

Swiss-US Energy Innovation Days**Workshop Architecture & Space – Energy as Context or Driver**

Current technologies and an increasing amount of projects show the compatibility of energy efficiency and building performance with comfort and aesthetics for a sustainable building design. On a larger scale however, current challenges lie in acknowledging and integrating the necessary transition towards local, renewable energy sources and systems. This, in turn, raises fundamental questions about potential interactions between energy supply and urban development and design.

Objectives

The objectives and expected outcomes of the workshop are the following:

- Discussion of relevance, potentials and constraints the transformation of our energy systems introduces to the design and planning of buildings, districts and cities, from different domain perspectives
- Exchange of experience, current and future practice in US / CH
- Identification of potential collaborations between US and CH groups

Audience

The workshop participants will be from different fields such as architecture, energy / technology, government / administration, industry, and of different levels of expertise.

Day 1 / August 19 / 9-12pm / Topic: 'Interrelations between energy and urban systems'

[19 participants]

Future energy systems harness local renewable energy sources to supply individual buildings and larger entities such as districts, aiming at low to zero carbon emissions in operation. This addresses many relevant aspects related to architectural and urban design, from site microclimate, urban morphology, mix of use and spatial programming to form and materiality of surfaces. The first workshop focuses on the *systems* aspect and addresses questions of interaction, design integration and potential synergies between energy systems and architectural and urban design.

Questions:

- Should the availability and optimal use of renewable energy become a central driver in architectural and urban design?
- What are spatial, social and aesthetic implications? Do we need a new 'Image of the city' ?
- What are potential synergies between use and design of space, energy and transport and how to we leverage them in design?
- What is the role of architects and planners, and do they need to be educated differently?

Timeline:

- Introduction, Arno Schlueter [10']: *'Energy and the City'*
- Keynote Kiel Moe, Harvard GSD [15'+5' Q&A]: *'Maximum Power Design'*
- Keynote Markus Schaefer, HosoyaSchaefer Architects, Zurich [15'+5' Q&A]: *'Title tbd'*
- Keynote Friederike Pfromm, Eco-Bau / City of Lucerne [15'+5' Q&A]: *'Title tbd'*
- Coffee break [20']
- Group Discussion, breakout in 2 groups [60']
 - Group 1 (Moderator: Arno Schlueter)
 - Group 2 (Moderator: Kiel Moe (tbc))
- Conclusions and closing in plenum [30']

Day 2 / August 20 / 9-12pm / Topic: 'Holistic energy planning and urban design'

[24 participants]

As renewable energy supply is sensitive to user dynamic user demand, availability of sources and storage, sustainable urban development and energy systems planning has to be tightly coupled. This poses challenges concerning size and scale of aggregations and networks (buildings-districts-neighborhoods) but also to planning, organization and management of such integrated development. The second workshop focusses on the aspect of *decision making and process* and addresses questions of scale, governance and organization to achieve future low-carbon cities.

Questions:

- From top-down to bottom-up: As everyone becomes a 'prosumer' what is the granularity, the ideal size and space of networks and aggregations? Should we be moving towards self-sufficient districts and neighborhoods?
- How do we organize and manage complex and integrated planning processes on urban level, including the relevant stakeholders?
- Governance vs. business models: What is the role of communities vs. private investors?

Timeline:

- Introduction, Arno Schlueter [10']
- Keynote Andrea Love, Payette Associates, Boston [20'+5' Q&A]
- Keynote Joris van Wezemael, Pensimo, Zurich [20'+5' Q&A]
- Coffee break [30']
- Group Discussion [60']
 - Group 1 (Moderator: Arno Schlueter)
 - Group 2 (Moderator: Andrea Love (tbc))
- Conclusions and closing in plenum [30']