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ACTIVE INTERFACES: A significant proportion of house owners have a real preference for building-integrated photovoltaics (BIPV).

The interdisciplinary research project “ACTIVE INTERFACES – Building-Integrated Photovoltaics” aims to develop new strategies for including building-integrated photovoltaics (BIPV) in urban renewal processes. The first results of the quantitative survey on the preferences of Swiss house owners underline that a significant proportion of owners have a real preference for modules integrated in the architecture. Furthermore, they are generally willing to pay more for BIPV systems than for non-integrated solutions.

In the context of the energy turnaround, increasing the amount of photovoltaic electricity which is produced will represent a major challenge in the coming decades. It is a matter of improving quality as well as quantity, however. Currently only a small percentage of the potential of building-integrated photovoltaics (BIPV) is being used in towns and conurbations. There are numerous issues which have to be dealt with – including, in particular, the architectural challenges when renovating buildings. The emergence of new technologies and the integration of BIPV from the first pre-proposals are an indicator of new paradigms in integrated design. Exploration of the issues associated with this development is at the heart of the research project ACTIVE INTERFACES, which concerns the integration of BIPV in renovation projects for the building stock in the urban area.

At the socio-cultural level, the first results of the quantitative survey on the preferences of Swiss house owners regarding BIPV underline that a significant proportion of owners have a real preference for modules which are integrated in the architecture, are available in several colours (in particular black and red) and, if possible, are made in Switzerland or maybe in Europe. Furthermore, they are generally willing to pay more for BIPV systems than for non-integrated solutions (building attached photovoltaics, BAPV). The major challenge today is to increasingly promote the financial advantages of BIPV in the medium or long-term (future benefits connected with the sale of electricity or with attainable savings). Ultimately, almost 40% of respondents currently say that they are likely to install solar panels while 12% are determined to actually do it.

With regard to the design, the new technologies – such as terra-cotta crystalline modules and white photovoltaic panels developed by the Swiss Center for Electronics and Microtechnology

(CSEM) as part of ACTIVE INTERFACES – mean that lots of innovative building materials are available for architects. In order to illustrate the implementation of these best practice solutions, the renovation projects developed for the Neuchâtel case studies demonstrate that the integration of PV technologies in façades and roofs, as long as it is included from the first planning stages, is not only realistic but also desirable – both in terms of energy performance and economic profitability and also architectural expression.

Realised with the support of the Swiss National Science Foundation (SNSF) as part of the National Research Programme “Energy Turnaround” (NRP 70), this research project brings together around ten research groups specialised in these matters.

<http://www.nfp70.ch/en/projects/building-settlement/building-integrated-photovoltaics>

<http://www.activeinterfaces.ch/>