



SDHplus
Solar District Heating in Europe

*WP2 – SDH enabling buildings with high energy performance
Task 2.2 – Development of adapted and/or new models*

**D2.4 – Report on adapted
and/or new possible models
Format for reporting (language: English)**



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INTRODUCTION

*The information must be provided **in English**.*

Country - Sweden

**Responsible partners for the deliverable (organizations and persons)
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Date of last information update – July 31, 2014

TOPICS TO BE INCLUDED

1. Which models are you planning to replicate? Please choose from D2.3 document

We are planning to replicate

Model 1: Net-metering of heat in distributed solar plants - Sweden

Model 12: Bioenergy villages - Germany

2. Which are the main changes needed in order to replicate the chosen models in your country?

Model 1: None

Model 12: Excluding electricity generation in small villages, i.e. only combine solid wood boilers (chips, briquette, pellet) and solar collectors and a storage tank in combination with a local heat distribution system for 100% renewable heat. The plant and the heat distribution system will further be built and operated by a local wood fuel supplier, the local municipality or a local municipal housing company.

3. Which stakeholders (utilities, local authorities, etc.) do you plan to involve?

Model 1: Building owners and associated local district heating companies/utilities.

Model 12: Local authorities/municipalities, municipal housing companies and other local building owners interested to be involved/connected.

4. Please describe how the model will work and the role of the different stakeholders

Model 1: As described in D2.3

Model 12: Existing solid wood fuel heating plant (Bioenergy village)

Municipality, municipal housing company and/or plant owner: Investigate the conditions (mainly possible placing of solar collectors, need for storage tank, etc), if positive, initiate and authorize a plan to build a solar collectors system in connection to the heating plant / heat distribution system.

Engineering consultant: Design the solar system based on existing and future heat demand in connected buildings.

Municipality or municipal housing company: Appoint contractors for building the solar system (including storage tank, if appropriate).

Model 12: New development (as a Bioenergy village)

Municipality or municipal housing company: Investigate the conditions (heat demand, location of heating plant, placing of solar collectors, etc), if positive, initiate and authorize a plan to build a (small) local heating plant / heat distribution system and the new building development.

Engineering consultant: Design the plant and the heat distribution system based on existing and future heat demand in connected buildings.

Architect et al: Design the buildings.

Municipality or municipal housing company: Appoint contractors for building the buildings. Appoint contractors for building the plant including heat distribution system and operator to operate the plant. Appoint wood fuel supplier and sign heat delivery agreements with building owners if not the same owner of plant and buildings.

Plant operator: Operate the plant.

Building owner(s): Manage the buildings.

5. What is the final aim of the model implementation?

Model 1: To have a distributed solar heating system that can be replicated in other places with similar conditions.

Model 12: To have a solid wood fuel and solar heating plant that can provide 100% renewable heat and be replicated in other similar places.

6. Please include the foreseen timetable for the model implementation (hearing with stakeholders, preparation of draft documents, etc.)

Model 1: Continuous search for interested stakeholders. The interest has dropped a lot since the subsidy for solar collectors was dropped in 2012.

There are already a number of these plants built from 2001 until 2010, and evaluated in 2013, to improve the interest for new developments.

Model 12: Ongoing feasibility study for the extension of one existing Bioenergy village with more buildings and more solar collectors, planned to be finalized in Spring 2014. Ongoing pre-design of a new Bioenergy village model for a new development, also planned to be finalized in Spring 2014.

Both projects are located in areas south of Gothenburg where there already are a number of Bioenergy villages, e.g. Vallda Heberg, initiated before the SDHplus project and put in operation during 2013. There is also a large existing village that was transformed into a Bioenergy village based on a wood chips boiler plant and solar collectors and district heating in Ellös in 2010.

7. Describe the replication potential of your model (**NEW**)

Both Model 1 and 12 have a high replication potential as both have already been replicated >10 times each.

8. Explain how is your model related to WP2, that is how the supply of solar district heat for new or existing and renovated buildings / settlements with high energy performance or even at nearly zero-energy standard can be a business opportunity (**NEW; this part will not be published**)

Model 1: Opportunity to create a win-win situation.

Building owner: Makes it possible to change an existing multifamily building towards a zero-energy building as the solar heat can be allocated to the building, e.g. in the Energy Performance Declaration of the building. See model description in D2.3.

DH provider: To offer this model is a way to keep a building owner connected to the DH system. The alternative could be to disconnect from district heating and use a ground source heat pump as this is favoured by the EPBD definitions.

Model 12: Common to use local block heating plants based on wood fuels (pellet, etc) in villages. Low energy buildings and solar heat makes it possible to work towards a nearly zero-energy building neighbourhood, as is the case in the Vallda Heberg project.

9. Explain how you and the SDHplus project take part in the model implementation, e.g. you are the consultant, you provided the stakeholders with information, you are the DH association, etc. (**NEW; this part will not be published**)

Both Model 1 and 12: Consultant that provides the stakeholders with information and experience from previous implementations.