



Interreg



2 Seas Mers Zeeën SOLARISE

European Regional Development Fund



Low-carbon technologies

TOTAL PROJECT BUDGET:

4.35 M €

INCLUDING AN ERDF BUDGET OF:

2.61 M €

15:30
16:15

Panel/Short interactive session

Chair Ad van Breukel – Avans University of applied and sciences and observer partner in Solarise

Less information

We give the floor to 4 stakeholders involved in historical surroundings from different perspective such Fire Department, Regional Energy Strategy, Government Department for Cultural Heritage and architects.

Questions and reflections

Closing session of the Solarise Network Event at Middelburg, October 14, 2019



Practical suggestions from four stakeholders who are involved in adoption of technology in historical surroundings

Panel

- » Fire brigade: **Edwin de Maat**, Specialist in Operational Preparation at Fire Brigade Zeeland. Advisor on hazardous substances / Coordinator of reconnaissance units / Advisor nuclear issues at the Zeeland Fire Brigade.
- » Cultural Heritage Management: **Hans de Witte**, Sustainable Heritage Specialist, Ministry of Education, Culture and Science, Cultural Heritage Agency of the Netherlands.
- » Province: **Mathieu van Woerkom**, Energy Transition Programme Manager at the Province of Zeeland.
- » Architect: **Ben Westenburger**, Architect/Partner at Rothuizen Architects



Introduction

As we have seen today: Shaping the energy transition in a historic city centre is a challenge.

Central question: **Which factors play a role in making the right investment decisions in Solar Energy in historical city centers?**

This task is an answer tot the UN Sustainable Development Goals

<https://sustainabledevelopment.un.org/sdgs>

Introduction

Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all

Example: increase the share of renewable energy in the global energy mix.

Middelburg: increasing the level of solar energy.

Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable

Example: safeguard the world's cultural and natural heritage on each level of government, type of expenditure and type of private funding

Middelburg: urban investments in historic buildings, together with other local stakeholders (civilians-citizens, businesses, education& research).

Goal 13. Take urgent action to combat climate change and its impacts

Example: improve education, awareness-raising on climate change mitigation

Middelburg: communicate meaning of solar projects by making them attractive.



Introduction

Solarise study results of Middelburg in 2018-2019 are summarized in:

- » Market study
- » Feasibility analysis

But now: **Which practical suggestions can the audience take home?**

Experts in this field explain how we can deal with this, addressing barriers such as solar panel visibility and grid integration in a historical setting.



Four issues

Main question 1:

1.1 What is your view on the integration of solar in the built environment?

» Aesthetics

» Permissions / licences: these create dilemmas, leading to the following questions....

1.2 Concrete projects can often not be carried out due to regulations such as welfare, but also with regard to the timely storage of energy. From Europe we are not allowed to distribute it through the network and in the Netherlands it is a demand. What exactly is the situation, and can we react?



Four issues

Main question 2:

With regard to safety: how are dangerous situations being prevented (prevention), and how can they be dealt with if they occur (reaction)?

We think of:

- » short circuit / heat development and hazardous substances / possible injuries (glass of panels) – do investors take these issues into account?
- » construction, which must be solid. Particularly in older buildings, where often extra insulation needs to be added during the installation of panels. In any case, for all buildings, humidity plays a role – do investors take these issues into account?
- » accessibility: can the fire brigade reach all the places that are needed?
 - > For example: in the case of BIPV/ integrated panels, the panels are integrated into the construction.
 - > For example: can the installation of panels block a passage



Four issues

Main question 3:

There are several stakeholders involved in motivating the public and other stakeholders in investments in solar panels. The question: what tools do these stakeholders have?

- » Builders and architects: through integral involvement in the whole project
- » SMEs: through knowledge and application of state-of-the-art technology
- » Municipalities: by means of a policy function (timing of e.g. renovation at neighborhood level, taking care of red tape "ontzorging", involving citizens)
- » Installers: by offering tools for displaying energy performance
- » Owners: by offering an extra drive such as comfort improvement for their customers, "ontzorging" (for SMEs), financing/subsidy schemes.
- » Public/citizen participation: through visibility of good examples and the provision of "ontzorging". What function can energy cooperatives and ESCOs perform?
- » Large-scale energy stakeholder such as Delta, ENECO : through knowledge and finance, but what are their demands?



Four issues

Last main question 4:

4.1 What factors, in particular, play a role in taking decisions for the choice and installation of solar panels?

This question is against the backdrop that solar panels are visible and offer a relatively quick payback, and so can/must therefore be a forerunner for the energy transition. This issue goes beyond solar panels, and also takes other energy technologies into account. To this end, Middelburg is participating in several projects such as TERTS, Solarise, SLIC and Rhedcoop.

This leads to the next question.....

4.2 Who has the complete overview of the value of the energy projects project?

- » Or: who checks whether the energy picture as a whole is correct (insulation, solar panels, heat pump, etc.)?
- » Do investors take this picture into account?

Four issues



Sunpower

Maxeon

Piekvermogen : 400 [Wp]

Vermogen/m² : 226,3 [Wp/m²]

Rendement : 22,6%

CSun

CSUN310-60M-BB

Piekvermogen : 310 [Wp]

Vermogen/m² : 190,9 [Wp/m²]

Rendement : 19,1%

Hermans Techniglaz

BIPV Slates

Piekvermogen : 35 [Wp]

Vermogen/m² : 148,4 [Wp/m²]

Rendement : 14,8%



MAXEON® 3



Wrap up

Main motivations:

- More renewable energy, less CO2 emission
- But safe, during installation and in practice
- Not accepted if not integrated: aesthetics, the bigger energy picture