

EBC Working Group on Cities and Communities

**EBC Webinar: The Science and Communication of Energy-Efficient Indoor
Environments**

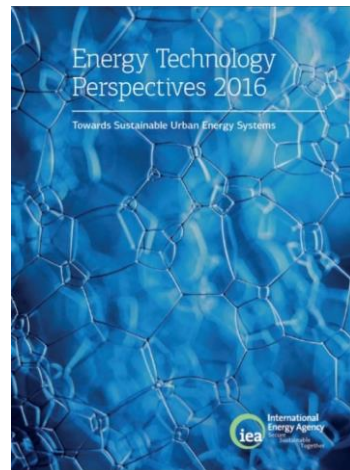
10th November 2020

Helmut Strasser

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Towards Sustainable Urban Energy Systems

“Cities are at the heart of the
decarbonisation effort”

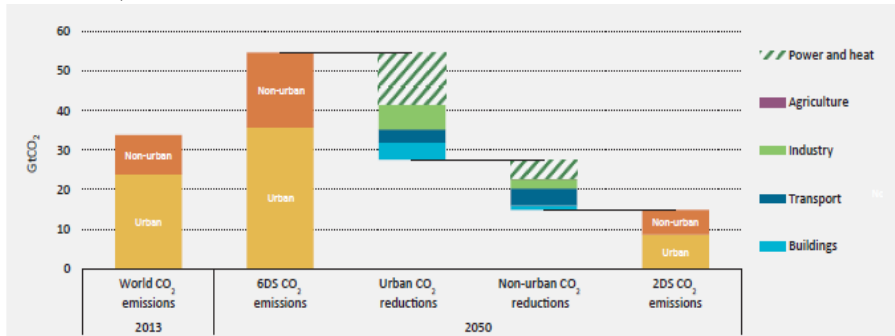


(IEA, ETP 2016)

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Towards Sustainable Urban Energy Systems

Carbon emissions reductions in the buildings and transport sectors, 2013-50



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Towards Sustainable Urban Energy Systems

"Cities are at the heart of decarbonization efforts", but ...

- decarbonization is **often not yet a top priority** in cities
- it is **unclear how** to approach and achieve decarbonization
- decision-making for decarbonization is a **complex task** and requires an integrated approach
- decarbonization is **often only associated with technological advancement** and solutions
- decarbonization requires sufficient appropriation of **financial resources**

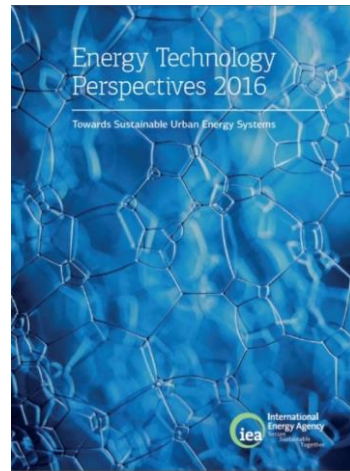
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Towards Sustainable Urban Energy Systems

“Cities are at the heart of the decarbonisation effort”

“Mobilizing the urban sustainable energy potential requires strong support from national governments to local policy makers”



(IEA, ETP 2016)

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Working Group on Cities and Communities

- provide a structure for **information and experience exchange**
- identify bottlenecks that lead to **specific research questions**
- directly communicate with cities on their **needs**
- support **system integration** of relevant technologies and the linking of technologies in cities

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Working Group on Cities and Communities

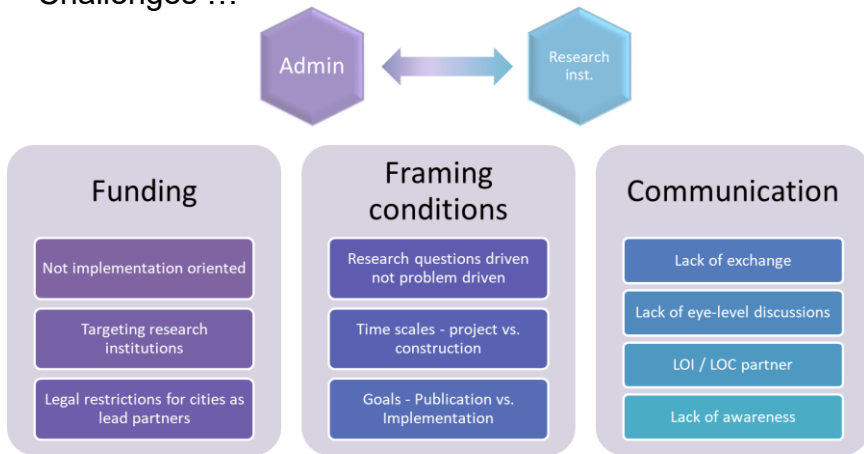
- 59 experts / 13 countries
- workshops, discussions and exchanges
- along three thematic priorities
 - Subgroup 1: Technologies ... for decarbonization
 - Subgroup 2: Strategies ... integrated planning
 - Subgroup 3: Data, tools and methods

Cities' needs



Cities' needs

Challenges ...

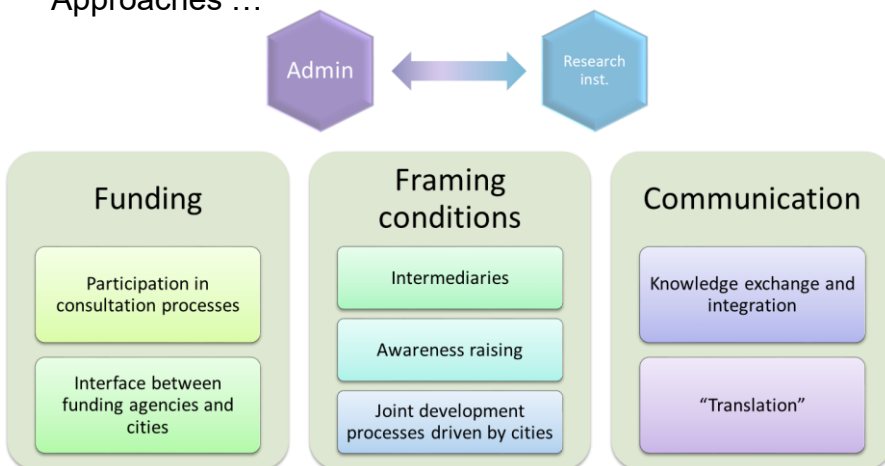


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Cities' needs

Approaches ...



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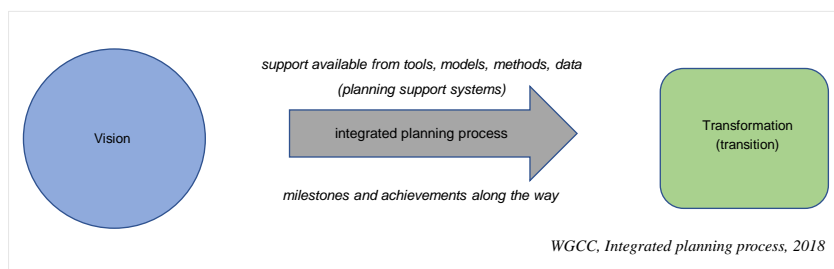
Technologies

- several decarbonisation technologies available which contribute to the transformation of cities' energy systems.
 - high attention to heating and cooling systems needed
 - development of technology-systems for decarbonisation in cities is not just a matter of research on technologies and technology-systems
- Including non-technological aspects such as legal framework conditions, social aspects, etc.
- regular exchange with cities on their options, needs and challenges leads to evidence-based solutions

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Strategies

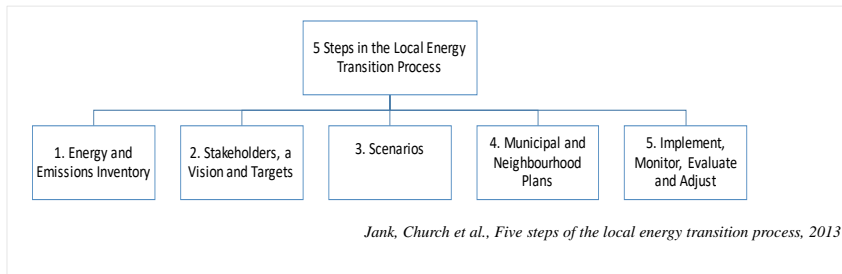


- pending question: how do integrated planning processes fit between vision and transformation?
- all stages of a formalized process are necessary to change organizational structures and foster decarbonization in cities

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Data, tools and methods



- already a lot of research on data in Annexes exists
- identified gaps and research questions
- most suitable selection process to support planning and implementation and ways of integrating knowledge into existing planning instruments (translation of information)

Lessons learned

We need technological/social innovation – “mission driven innovation”

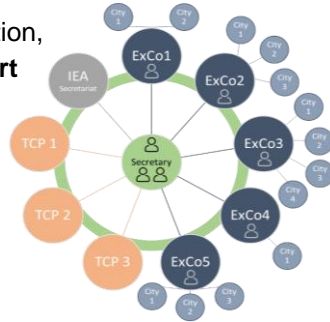
- How can we broadly transfer existing knowledge (research and models) to cities?
- How can we help cities prepare for and embrace emerging "mission-driven" innovation?
- How can cities deal with rebound effects?
- What is the role of the different levels of the government (national, regional, local)?
- How can we better deal with multiple scales, time, and space?
- How can local strategies contribute to the overall (national) goals?
- How can we successfully link the nationally and regionally-specific strategies with appropriate technologies?
- How does decarbonization relate to other goals (e.g. sustainability goals, smart city, circular economy, etc.)?
- How can we incorporate uncertainties (risk) in local decision-making?
- etc.

www.iea-ebc.org/working-group/cities-communities

Decarbonization of Cities and Communities

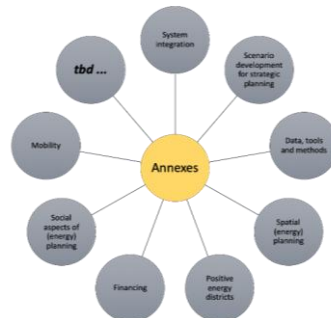
Proposal for a **new TCP** within the IEA,
which aims to provide

- scientific and evidence-based information, tools, and recommendations to **support urban decarbonization efforts**
- an **international forum and communication channel** for research and innovation-related projects on urban energy and mobility system transformation and the **exchange between TCPs** to share innovation in each field as well as **between TCPs and practitioners** to share best practices and to pool resources



Decarbonization of Cities and Communities

- Decarbonization requires the simultaneous coordination and consideration of a multitude of technological as well as non-technological aspects
- Topics on the right are regarded as the fundamentals for strategic and well-coordinated transition and decarbonization



Decarbonization of Cities and Communities

- Documents are available
- Next step:

Web-Meeting of representatives of interested countries / CERT members, invited by Austrian ministry BMK:

- clarify the various national positions
- discuss next steps
- develop a joint proposal for the CERT



Decarbonization of Cities and Communities

Interested in this new TCP?

helmut.strasser@salzburg.gv.at

+43 662 623455 26

