

## Case studies for supporting market rollout of SDH

Subject:	Case studies for supporting the market roll-out of Solar District Heating (SDH)
Description:	Case study (even hypothetic plants) are used as suitable instruments for marketing first steps with market stakeholders - Case study - Solar Neighbourhood Greenhouses in Hamburg, Germany
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Document download:	<a href="http://www.solar-district-heating.eu/">www.solar-district-heating.eu/</a>

### Summary description of the instrument

Region: Metropolitan Region of Hamburg

Partners involved:

- Heat consumers (residents, housing associations, commercial and industrial companies)
- neighbourhoods, local climate protection and gardening initiatives and social institutions
- heat suppliers and DH companies (e.g local energy companies, contractors...)
- solar thermal installation, greenhouse or horticultural companies
- City of Hamburg

Short description of the measure:

Case study - Solar Neighborhood Greenhouses

Large scale solar thermal installations generate cost-efficient renewable district heating, but often the realization fail due to a lack of space. Solar Neighborhood Greenhouses use urban open spaces twice: for solar thermal energy and urban gardening. They provide neighborhoods with renewable energy and healthy food, encourage community building and promote public acceptance.

### Initial situation

Large scale solar thermal installations are a particularly cost-effective, competitive option for the generation of renewable district heating. However, the implementation of such projects in Germany in the urban space usually fails often in terms of area competition.

The approach of the case study it to use bare open spaces multifunctional for agriculture and heat generation for the neighborhood. Therefore the decisive obstacle to the establishment of free-field solar



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thermal energy in dense urban areas is tackled. At the same time, it offers further added value by activating neighborhoods for sustainable food production and by strengthening social cohesion in urban areas.

The solar thermal collectors installed on and in front of the greenhouses produce climate-friendly heat, which is fed into an existing local heating network or is delivered to a large heat consumer.



### Objectives

The case study 'Solar Neighborhood Greenhouses' aims at building social and ecological infrastructures: Sustainable, cost-effective and communal self-supply with fresh food ('urban gardening') is combined with new technologies for the generation of heat from renewable energies. The idea is to use agricultural land in the city as multifunctional: instead of 'only' producing food, the agricultural areas are to become places of production, meeting and learning for a healthy, regional and seasonal food-production, at the same time providing renewable heat for the Neighborhood.

The feasibility of such plants and the dissemination of the results of the case studies would open new opportunities for solar district heating plants in the region.



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### Measures and actions

Hamburg Institut will combine the case study ‘Solar Neighborhood Greenhouses’ with another innovative and sustainable project in the City of Hamburg. In the West of Hamburg, a unique noise-protection project is being developed and now under construction. In the course of the expansion of the motorway A 7 by two lanes north of the Elbe tunnel, comprehensive noise protection from tunnels and walls in Altona and Eimsbüttel is created. A gain in quality of life: Parkings and small urban gardens will be realised on the tunnel covers, quarters grow together, and over 3,000 new dwellings can be built on noise-dampened areas.



(Source: <http://www.hamburg.de/fernstrassen/a7-deckel/> )

The idea is to investigate if and how ‘Solar Neighborhood Greenhouses’ can be realized on the new gained area on the tunnel of the motorway.

An analysis of the outcomes by the relevant stakeholder, potential partners and heat customers will follow and the results of the case studies will be presented to the authorities of the City.

### Barriers and opportunities

This information will be available as soon as the measure has been implemented.

### Results

This information will be available as soon as the measure has been implemented.

### Lessons learned

This information will be available as soon as the measure has been implemented.

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