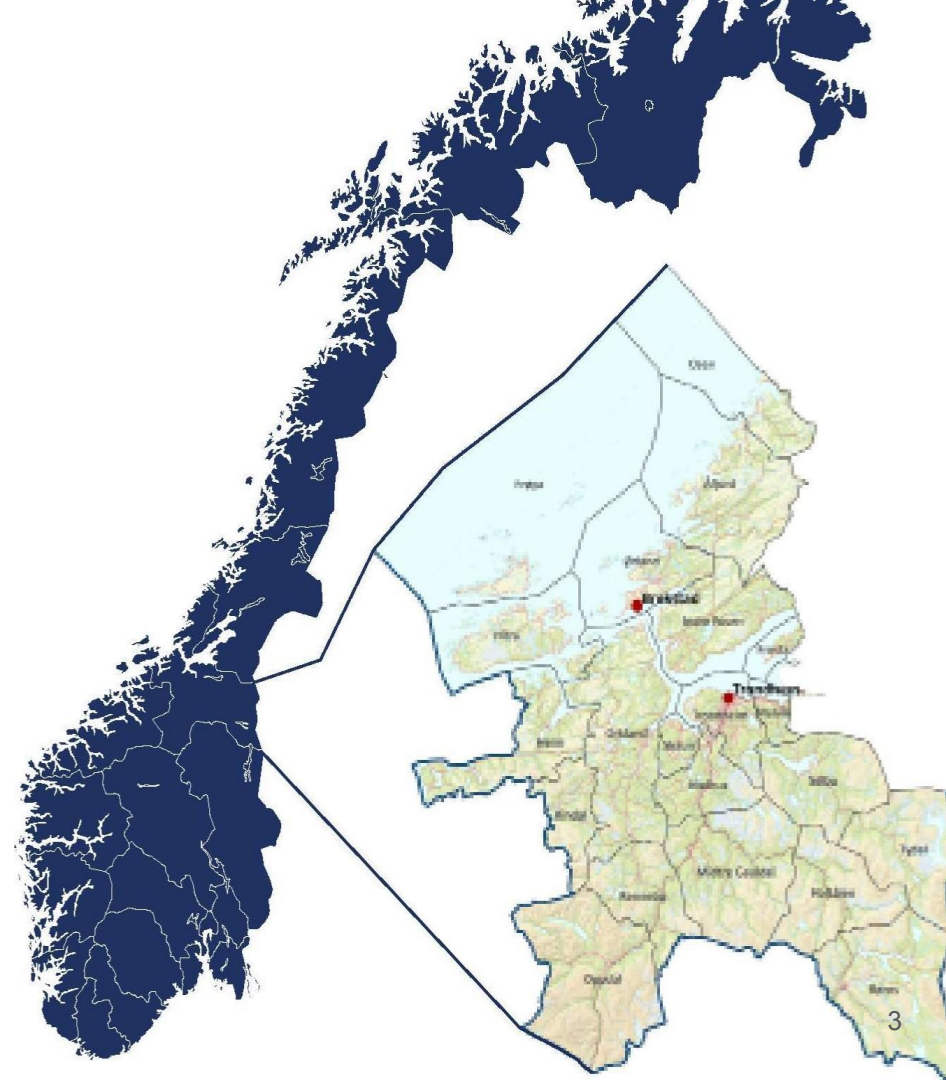
- To discuss the Sustainable Value Creation approach to the cities' transition to “Net-Zero”, including with regard to role of the ICTs.

# Structure

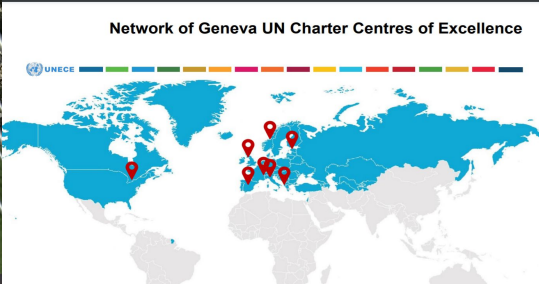
- About us
- Cities commitment to N0 (the Paris Agreement, N0 commitment in practice, what is needed?)
- The City Transition Framework for N0 (Where does it come from? About Sustainable Value Creation, the role of ICTs)
- Testing the N0 City Transition Framework in Norway and beyond.

# Trondheim

- 3rd largest city in Norway, with over 191 000 inhabitants ([2021](#)) and a long history.
- 2.1% unemployment rate ([Jan 2020](#)), 99% registered businesses are SMEs, 4.5% of the city's GDP is spent on R&I ([2020](#)).
- Invests in smart and sustainable urban development and aspires to become [Net-Zero](#) by 2030.



# Innovation capital



Geneva UN Charter  
Centre of Excellence

**UNECE**

SUSTAINABLE DEVELOPMENT GOALS  
CITY TRANSITION  
Trondheim

TRONDHEIM MUNICIPALITY

## European Rising Innovative City

Jury hearing  
12th of October 2021  
10:45 - 12:00 CET

UN Geneva Charter  
Centre of Excellence

SUSTAINABLE DEVELOPMENT GOALS  
CITY TRANSITION



# Centre for Sustainable Development

- Policy innovation laboratory at the local, regional, national and international levels
- Developing and managing projects in the field of smart sustainable cities, energy, transport and mobility,
- Collaboration with public, private and third sector organizations
- Regional network coordinator
- Testing and scaling-up SDG innovation.



TRONDHEIM KOMMUNE  
Bærekraftssenteret



Silja is the chief operating officer of the Bærekraftssenteret. In addition, she works with the budget for the centre.



Tom is an advice giver for business relations to the centre, and has special interest in mobility.



Øyvind uses the potential that data and technology have to increase the speed of sustainable development, in addition to being the leader of Smart City.



Berit is a project partner of the centre and focuses on social sustainability, in addition she runs the Bærekraftssamtale series.



Kristian is the leader of the Centre for Sustainable Development in Trondheim, and the cofounder of United Cities.



Samah is an advisor for evidence-based policy-making and concept development at the centre.



Kelly is the student coordinator for the centre, running the annual internship program.



Agata is Head of the 2030 Agenda and International Relations for the centre and a sustainable urban development expert.



Courtney is the digital content manager for the centre and works with communication and citizen outreach.

# The Paris Agreement

- Emphasizes the role of “Net-Zero” and the local governments in the reduction of GHG emissions

to “ (...) achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century, on the basis of equity, and in the context of sustainable development and efforts to eradicate poverty” (Article 4).



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UK PRESIDENCY ▾ COP26 GOALS ▾ THE CONFERENCE ▾ PRE-COP ▾ NEWS TOGETHER FOR OUR PLANET

**READ COP26 EXPLAINED**

**1. Secure global net zero by mid-century and keep 1.5 degrees within reach**

Countries are being asked to come forward with ambitious 2030 emissions reductions targets that align with reaching net zero by the middle of the century.

To deliver on these stretching targets, countries will need to:

- accelerate the phase-out of coal
- curtail deforestation
- speed up the switch to electric vehicles
- encourage investment in renewables.

**2. Adapt to protect communities and natural habitats**

The climate is already changing and it will continue to change even as we reduce emissions, with devastating effects.

# How do cities commit to N0?

Cities' commitment to "Net-Zero" means various things

- joining international races for N0, e.g. [UNFCCC Race to Zero](#) **and/or**
- developing climate policies, action plans, climate contracts (under the Covenant of Mayors, the EU mission on 100 Climate-Neutral Cities), **and/or**
- developing sectoral policies, plans with a N0 objectives (e.g. in relation to energy, transport) **and/or**
- N0 projects (e.g. Net-Zero port redevelopment).



# Cities' commitment unpacked

- **targets definition**
  - CO2 vs GHG;
  - sectoral/in relation to specific area (e.g. public buildings) vs city-wide
- **embeddedness in policy setting**
  - degrees of policy coherence
  - synergies and trade-offs between policy objectives
- **governance**
  - role of various groups of stakeholders: local communities/communities of practice
  - mode of governance: consultation vs co-creation
- **financing**
  - financing plan included vs not included
- **evaluation and scaling**
  - with vs without KPIs
  - replication strategy included vs not included .....



# What is needed?

An approach/roadmap that is:

- Evidence-based, yet reflective/flexible,
- Strongly embedded in SDGs,
- Connecting
  - data and action,
  - policy and practice,
  - project and funding,
- Supports transition/maturity of a city and its ecosystem
- Mobilizing various groups of stakeholders and their resources towards climate-action
  - ideas, knowledge, funding and financing
  - especially making the best use of **socio-technological and data innovation**.

# The City Transition Framework for N0



- Focusing on a whole-system transformation
- With SDGs at heart
- Geared towards tangible opportunities
- Mobilizing citizens and various stakeholders and their resources.

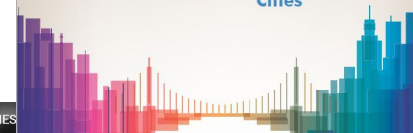
# Where does it come from?

- *Experience in the evaluation of cities in Norway against the U4SSC KPIs (with support of ITU, UNECE)*
- *Innovative accounting methods for SDG data in Norway*
- *Positive City Exchange, e.g. Bold City Vision,*
- *Need for an “operating system” for SDGs; to demonstrate the value-added of investing in SDGs,*
- *Recognition of the role of PPPs.*
- *Developing the VLR.*



## A taxonomy for indicators related to the Sustainable Development Goals

Li-Chun Zhang, Johan Fosen, Bjørn Are Holth and Taisiana Pekarskaya



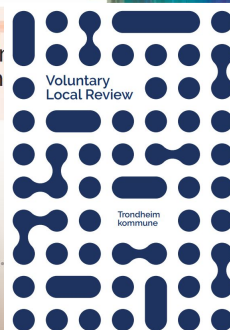
+CITYXCHANGE HOME +CITYXCHANGE OUR CITIES

The +CityxChange vision is to  
the future we want

Positive City Exchange

+Trondheim +Limerick +Sestao +Alb...

Collector  
Performan



# About Sustainable Value Creation

A guiding concept to track (and to ensure) the development of **sustainability value-added** in policies, projects, plans, programs etc.

SVC consists of four elements, so called the “Four Pillars”:

- Potential,
- Readiness,
- Opportunity,
- Impact.



Image Source: Trondheim Kommune

# SVC-led city transition for NO

## Pillars:

- mapping impacts of climate action across TBL (**Impact**),
- collecting high-quality granular data to identify investment areas that yield the greatest benefits for climate (**Potential**),
- reflecting on the maturity of a city and its ecosystem to accelerate progress to climate (**Readiness**),
- leveraging additional resources, especially social and technological innovation, through partnerships (**Opportunity**).

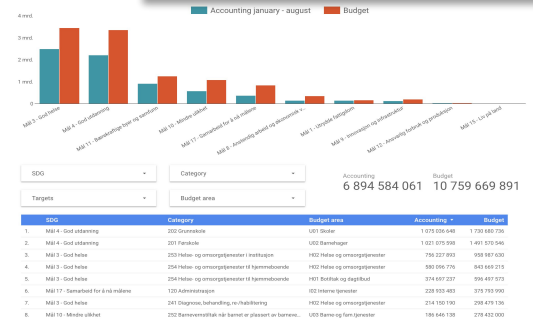
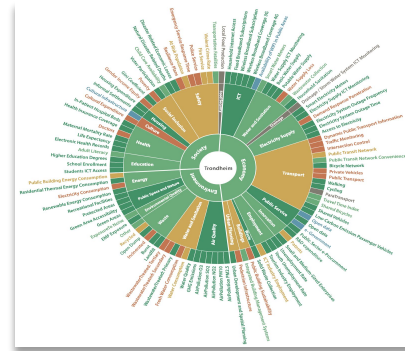


# Role of ICTs in city SVC-led transition for N0

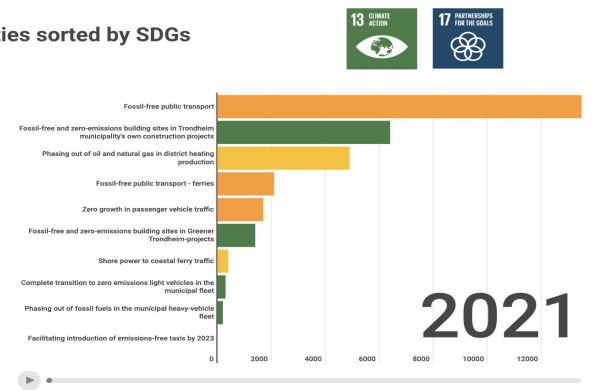
The SVC-city transition framework emphasizes the role of **digitally-enhanced tools for data collection, management, processing, visualization:**

- *U4SSC KPIs, climate indicators*
- *SDG budget*
- *Climate budget*
- *Digital twin city models*
- *SDG indicators ontology model*

but the **ICTs and technological solutions** in energy, transport, etc.



Climate budget activities sorted by SDGs



2021

# Testing the SVC City Transition Framework for N0

## Criteria for onboarding:

- Approve a Net-Zero agenda
- Independently-verified publicly available evaluation
- Demonstrate an ability to implement to trigger investments
- Create the legal framework and entities to manage PPPs
- Share knowledge with other cities and communities

Net-Zero Index



Solar-powered water  
pumps (domestic  
and agricultural use)

Smart-sustainable  
waste management

Upscaling investment in  
data collection (U4SSC KPIs)  
and optimizing their  
operational frameworks → e.g.

- Bold city vision
- SDG budgeting
- Digital twin
- Voluntary Local Reviews (VLR)

Social innovation  
projects (w/ NCC, EA,  
LLWB, XPLORA)

Building on the  
U4SSC data and  
citizen engagement  
for project  
development

+CityxChange  
(Net-Positive)

Time





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# Contact

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