

Task 63

10 Questions on Solar Neighborhood Planning and Design Strategies

10 key questions, 12 authors, and 2 years of drafting time led to a comprehensive paper on planning and design strategies for solar neighborhoods published in the journal *Building and Environment*. Maria Wall, the Task Manager of IEA SHC Task 63 on Solar Neighborhood Planning, spearheaded this initiative. “We worked hard to choose questions that have relevance not only for researchers but also for policymakers, practitioners, and urban planners,” notes Wall. The idea for publishing a “Ten Questions” series was initiated in 2016 by the editors of *Building and Environment*.

What is a solar neighborhood? What are the passive and active solar strategies in solar neighborhoods? What are the challenges when implementing passive solar strategies into solar neighborhoods? What legislative agenda is needed to support solar neighborhoods? These are some of the questions raised and comprehensively answered in the paper.

The questions can best be answered by an interdisciplinary team. This is exactly where the strength of the IEA SHC Programme lies. For ten years, Maria Wall has led an international, multi-disciplinary research group on solar urban planning within IEA SHC. From May 2013 to April 2017, the activities ran under SHC Task 51 on Solar Energy in Urban Planning. Since September 2019, they have been part of SHC Task 63 on Solar Neighborhood Planning.

The question, how are passive and active solar strategies applied in solar neighborhoods? is answered in the paper with practical examples. SHC Tasks 51 and 63 experts describe planning and design strategies using detailed case studies. In the paper, five projects are illustrated: One Central Park in Sydney (Australia), West5 in London (Canada), Norwegian University of Science and Technology in Trondheim (Norway), Violino district in Brescia (Italy), and Science and Technology Park Adlershof in Berlin (Germany).

You can find factsheets for more than 30 case studies on a world map on the [SHC Task 51 webpage](#), collected within the Task. The experts of SHC Task 63 will add around 20 new case studies to the map next year.

In the decade since 2013, there have only been a few occasions when a larger international group of IEA SHC solar urban



▲ **Visualization of the ten areas concerning solar neighborhood planning and design strategies treated in the Ten Questions paper.** Source: Paper, *Building and Environment* 246 (2023) 110946

planning experts have teamed up to write an interdisciplinary paper. The first was in 2019 as part of SHC Task 51, titled “A cross-country perspective on solar energy in urban planning: Lessons learned from international case studies,” which is also available in open access: <https://doi.org/10.1016/j.rser.2019.03.041>.

However, the Ten Questions paper is a special case in its overarching content, according to Maria Wall. “We have summarized experiences and findings from more than ten years of international research in this paper and quoted more than 200 references”, she said. “The writing process was really a great experience since we learned a lot from each other and got different perspectives on our work.”

For the first time, this paper introduces a novel classification for solar neighborhoods, which consist of neighborhoods primarily using solar energy as a renewable energy source. The four categories are the pure (or target-free) solar neighborhoods, the energy-centered solar neighborhoods, the carbon-centered solar neighborhoods, and the energy- and carbon-centered solar neighborhoods. Furthermore, the answers to the ten key questions pinpoint the knowledge gaps in solar neighborhood design and provide insights into future research trends in this field.

You can download the Ten questions concerning planning and design strategies for solar neighborhoods paper, [here](#).

To learn more about the SHC Tasks on this topic, visit [SHC Task 51](#) and [SHC Task 63](#). If you have questions, contact the Task Manager of both these Tasks, Maria Wall, at maria.wall@ebd.lth.se.