FCA Future Cleantech Architects

FUTURE CLEANTECH ARCHITECTS

Future Cleantech Architects (FCA) is a think tank based in Germany, dedicated to high-impact R&D for the energy transition. Zooming in on eight specific R&D areas, FCA draws upon a highly experienced international expert base to identify and support innovative approaches with the potential to reduce greenhouse gas emissions drastically.

Feb. 16th, 2021
Dr. Peter Schniering, Founder FCA
peter.schniering@fcarchitects.org

FCA completes virtual panel discussion on "The Zero-Carbon City" at NRW Ministry of Transport's Bündnis-Tag Digital

- Total of +2,500 participants attended the virtual event at NRW Ministry of Transport, about 550 participants during broadcast of panel discussion.
- FCA zooms in on key research R&D requirements of a future, zero-carbon urban structure.
- Claudius Schaufler (Fraunhofer IAO, DE) and Joanna Hubbard (Electron, UK) sketch their visions of critical infrastructure and data properties in sustainable cities of the future.
- See full live-stream here.

Remscheid, 16 Feb 2021. Alongside Joanna Hubbard, Founder and CEO of Electron, and Claudius Schaufler, Head of Competence Team Smart Urban Environments at Fraunhofer IAO, Future Cleantech Architects (FCA) founder Dr Peter Schniering took part in the North Rhein-Westphalian Ministry of Transport's Bündnis-Tag Digital on Wednesday, February 10th. Around 2500 participants tuned in to the online forum in total. Viewers were able to ask the panelists questions via a chat tool throughout the discussion.

In a panel named "The Zero- Carbon City: Digital Infrastructure for Sustainable Mobility", the three discussed the challenges and possibilities of future net carbon emission cities. Commenting on the difficulties that need to be overcome in order to create the infrastructure for climate-friendly cities of the future, Dr Peter Schniering noted that "there are so many new players that must be connected, that need to communicate, that need to be digitised and digitalised in the mid-term in order to realise the full locational and economic potential they carry by storing and producing energy and communicating with each other."

Data and Connectivity will Shape the City of the Future

Claudius Schaufler, who's work at Fraunhofer IAO focuses particularly on urban foresight and transformation research towards more resilient city infrastructures, stressed that there is no one single blueprint for exemplary city development, every city needs to find their way to develop solutions that meet the local requirements. What they will likely all have in common, however, is that they will be shaped by data and utilise evidence-based planning. Besides the four major criteria he believes will define the city of the future (listed below), Schaufler imparted that, in order to effectively simulate how the CO2 free city of the future could look like, open data-platforms and accessibility by defined data standards are needed.

When it comes to carbon neutral mobility, Schaufler believes that a re-thinking of public transportation and how we use it will take place. "We are going to move from a monofunctional mobility system, relying heavily

on the car, towards a more intermodal system based on digital interfaces". While all three panelists agreed that technological advances in the areas of electrification and hydrogen may contribute to solving many of our climate-related problems in the future, they also discussed the various other areas that must be developed and expanded upon right now.

"Sector Coupling is a New and Trendy Buzz Word in the Energy Transition"

Joanna Hubbard, who has also been serving as FCA Advisory Board member since 2019, expressed her belief that it is sector-coupling that will facilitate the renewable transition in a not only prompt, but also economical manner: "Hydrogen has fantastic prospects in areas like heavy industry, but it's not going to solve all of our problems in the next ten years, it's not going to help us skip a step – sector coupling is, digitisation is". Using Electron's work as an example, Hubbard demonstrated how sector coupling can provide much more reliable grids as it facilitates many small power sources to do what one large one did in the past.

When deliberating on what areas needed to be most heavily invested in, Hubbard stated: "The most important aspect to invest in and develop is the connective tissue between all of the different types of energy assets, utilities, players, and future service providers". All panelists concurred that there is also an immediate need to "start leaning into abundant power so that we have got more renewable power to optimise, because that is when people start entering markets."

FOUR MAJOR CRITERIA FOR THE SUSTAINABLE CITY OF THE FUTURE

- Claudius Schaufler

1. Will be more human-centred and put people first, designing infrastructure to cater to their needs. Not only thinking of the needs of today, but also of the needs of the future and how technologies can impact that.

2. Is going to be CO2 positive. Emissions and climate friendliness must be one of the guiding principles in city-planning. We already have guidelines and criteria today, but we must effectively put these into practice.

3. Is going to be spatially diverse. All kinds of different functions will be combined in a semi-public environment, creating an infrastructure which will allow us to mix work, leisure, and production. A CO2 positive city must be diverse and must adapt to changing needs.

4. Will be shaped by data and utilise evidence-based planning. Data will be the main focus of planning in the future, allowing us to simulate how the CO2 free city of the future can look like.

Further Reading / Links / Resources

Watch the entire discussion at:
https://www.buendnis-tag.nrw/mediathek/the-zero-carbon-city.html

FCA Homepage:
https://fcarchitects.org

Future Cleantech Architects gGmbH
Hindenburgstraße 37
D-42857 Remscheid
GERMANY
HRB 3.11.22
www.fcarchitects.org