



**SUSTAINABLE
ENERGY WEEK**

#EUSEW2021

An initiative
of the  European
Commission

#BeyondTechnology

Welcome!
We will begin very shortly



Please, mute your microphones



*For content questions during the
session, please use the Zoom chat*





#EUSEW2021

#BeyondTechnology

BEYOND TECHNOLOGY

The Clean Energy
Transition for climate-
neutral, smart and
beautiful cities



Today's agenda

1) Welcome by Annemie Wyckmans

2) Multiple Perspectives that make the Clean Energy Transition possible

The Clean Energy Transition for climate-neutral, smart, and beautiful cities and communities: the European perspective
by Georg Houben

The Clean Energy Transition: a holistic approach for cities and communities
by Adel El Gammal

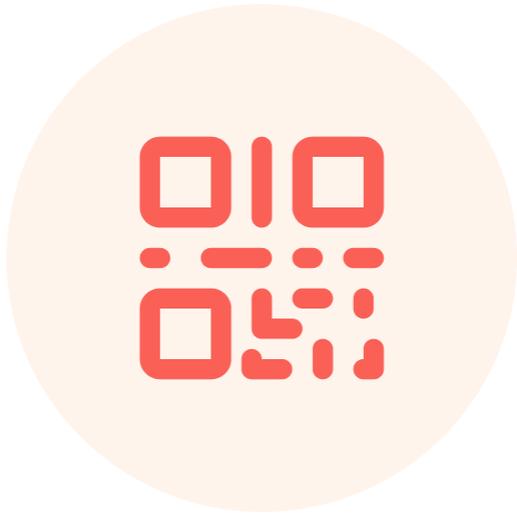
Development and market uptake of innovative products and services
by Lucienne Krosse

Bringing science closer to citizens: the perspective of medium and small-sized towns and cities
by Charlotte Spörndli

3) Panel Discussion - Reconciling perspectives: ideas to move forward

4) Conclusions and main takeaways by Annemie Wyckmans

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**Join at slido.com
#195405**

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Invited speakers

Adel El Gammal

EERA - Secretary General



Georg Houben

DG ENER - Smart Cities & Communities



Charlotte Spörndli

eea - General Manager



Annemie Wyckmans

Head of NTNU Smart Sustainable Cities



Lucienne Krosse

InnoEnergy - Smart Buildings & Cities



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Developing climate-neutral, smart and beautiful cities is a key building block towards making the whole of EU climate-neutral. However, and despite the unprecedented development of low-carbon energy technologies, it still remains a significant challenge.

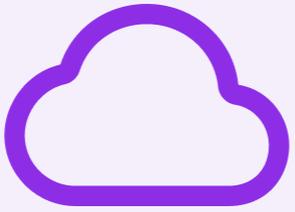
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What is your background?

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In your view, what is the one thing that needs to be done differently at a societal level to progress in this objective?

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At the individual level, what is the one thing that you can do differently to progress in this objective?

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Georg Houben

DG ENER - Smart Cities & Communities



**THE CLEAN ENERGY
TRANSITION FOR
CLIMATE-NEUTRAL,
SMART, AND BEAUTIFUL
CITIES AND
COMMUNITIES**
**The European
Perspective**

EU Sustainable Energy Week – Extended Programme

Beyond Technology: The Clean Energy Transition for climate-neutral, smart, and beautiful cities and communities – the EU perspective
14 October 2021



Georg Houben

Unit B1 – DG Energy
European Commission

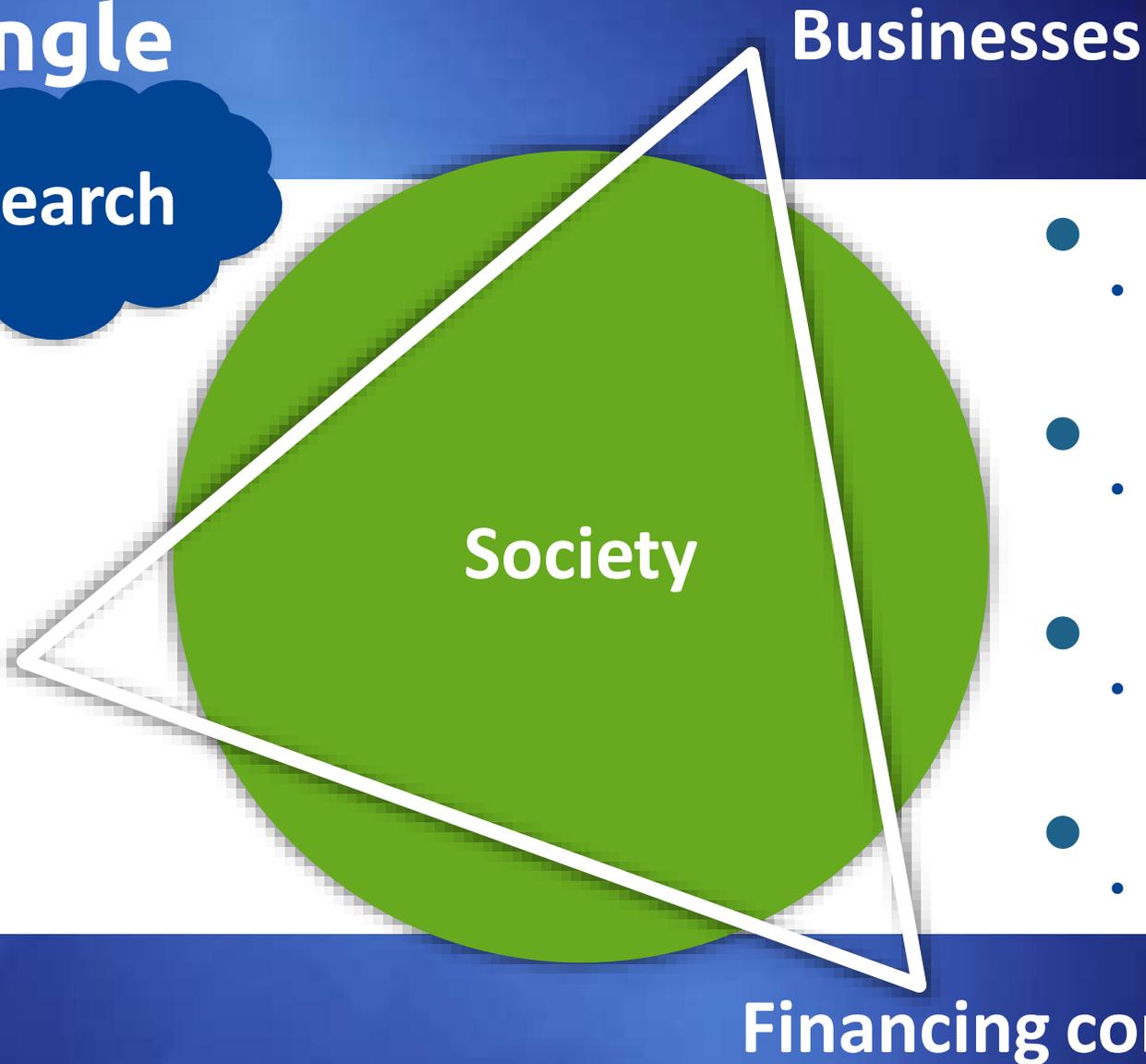


Why Smart Cities ... and why now?

- **Approx. 75% of the EU's population lives in cities, of which approx. 55% in Small & Medium Sized Cities.**
- **Approx. 85% of the EU's GDP is generated there.**
- **Cities deliver on jobs, growth, resilience, investments, innovation and CO₂ reduction, to name a few ...**
- **... and cities are at the forefront of the COVID-19 crisis!**

Challenge triangle

Research



- **Cities = main drivers!**
 - *Facing the city society and the market, pushing the need-driven agenda*
- **Businesses**
 - *Standardised (industry) vs. tailor-made (SMEs, start-ups)?*
- **Financing community**
 - *Low-risk (standardised, distinct) vs. innovative (tailor-made, integrated)?*
- **(Applied) research**
 - *Supporting all areas, not acting as driver.*

Financing community



European
Commission

The EU's support to cities

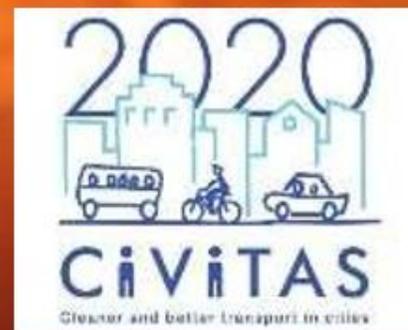
Total of
€1.8 trillion of
investment

- **European Green Deal** delivering – inter alia – a massive renovation wave, cleaner transport and logistics as well as a number of measures for the digital transition in cities!
- **Horizon Europe: Mission on Climate-Neutral and Smart Cities**, continued support to urban projects and platforms
- **InvestEU**
- **Next Generation EU** with €750 billion targeted at COVID-19 recovery, supporting the delivery of the European Green Deal
- **Recovery fund**

Building on EU level initiatives & support



HORIZON 2020

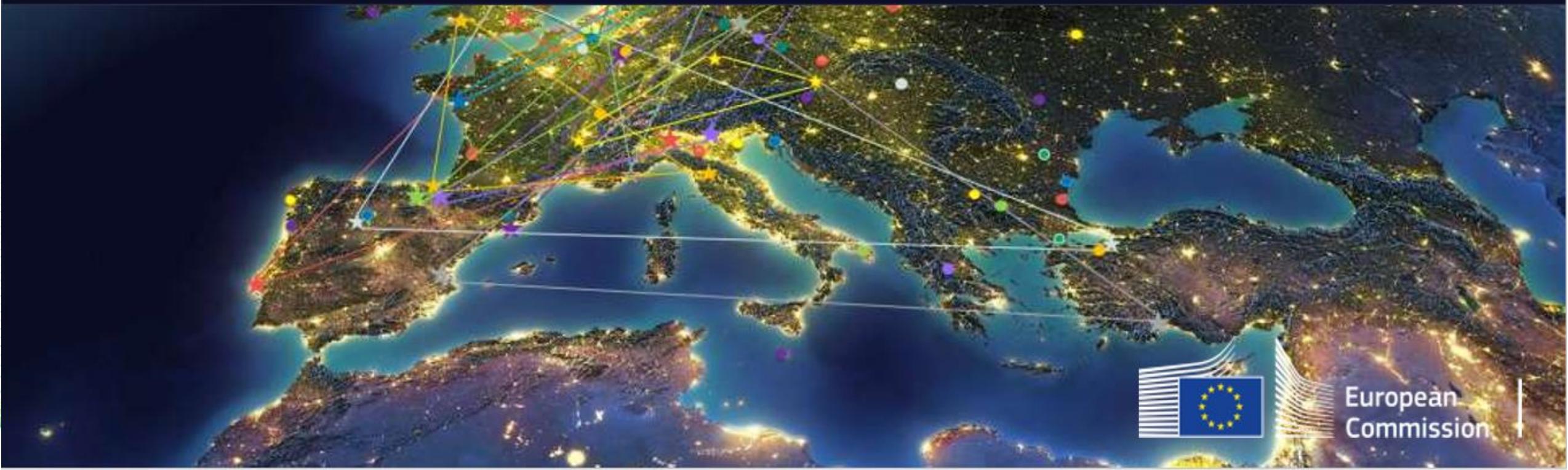


LIVING-IN.EU



European
Commission

- **8 editions of H2020** Lighthouse project calls
- **18** Lighthouse projects
- **48** Lighthouse cities
- **76** Fellow & observer cities
- **About € 430 million**
co-funded



Smart Cities Marketplace's Matchmaking

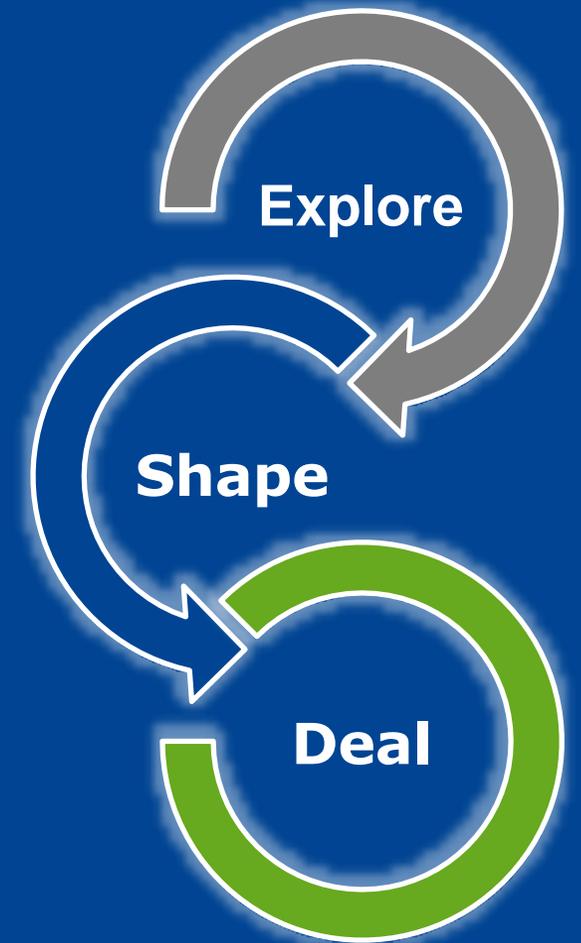
Three phases

- Explore. See and learn what's next.
- Shape. Shape project and action plans.
- Deal! Create relations and opportunities.

Approx. **130 projects** with an aggregated total budget of approx. **EUR 600 million** have been matched with investors' interests, so far!

More info:

<https://smart-cities-marketplace.ec.europa.eu/matchmaking>



Thank you!

Georg.HOUBEN@ec.europa.eu



Get in touch at

<https://smart-cities-marketplace.ec.europa.eu!>

 @EUSmartCities



Adel El Gammal

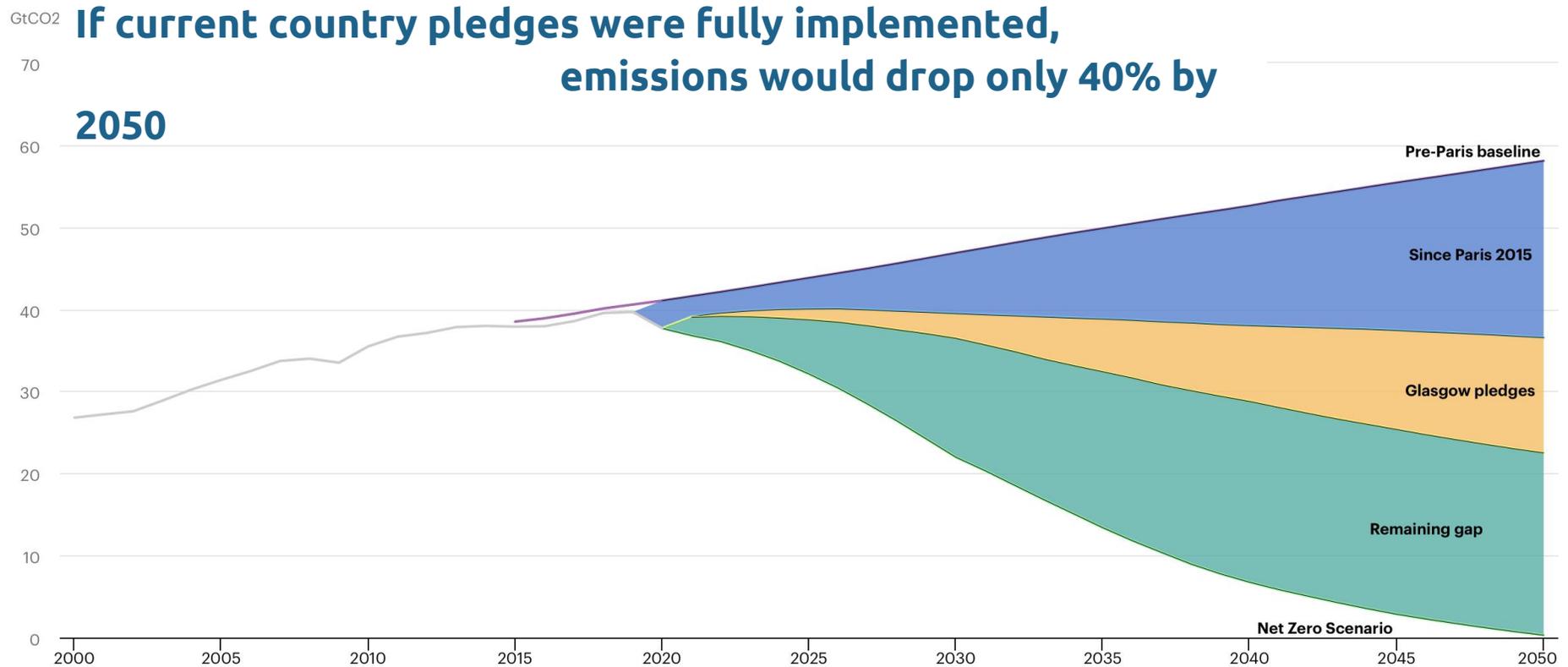
EERA - Secretary General



**THE CLEAN ENERGY
TRANSITION:
A holistic approach for
cities and communities**

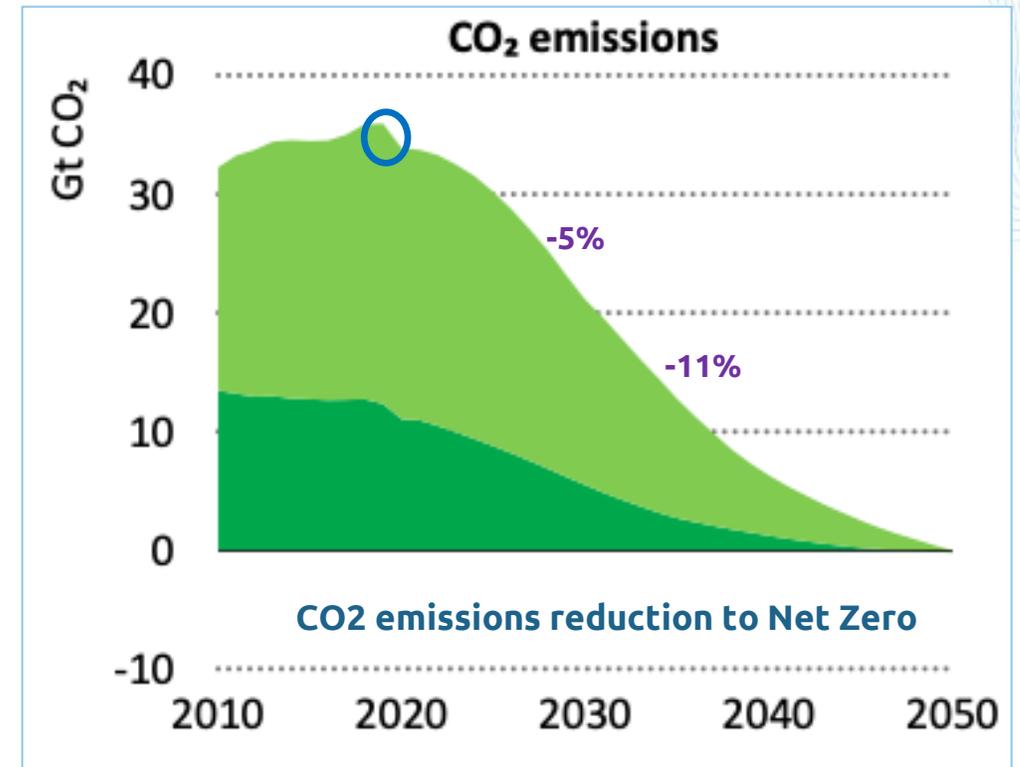
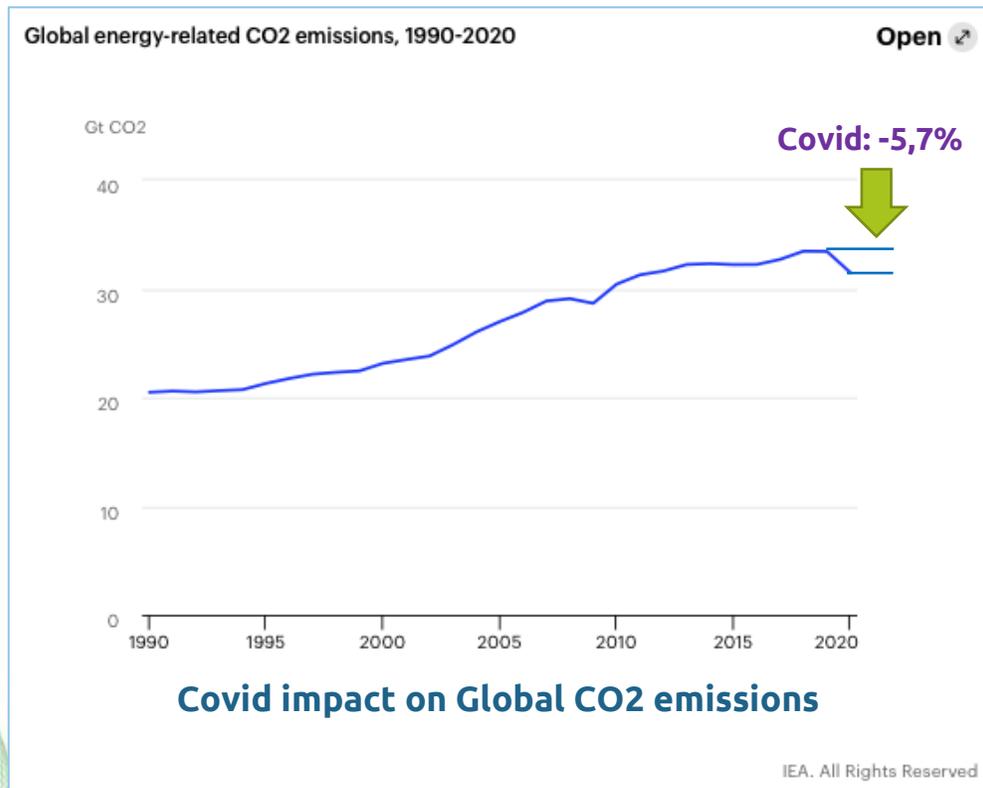
Where do we stand ?

Global emissions by scenario, 2000-2050

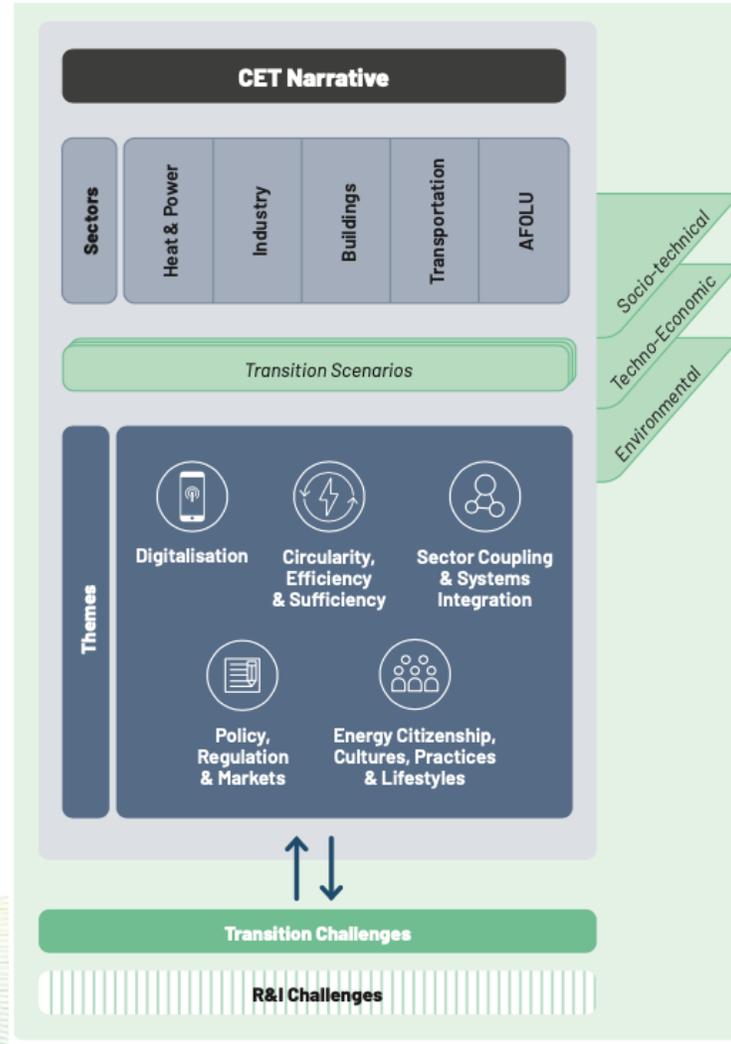


Figuring what “Net Zero” means ?

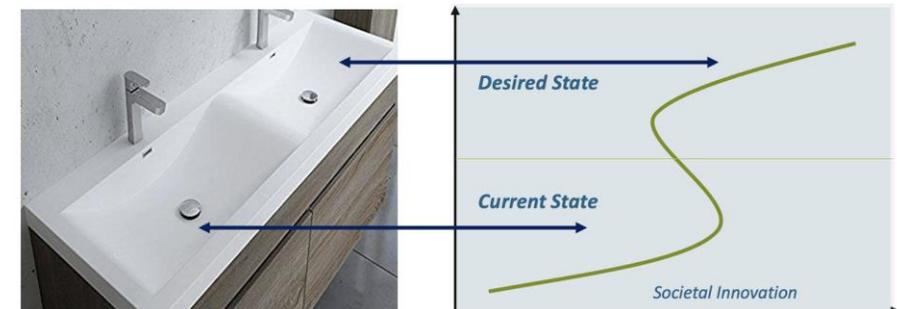
Needed: “cumulative impact of 1 Covid crisis every year to 2050”



How to drive the CET

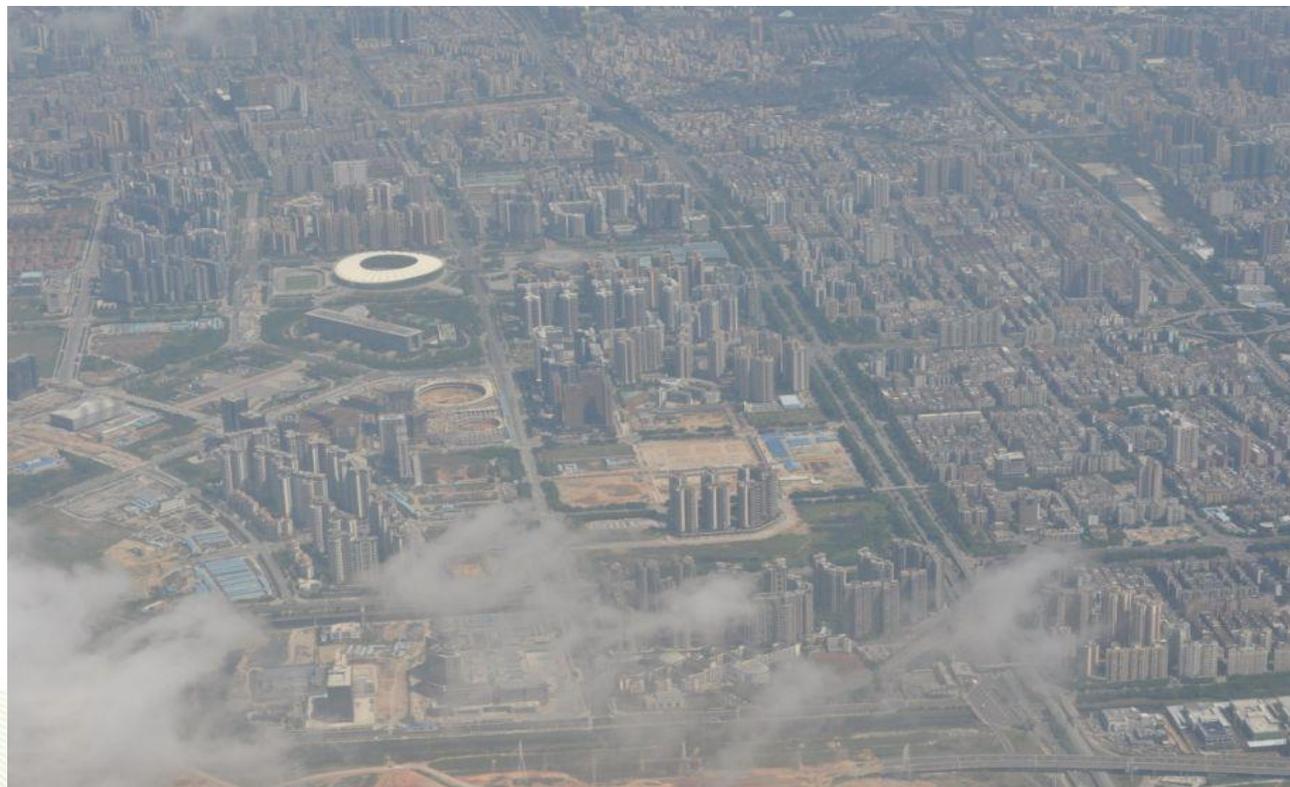


- Holistic
- Systemic
- Cross-sectoral
- Inter-disciplinary
- Non-linear innovation

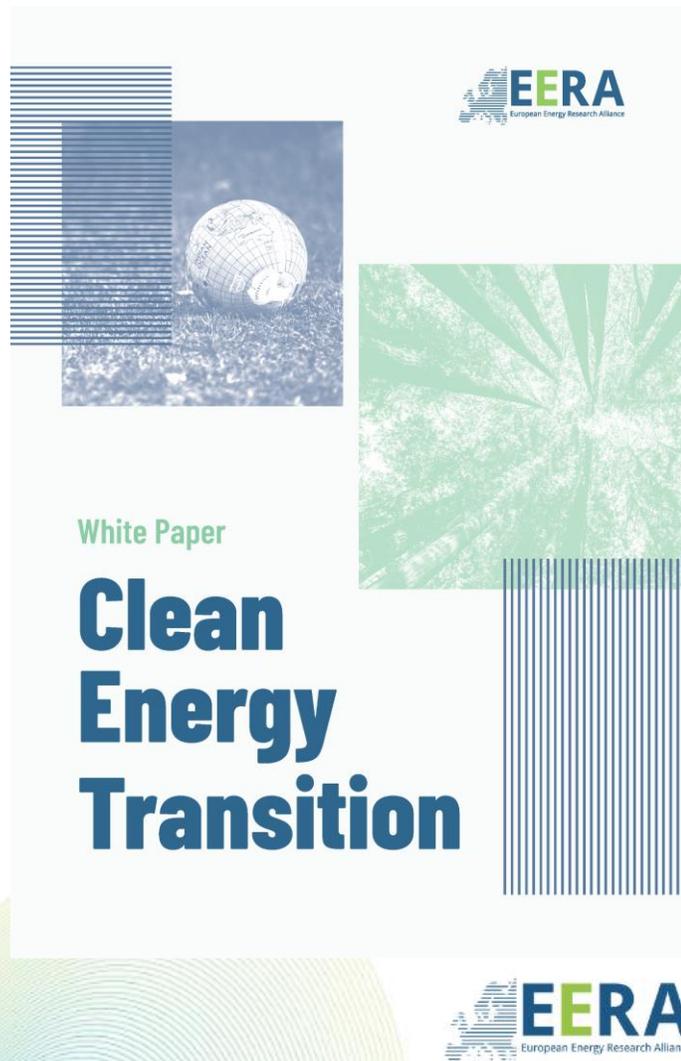


Cities at centre of the transition...

- **Cities generate about 72% of global GHG emissions today**
- **They will host circa 70% world population by 2050, and 85% in EU**



The EERA White Paper on Clean Energy Transition



Driving the Clean Energy Transition: From Vision to Reality

20 October - Hybrid

Keynotes

- J.P. van Ypersele: Honorary Vice Chair of IPCC
- P. Close: Mayor of the City of Brussels

Panel discussions

- High level representatives from the EC
- Members of the EP
- Senior Executives from civil society

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In general, do you feel that the local government action is adapted to the climate urgency?

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In general, do you feel that the national government action is adapted to the climate urgency?

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In general, do you feel that EU policies and action are adapted to the climate urgency?

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In general, do you feel that people are well informed about the climate challenge and the “Clean Energy Transition”?

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Lucienne Krosse

InnoEnergy - Smart Buildings & Cities

DEVELOPMENT AND MARKET UPTAKE OF INNOVATIVE PRODUCTS AND SERVICES

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What is critical for successful market uptake?

ⓘ Start presenting to display the poll results on this slide.

InnoEnergy in a nutshell:

Reducing risk and time-to-market for energy innovations

EIT InnoEnergy Objectives

- Ensure security and safety of supply
- Reduce costs in the energy value chain
- Reduce CO₂ emissions
- Improve European competitiveness
- Remove barriers to innovation
- Encourage sustainable growth
- Create jobs

EIT InnoEnergy Activities

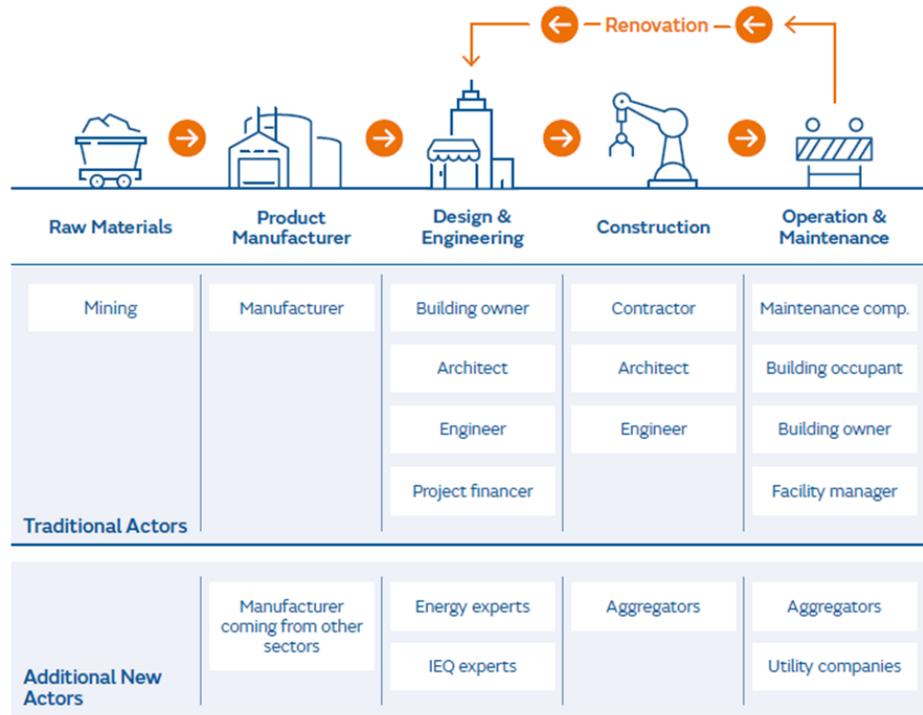
-  **Human Capital:** Master Programs and professional learning
-  **Incubation:** Investing in early-stage start-ups and scale-ups
-  **Innovation:** Investing in product development
-  **Setting up Industrial value chains:** European Battery Alliance (EBA), European Green Hydrogen Acceleration Center (EGHAC), European Solar Initiative (ESI)

Key Statistics



* Start-ups and innovation projects supported by EIT InnoEnergy since 2010.

Value chain and innovations



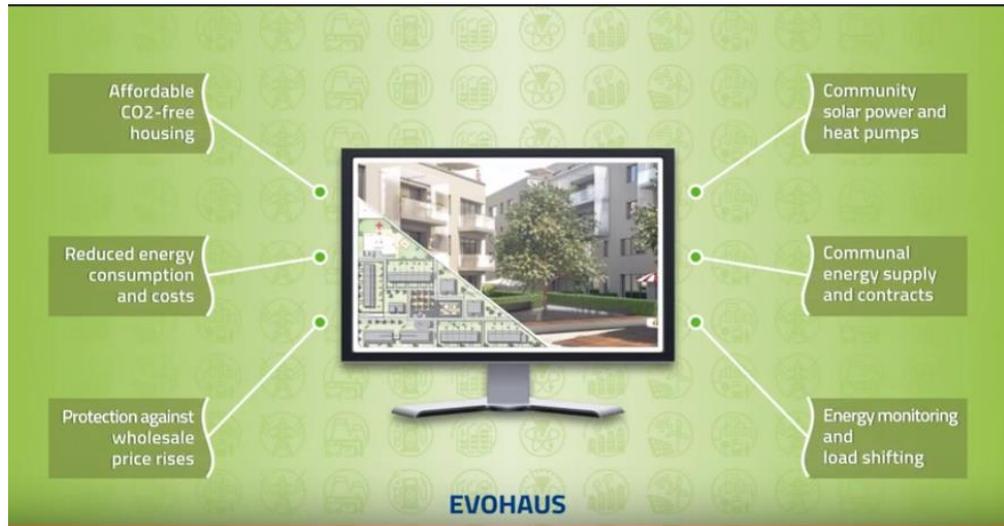
RENOVATION	Residential	Non-Residential	District
Turn-key renovation	WoonDuurzaam EOS (apartment buildings)		
HVAC, storage & self-consumption systems	ART SunRidge Duschkraft Heaboo Solabchiller BeeHome Handle	SunAirBalcony Sylfen LYV Solabchiller AlpinovX Voltstorage	Ecovat HeatVentors
Decentral energy generation	Abora Energy Sunaitec Ecomesh Samster Sunroof Supersola CompactSolar Smartroof Suntiles	Windmyroof	Heliac
Digital, sensors, energy optimisation and comfort	Pionierkraft Ogga Ngenic EnergiOT	Busto Thinnect Vilisto Ecotropy CEO Betterspace ESC Bee2Energy Modio KoenaTec	Pionierkraft DC Brain

Turn-key developments

market uptake – examples



Carbon neutral districts for the mid- and lower incomes

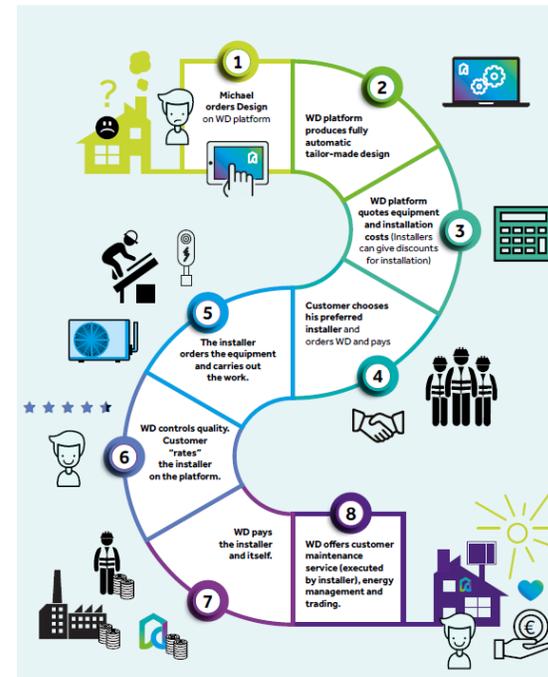


www.evohaus.com

Install-base: Ca. 1000 apartments, in 3 cities



One-stop-shop, turn-key renovation privately owned homes



www.woonduurzaam.nl

Coverage Netherlands, planned internat. in 2021

Scalability – It’s a system approach and mindset

market uptake

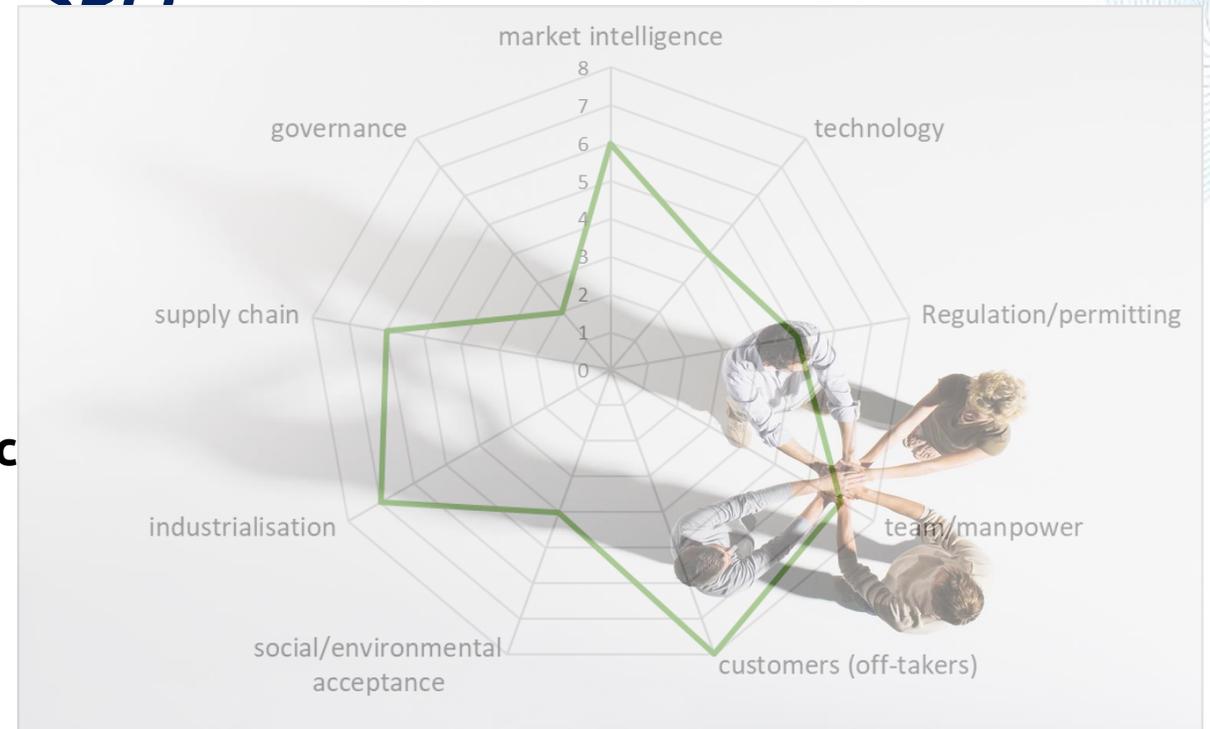
Scalability

- **Not a one-fits-all solution**
- **Different methodologies exist**

However, common characteristics include:

- **Essential starting point: Shared vision**
- **Integrated system approach in all aspects**
- **Team, plan, execution, timing**

$$IRL = f(TRL, MRL, CRL, CDI)$$



THANK YOU!

Questions?



Charlotte Spörndli

eea - General Manager



**BRINGING SCIENCE
CLOSER TO CITIZENS**
**The perspective of
medium and small-
sized towns and cities**

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For which type of projects would you see the biggest need for a research – city cooperation?

① **Start presenting to display the poll results on this slide.**

The European Energy Award: Who we are

**18 European countries
1700 local authorities**

Pacte Climat EUROPEAN ENERGY AWARD
Ma commune s'engage pour le climat

e⁵
programm für energieeffiziente gemeinden

EUROPEAN ENERGY AWARD

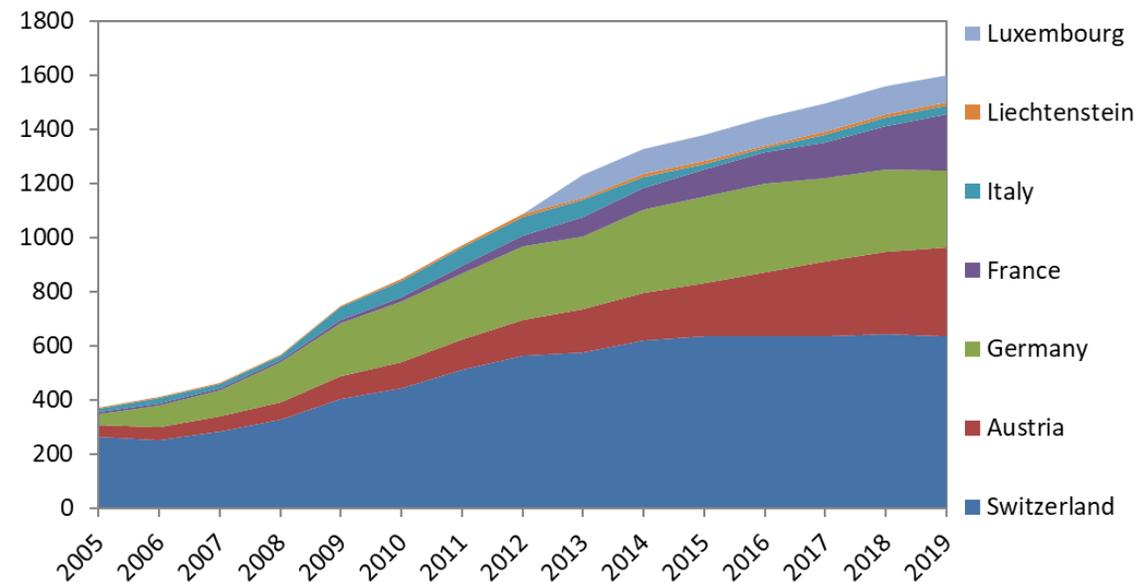
Energiestadt
european energy award

SILVER
KlimaGemeinde
CommuneClimat
european energy award

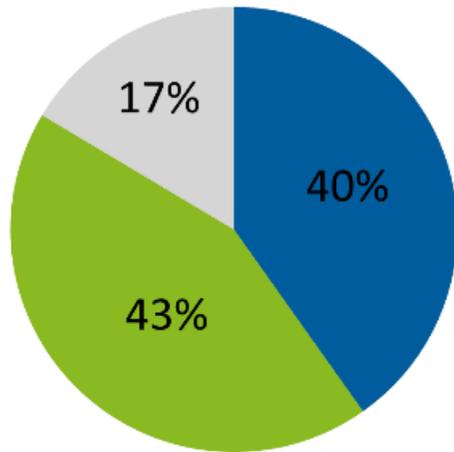
TERRITOIRE ENGAGÉ
TRANSITION ÉCOLOGIQUE
★★★★★
european energy award

Constant growth in countries and local authorities since 30 years

Local authorities participating in the European Energy Award 2005- 2019



The European Energy Award: size of participating local authorities



■ < 5'000 ■ 5'000 - 50'000 ■ > 50'000

**Biggest city:
Sofia, pop.: 1.3 Mio**



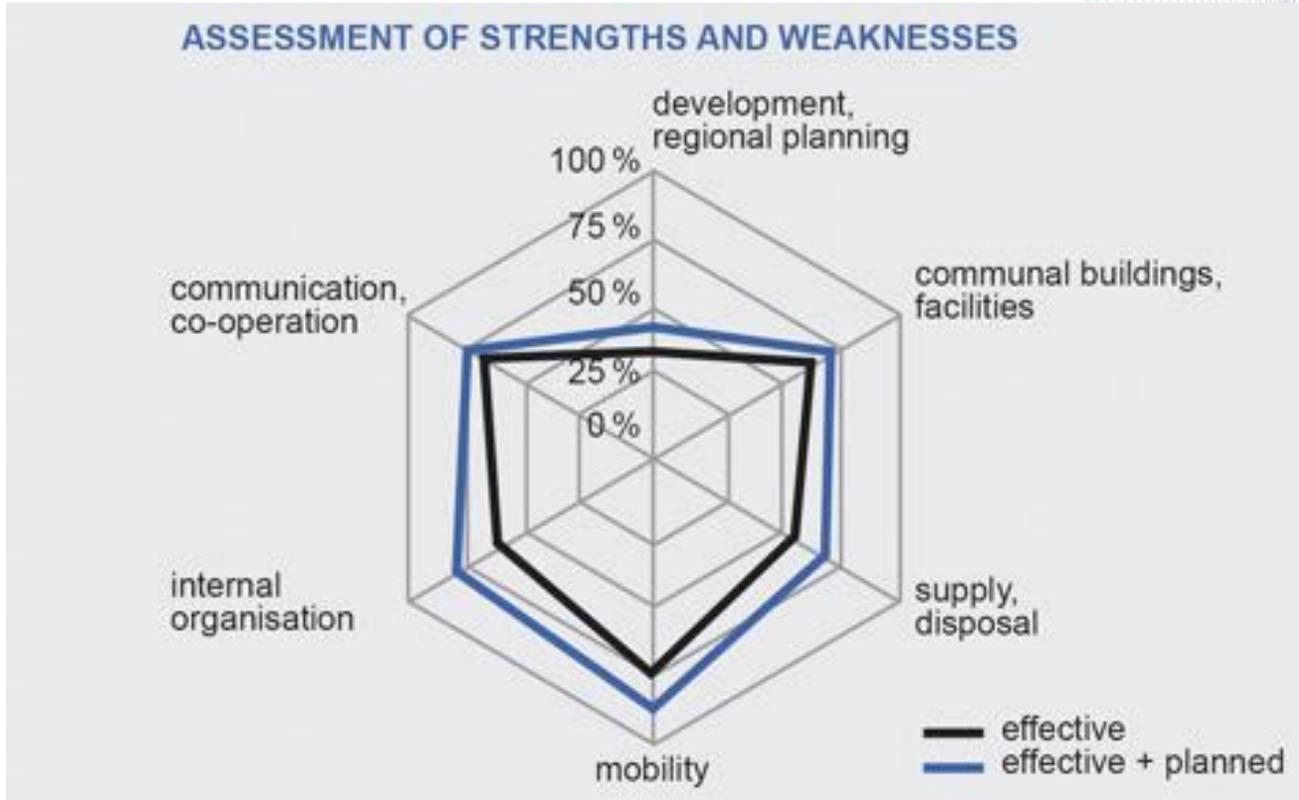
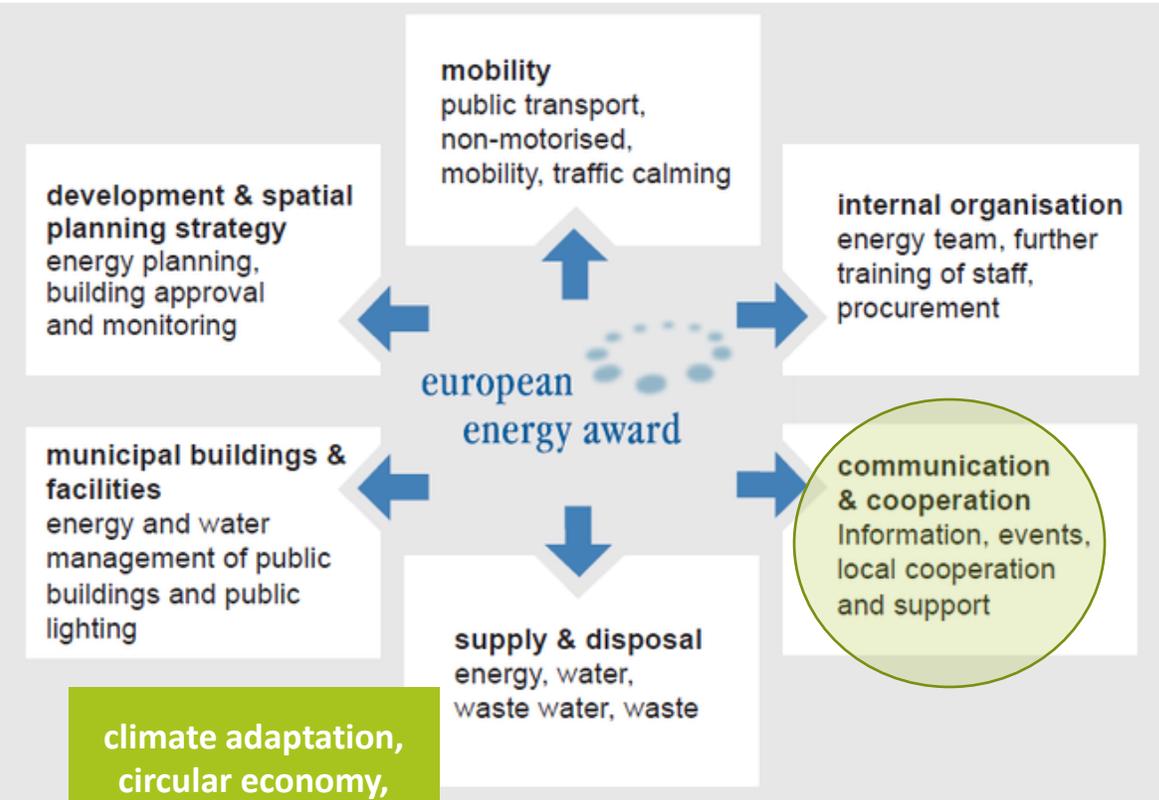
**Smallest
municipality:
Senède (CH), pop.:
156**



The European Energy Award: a quality management and awarding system for local authorities



The European Energy Award: a quality management and awarding system for local authorities



The eea core instrument: the eea catalogue of measures

Show navigation Municipality Assessment tool Gene

Cycle eea 2020 (current) v

No.	Fav.	Title
1		➤ Development & spatial planning strategy
2		➤ <u>Municipal buildings & facilities</u>
3		➤ Supply & disposal
4		▼ Mobility
4.1		Mobility in administration
4.1.1	☆	Promotion of mobility awareness in administration
4.1.2	☆	Municipal vehicles

- ca. 60 internationally harmonized, but nationally and locally adapted measures
- Very structured approach (QM)
- Online collaboration for information, documents, best practices
- SWOT analysis for local authorities
- low entry level for beginners (also qualitative data)

- ✓ IDEAS, KNOW
- ✓ BENCHMARKING
- ✓ NATIONALPRIORITIES

The eea core instrument: the eea catalogue of measures

Examples of measures

Area 5:

- **5.1.2: Committee (climate team): administrative and political staff, but also citizens and other stakeholders (e.g., academia), guidance and coordination of all activities**

Area 6: Cooperation and Communication

- **6.2.4: Cooperation with universities and research: on any 'eea topic'**
- **6.4.1: Working groups, participation: involvement of citizens in decision-making processes**
- **6.4.2: Local population: sensitization and motivation of citizens**
- **6.4.3: Multipliers (NGOs, associations, religious institutions...)**
- **6.5.2 Exemplary project: local authority enables project by (private) stakeholders**

Example eea / climate team

- **The climate team for the interdepartmental consideration of energy, climate and environmental issues consists of representatives from politics, municipal administration, the population and other local stakeholders. In the composition of the climate team, attention is paid to gender and age balance.**

**Systematic involvement of young people should be ensured.
Additionally: The climate team identifies projects or actions in which the involvement of young people is opportune and looks for suitable implementation partners (schools, (sport) associations, scouts, etc.) and opportunities.**

PacteClimat | EUROPEAN ENERGY AWARD
Ma commune s'engage pour le climat

Examples citizen engagement online and offline

- Ravensburg (DE, pop.: 50 000) and Uster (CH, pop.: 36 000): randomly selected citizens, several days of workshops, actions plans approved by city council as results



- Lustenau (AT, pop.: 23'000): online platform for ideas in the smart city context, as result of a citizen workshop, works also in smaller towns

Examples collaboration with research

- **Strategy, Planning:** e.g., climate adapted urban planning
- **Public buildings and infrastructure:** Ecologic construction material, smart street lighting, waste water
- **Energy supply:** e.g., new PV-applications, on façades, on a church roof, on communal streets, ...
- **Mobility:** E-mobility, shared/smart mobility
- **Resource management, circular economy**
- **Agriculture, forestry**
- **Communication, education**





Brest (FR): European Energy Award Gold city

THANKS FOR YOUR ATTENTION!
Questions?

Panel Discussion

Reconciling perspectives: ideas to move forward



Annemie Wyckmans
Head of NTNU Smart Sustainable Cities



Georg Houben
DG ENER - Smart Cities & Communities



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Annemie Wyckmans
Head of NTNU Smart Sustainable Cities

CONCLUSIONS AND MAIN TAKEAWAYS



**SUSTAINABLE
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**THANK YOU FOR
JOINING US!**

