

## Energy-efficient renovation in Scandinavia

### **COWI Scandinavia joins forces to strengthen energy-efficient renovation of buildings focusing on users and developers as well as the social, economic and environmental benefits of intensifying efforts in this area.**

Buildings account for about 40% of EU's total emission of CO<sub>2</sub>, existing buildings being the main culprit and differing increasingly from new and energy-efficient building practice.

<b>Project participants:</b>
COWI Denmark COWI Norway COWI Sweden Technical University of Denmark (DTU), Denmark Norwegian University of Science and Technology (NTNU), Norway Lund University, Sweden

Denmark has more than 2.5 million buildings, which are renovated each year for an amount corresponding to DKK 80-100 billion. Generally, there is a clear tendency in the Scandinavian construction sector that renovation of existing buildings will dominate new building in the future. In this respect, the annual investments amount to about DKK 350 billion in the entire Scandinavia.

Energy-efficient renovation of the existing building stock demonstrates significant energy savings potential, which makes it an effective way of radically reducing the emission of CO<sub>2</sub>.

COWI participates in several research and development projects aiming at obtaining greater energy efficiency in existing buildings, including the REBUS (REnovating BUildings Sustainably) project supported by the Innovation Fund Denmark, the GI (the house owners' investment fund) and Realdania. The grants from COWIfonden will, among others, boost COWI's contribution to the REBUS project in which COWI is a partner.

To obtain the full value added of renovation, the project will apply a holistic approach focusing on cooperation, energy, functional adaptation, materials, indoor climate, urbanization adaptation and climate change as well as on all aspects of sustainability.

The results of the project applied for are:

- A Scandinavian angle on sustainable renovation by incorporating knowledge and experience from the Norwegian University of Science and Technology (NTNU), Lund University, COWI Norway and COWI Sweden.
- New understanding of the overall value concept for holistic and sustainable renovation of buildings.
- Expertise of business and collaborative models, aggregated value elements, in-depth energy-efficient renovation and indoor climate.
- Establishing and strengthening broadly based cooperation with key players in the construction industry.
- Value added to the REBUS project based on a Scandinavian approach.
- Gathering and dissemination of knowledge of good references and best practices for sustainable renovation from Denmark, Norway and Sweden – i.e. concrete solutions and collaborative models disseminated through a public web portal / homepage.