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Interview

"Building-integrated photovoltaics is a fascinating technology, but it is the customers who will decide whether it becomes established on the market."

This joint project is examining the obstacles that hamper the widespread use of building-integrated photovoltaics, and is developing strategies for overcoming them. In our interview, Professor Emmanuel Rey and Professor Rolf Wüstenhagen explain the objectives that are being jointly pursued by engineers and social scientists.

Which issues is your research project focusing on and which specific findings are you anticipating?

Rey: Our project is primarily focusing on the quantitative and qualitative options for the use of building-integrated photovoltaics (BIPV) in the wake of urban renewal and development processes. Our goal is to overcome the numerous obstacles that still exist for BIPV today, both at the technological level, as well as from the point of view of architectural integration and social acceptance.

With regard to "social acceptance", this project is part of NRP 70, which mainly focuses on technical aspects: how are social aspects being integrated?

Wüstenhagen: BIPV is a fascinating technology, but it is the customers who will decide whether it becomes established on the market. In view of this, the decision-making processes of architects, investors and home owners are of central importance.
Rey: This is why engineers and social scientists are working together on this interdisciplinary project, which is based at the Laboratory for Architecture and Sustainable Technologies (LAST) at the Federal Institute of Technology, Lausanne. In addition, a broad range of Federal Institute of Technology units are involved, together with other universities, as well as players from the private sector.

Have you already obtained new findings since the project was initiated?

Rey: In the field of architecture we have meanwhile identified six archetypical buildings in Neuchâtel that we are now examining on an interdisciplinary basis as representative case studies.
Wüstenhagen: We have conducted a series of interviews with key players in the BIPV market and discussed the resulting findings in a workshop with participants from the St Gallen Forum for the Management of Renewable Energy. And we will shortly be initiating a survey among 400 Swiss home owners. In this way we aim to create the basis for developing recommendations for action in order to exploit the market potential of BIPV.

What was your personal motivation for initiating this project?

Rey: For me it was the desire to harmonise the architectural challenges, the planning of high-density urban development and the principles of sustainability with the change in energy policy. We are going to have to fundamentally change our energy consumption behaviour in the future. This means adapting at three levels: namely, increasing energy efficiency through technological progress, and making changes with regard to socio-cultural and socio-economic lifestyles.
Wüstenhagen: For me the main motivation was that the project deals with a highly-relevant topic and involves an interdisciplinary consortium with leading researchers from Eastern as well as Western Switzerland. Switzerland possesses the ideal prerequisites for mastering the transition to a renewable energy supply, and thus for inspiring other nations to follow suit. Let's tackle it!

Professor Emmanuel Rey *is Director of the Laboratory for Architecture and Sustainable Technologies (LAST) at the Federal Institute of Technology, Lausanne, which specialises in education and research in the field of sustainable construction. In this capacity he is head of the joint NRP 70 project, "ACTIVE INTERFACES - building-integrated photovoltaics".*
Professor Rolf Wüstenhagen *is Professor for Renewable Energy Management at the University of St Gallen, where his activities include overseeing the Renewable Energy Management further education course (REM-HSG).*

The project team with Professor Emmanuel Rey and Professor Rolf Wüstenhagen at the Active Interfaces Kick off meeting on the roof of the Microcity Building in Neuchâtel (photo: LAST)