

PV-NORD – Paving the way for Building Integrated PV in Northern Europe

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This paper gives an overview of an ongoing project, called PV-NORD, which is aimed at paving the way for the increased use of building integrated PV (or *BIPV*). BIPV is one of the technologies next to move the energy sector towards a sustainable situation in Northern Europe. In Northern Europe, a harsh climate, low prices of energy and conservative construction traditions have limited the use of grid-connected PV systems in buildings. Energy is still being produced through fossil fuel, and the possibility to extend hydropower has almost been exhausted. When it comes to solar electricity, the focus has been on the relative high electricity price and too little attention has been paid to the very important fact that *BIPV is the only high quality (electricity) renewable energy source possible in an urban environment.*

In order to fulfil the goals of the EU White Paper on an increased use of renewable energy in Europe, it is of great importance to develop BIPV in Northern Europe. The purpose of PV-NORD, or *Widespread Exploitation of Building Integrated Photovoltaics in the Northern Dimension of the European Union*, is to catalyse this development and to provide the necessary knowledge and direct demonstration to put BIPV on the agenda of the coming years energy planning in North European countries. During the course of the project, almost 200 kWp will be realised in 8 pilot PV systems in the Nordic countries and the Netherlands. The current situation is that Sweden, Finland and Norway together have less than 150 kWp of BIPV.

The goal of paving the way for widespread exploitation of BIPV in Northern Europe will be reached by identifying and preparing for a removal of the main barriers for BIPV in the countries in this region, through preparation of concrete instructions and tools, dissemination to relevant target groups, and so on. The partners represent different interest groups in PV exploitation, and forms holistic and multi-knowledge groups, capable of addressing the barriers from different angles and perspectives. The thematic research is organized into five tasks: Aesthetics and PV integration, Power and electricity, Environment, Management and IT, and finally Financing and ownership. The information source to be used in the thematic groups is mainly the demonstration buildings that will be built in the participating countries.

The demonstration projects are varied, as some promote PV by placing them on the facades in highly visible ways, while others blend the modules with the decor making them almost invisible. Several of the buildings hold high environmental profiles in general, e.g. through low energy buildings. The buildings Holmen/Grynnan are examples of this. Here, 40 kWp will be installed on two multi-family houses, located in a new residential area in downtown Stockholm. PV modules will be integrated in the façade, in balcony balustrades and as part of windows of the top floor. The innovative challenge has been to find solutions where the PV modules will harmonise with the building design and if possible also have a double function as in the case of the balconies and the windows.



PV-NORD is a Combined RTD Northern Dimension project supported by the European Commission, DG Energy & Transport, under the Fifth Framework Programme, thematic programme Energy, Environment and Sustainable Development. Sixteen partners from five countries share a budget of 2.8 million euro. The project started on January 1st, 2002 and will run for three years. The project website is www.pvnord.org.