

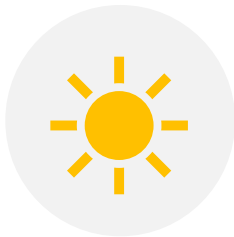
SOLAR HEATING & COOLING PROGRAMME  
INTERNATIONAL ENERGY AGENCY

# Solar Academy Webinar

## Open Data for Solar Thermal: Status, Potential and Barriers

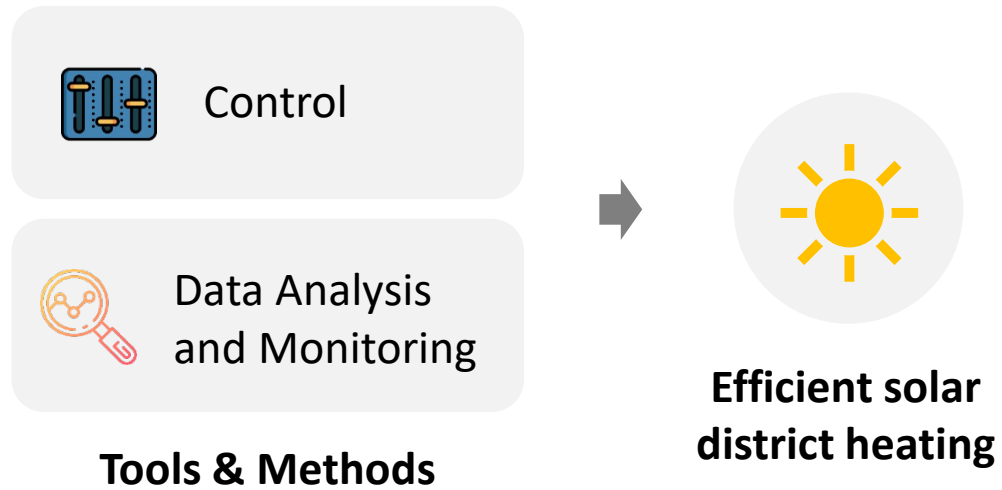
Lukas Emberger (formerly Lukas Feierl)  
SOLID Solar Energy Systems

# Motivation



**Efficient solar  
district heating**

# Motivation



# Motivation



# Motivation



## Open Data

Data which is publically accessible and usable by anyone for any purpose

Accessible to more people

More transparency

Enables collaboration

# Aim



Open data has a huge benefit for the solar-thermal!

**But is this really true?**

## What is the status?

- Is there already open data available?
- Are there any interesting uses?
- Who benefits?
- What are barriers?
- And what do people think about it?



**OPEN DATA**

# Methodology

What is the status?

1

Survey on **available open datasets**  
(49 participants)

2

Workshop on possible **use-cases**  
(23 participants)

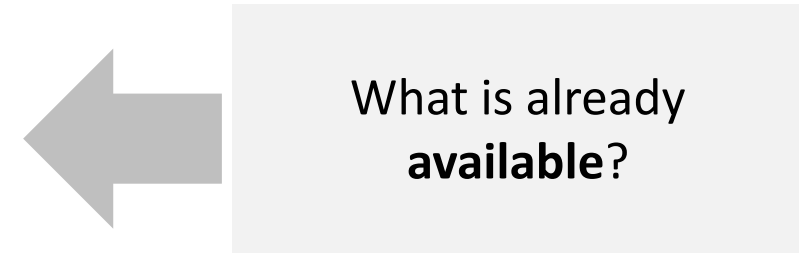
3

Survey on perceived **barriers & opportunities**  
(32 participants)

# Methodology

What is the status?

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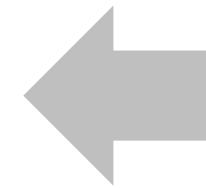




# Methodology

What is the status?

- 1 Survey on **available open datasets**  
(49 participants)
- 2 Workshop on possible **use-cases**  
(23 participants)
- 3 Survey on perceived **barriers & opportunities**  
(32 participants)



is it **useful?**

# Methodology

What is the status?

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(32 participants)



What do people think?  
How to **improve**?

# Available Open Data

## D1 Measurement Data:

- [Dronninglund](#) (solar-thermal + Pit-Storage)
- [FHW plant](#) (solar-thermal)

## D2 Plant Statistics:

- [ship-plants.info](#) (worldwide)
- [solar-district-heating.eu](#) (EU)
- [solvarmedata.dk](#) (DEN)
- [solarheatdata.eu](#) (DEN)
- [solare-waermenetze.de](#)(GER)

## D3 Partner Database:

- [RTC Database](#) (worldwide)
- [MCS Database](#) (UK)

## D4 Cost data

- [EU Study](#) (2050 projection)

## D5 Component Database

- [Solar Keymark Database](#)

## D6 Irradiation data

- [Forecast Solar Irradiation](#) (worldwide)
- [Global Solar Atlas](#) (worldwide)
- [PV-Gis](#) (worldwide)
- [Solar-GIS](#) (worldwide)
- [Knmi.nl](#) (NED)
- Solarpotentialkataster ([Wien](#), [Graz](#), [Upper Austria](#))

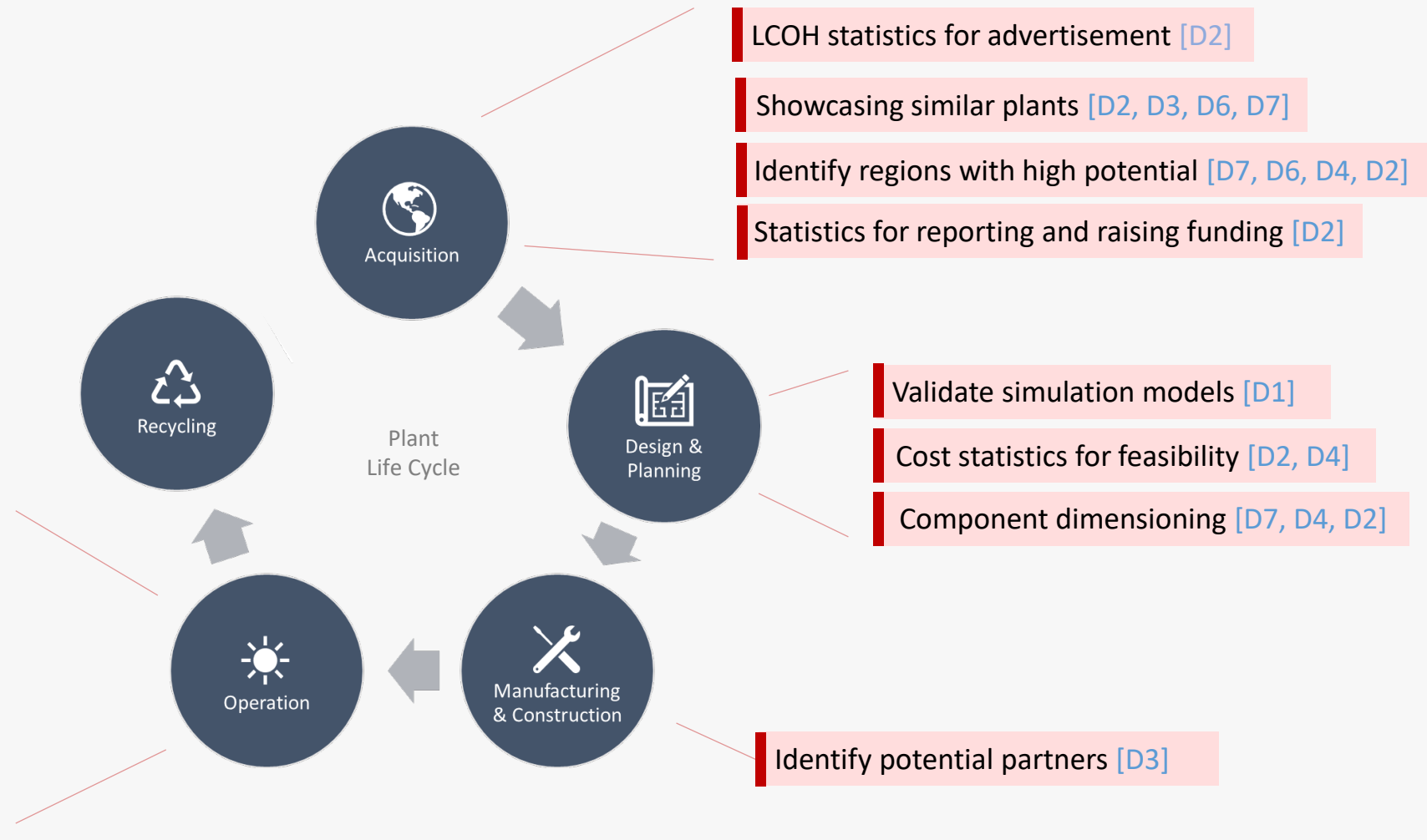
## D7 Heat Demand:

- [Peta4 \(Heat Demand\)](#)

## 2 Workshop on possible use-cases

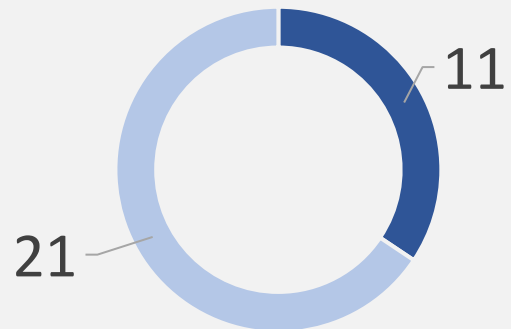
### Open Data (Categories)

D1	Measurement Data
D2	Plant Statistics
D3	Contractor/Funding Database
D4	Cost data
D5	Collector Keymark Database
D6	Irradiation data
D7	Heat Demand Data



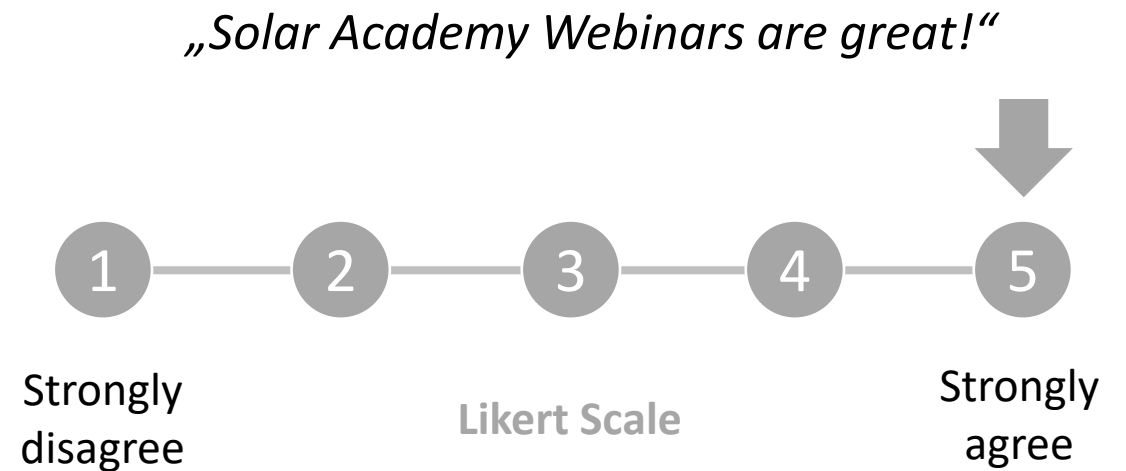
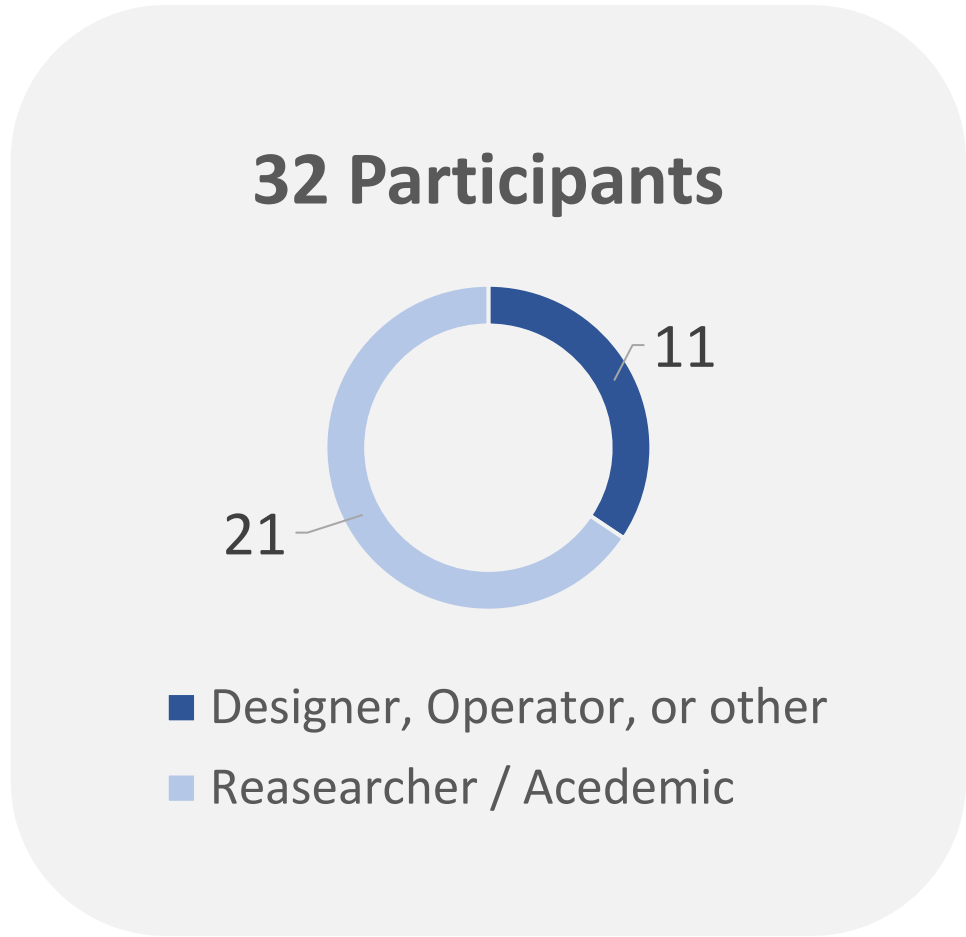
# Survey on open data

32 Participants



- Designer, Operator, or other
- Researcher / Academic

# Survey on open data

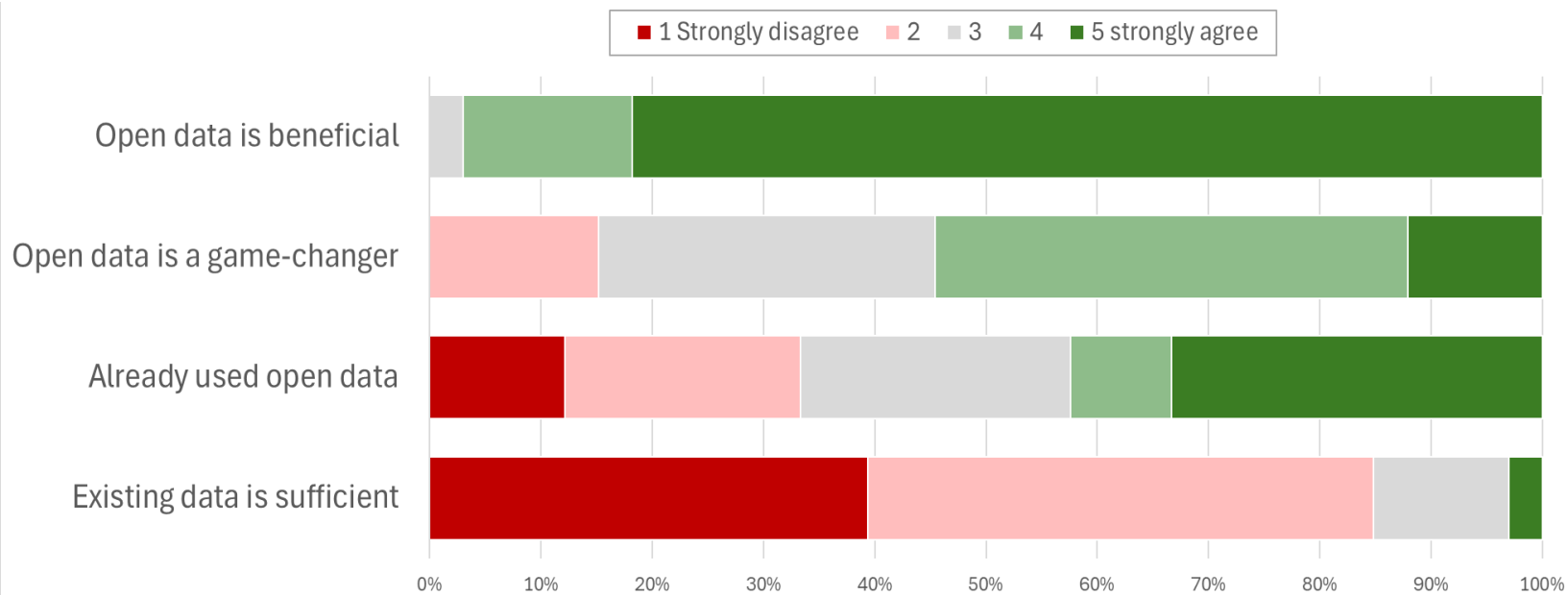


# Opinion on Open Data

**Data is appreciated**  
but not regarded as game changer

~40% of people use open data

Existing data is not sufficient

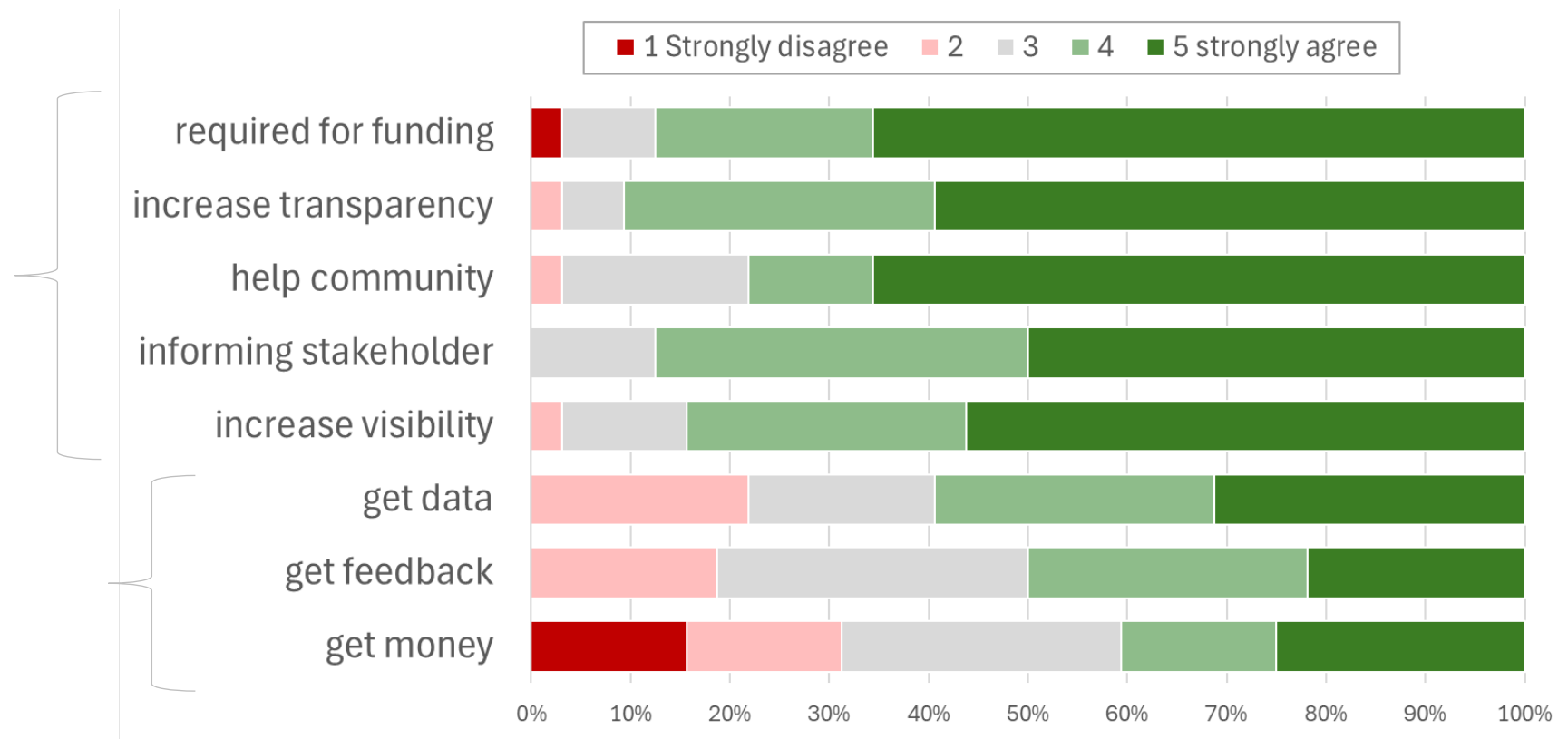


# Motivators for sharing

*What would motivate you to share your data?*

**High Motivation**  
(via funding is highest)

**Lowest ones:**  
getting money seems not motivating

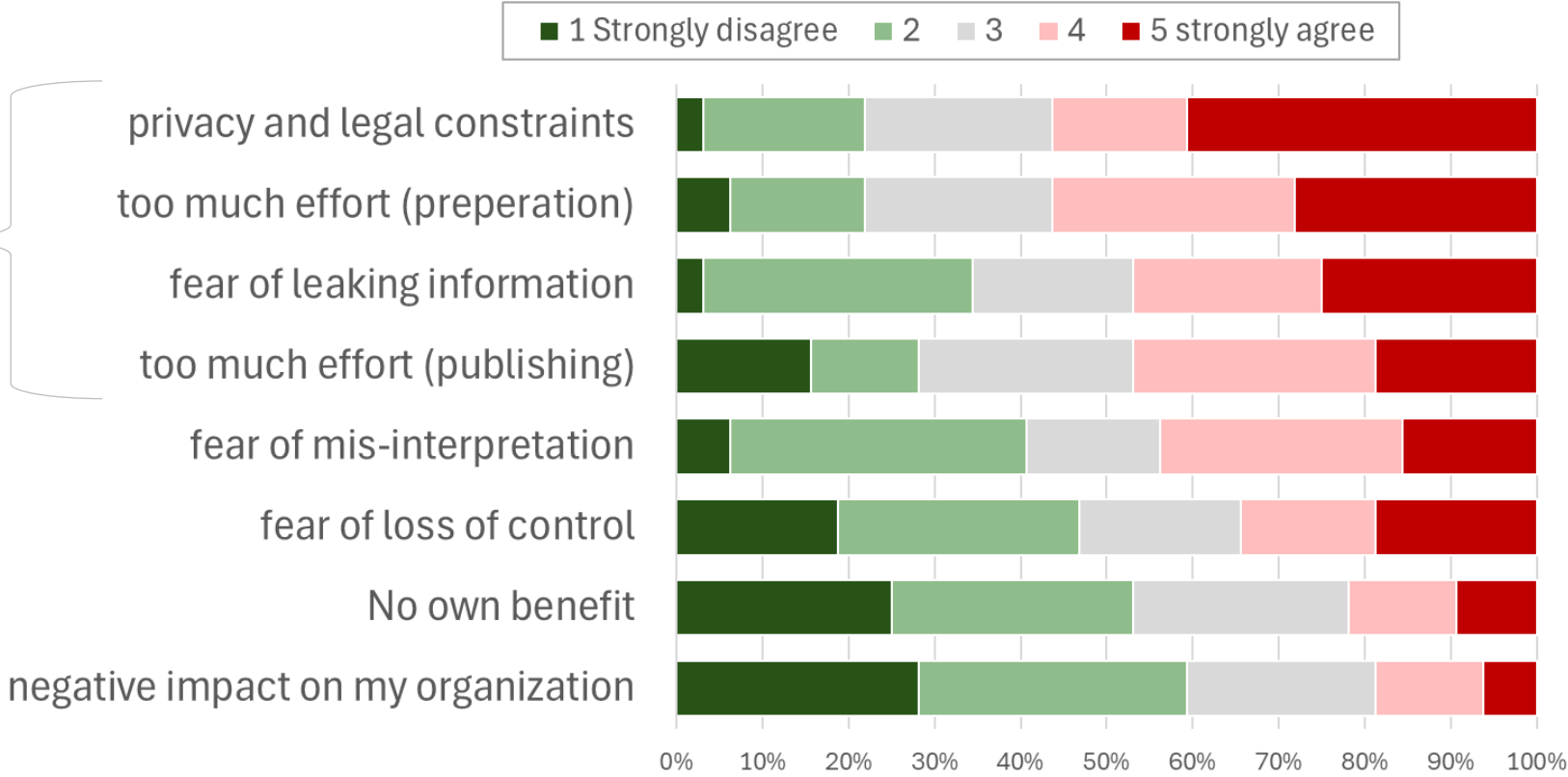




# Barriers for sharing

**Privacy, effort, and fear of leaking information**

Almost all participants (94%) rated at least one barrier with a **score  $\geq 4$** .  
70% with a score 5



# How to push open data?

> *How to overcome barriers? (open question)*

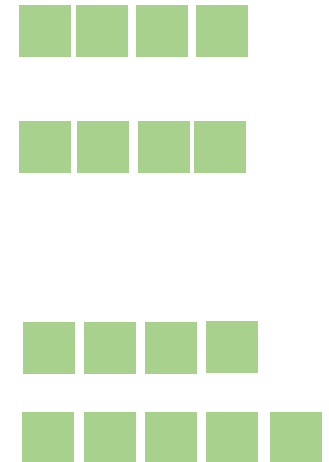
**Guidelines and common data portal**

**Require for funding**

**Show proof of the benefit (for owners)**

- prepare arguments for publishing (visibility, investment-triggering)
- Show benefit via best-practice examples

Number of comments  
suggesting the  
measure

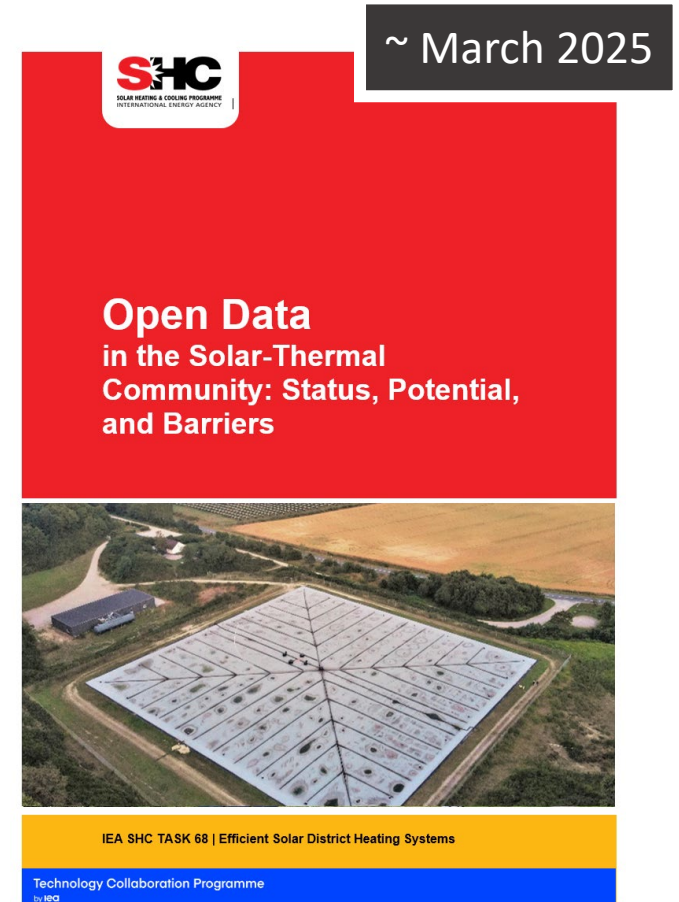


# Outlook

Analysis -> Ongoing

## Key-Results (for now):

- **List** of open datasets identified – feel free to use
- Identified use cases and experts' opinion support that **open data is valuable**.
- While data-owners are motivated to publish, severe **barriers** exist.



# Contact & Authors



Maria Moser  
Lukas Emberger  
[l.emberger@solid.at](mailto:l.emberger@solid.at)



Gireesh Nair



Thomas Natiesta



Klaus Lichtenegger  
Viktor Unterberger



Philip Ohnewein



Andreas Bohren  
Florian Rüschi



Thorsten Summ



Jianhua Fan



Korbinian Kramer  
Stephan Mehnert