Interreg

EUROPEAN UNION

2 Seas Mers Zeeën

SOLARISE

European Regional Development Fund

CO_2

Low-carbon technologies

TOTAL PROJECT BUDGET:

4.35 M €

INCLUDING AN ERDF BUDGET OF:

2.61 M €

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www.interregsolarise.eu

The energy transition challenge

- Where to put all the solar panels?
- How to maintain the aesthetic value?

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Many buildings have been reviewed…










Many buildings have been reviewed… Three cases presented today


Zeeland Archives


Concert hall


Theatre

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Concerthal

- ‘Low hanging fruit’
- Roof not visible from the street
- Roof well suited for PV
- Total capacity 60 kWp

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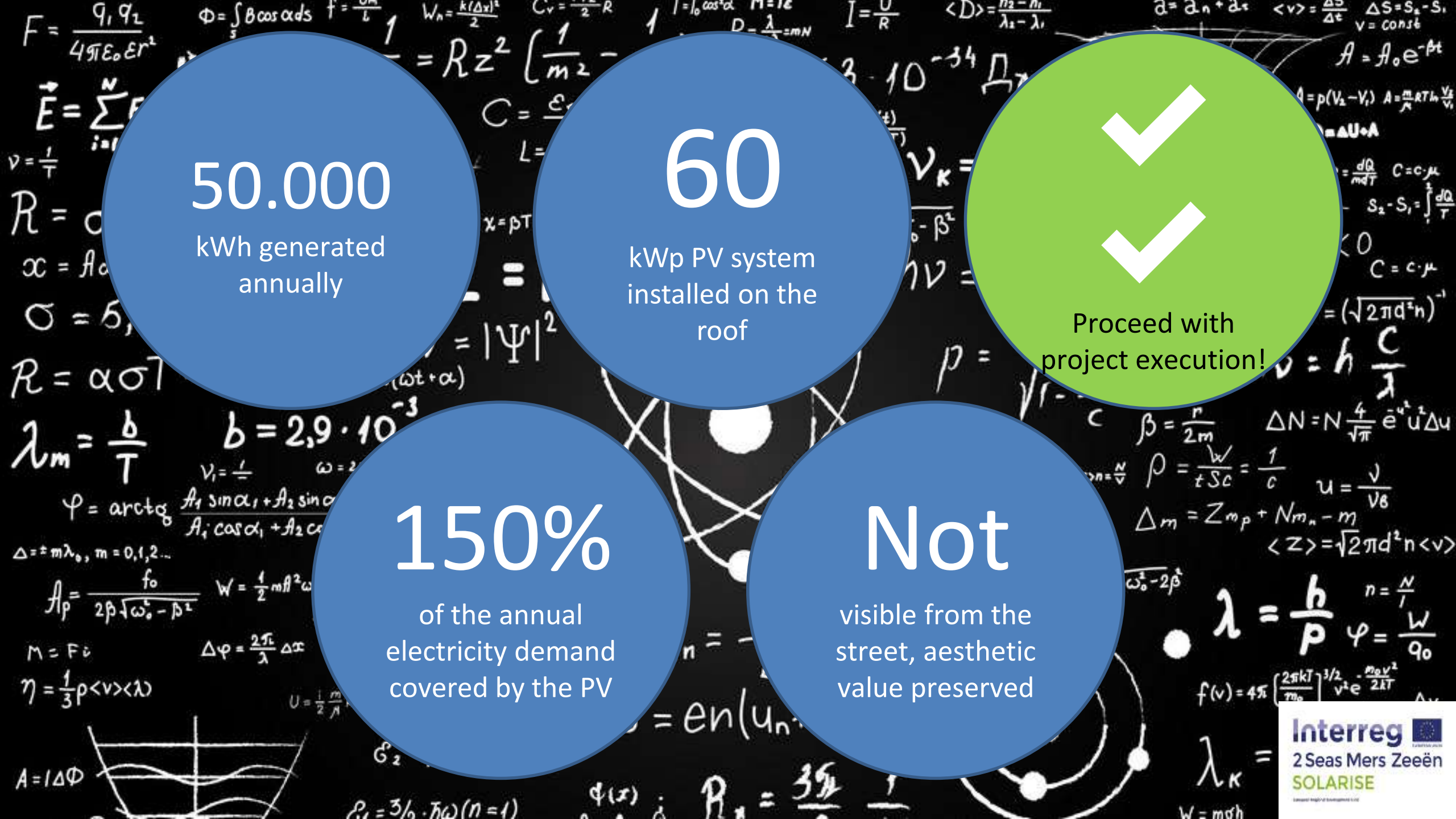

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Zeeland Archives

- Original building from 1765
- Renovation & expansion from 1999
- How to maintain aesthetics?
- How much energy could be harvested?
- How much energy can be used locally?

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- Roof of 790 m^2
- Orientation East
- Inclination 25˚
- Partly shaded from two trees

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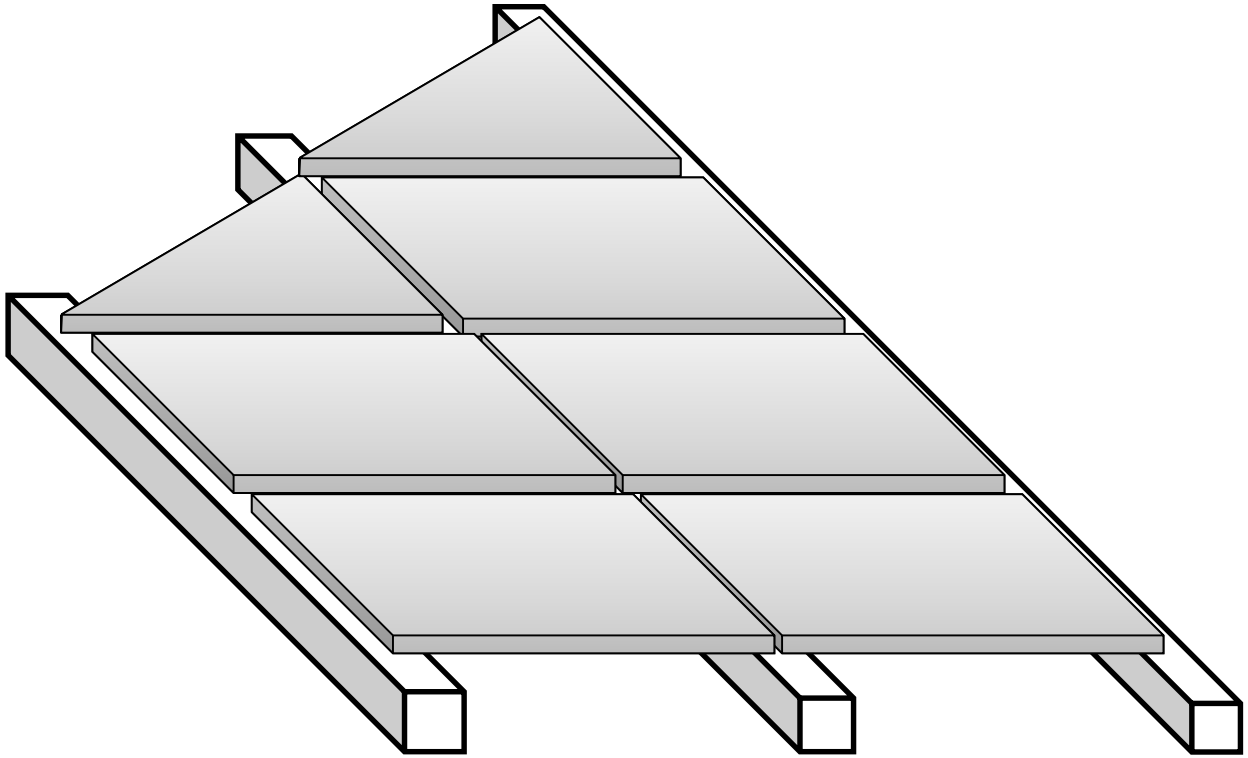

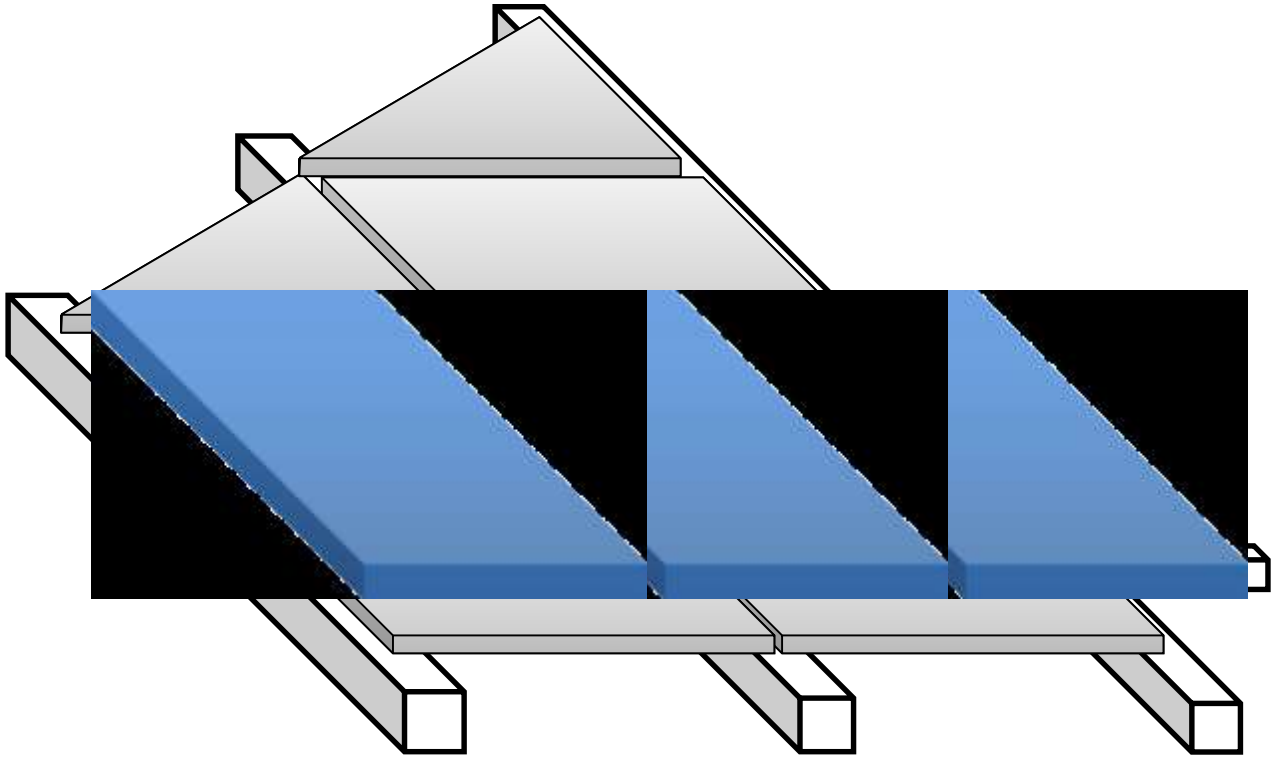

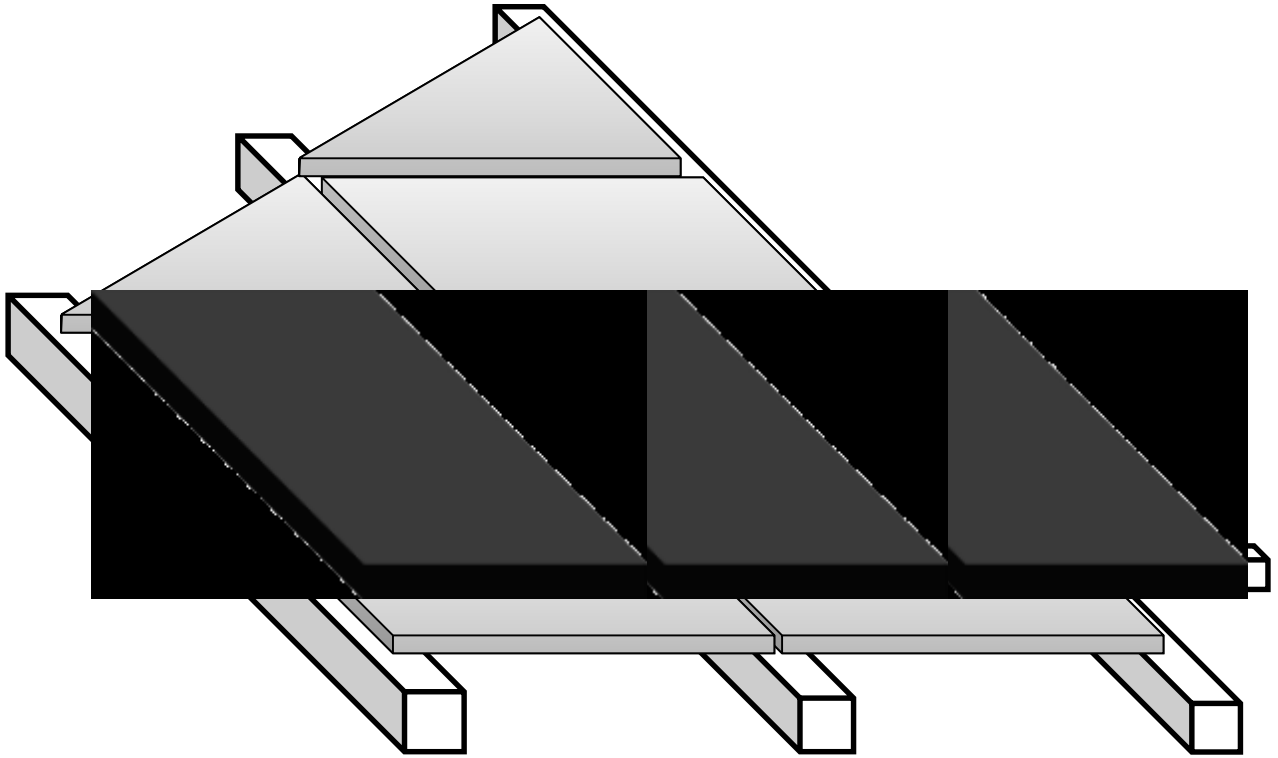

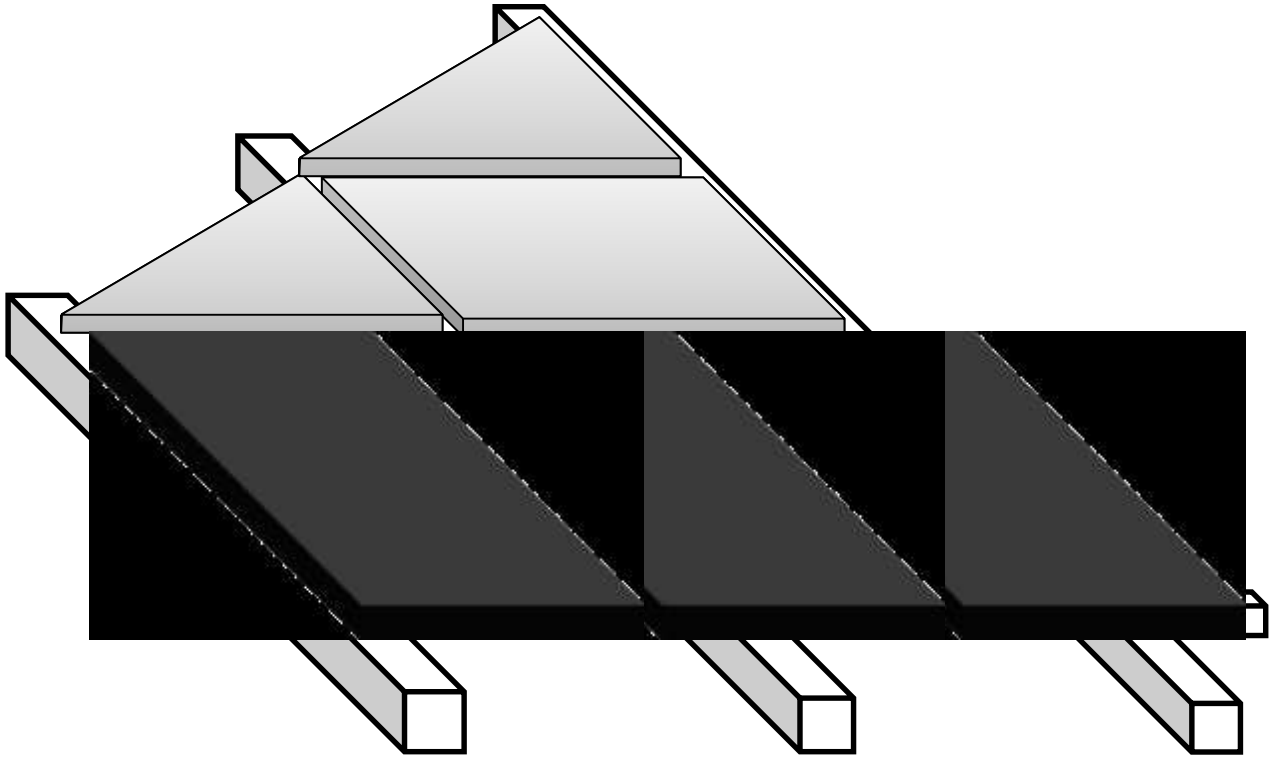

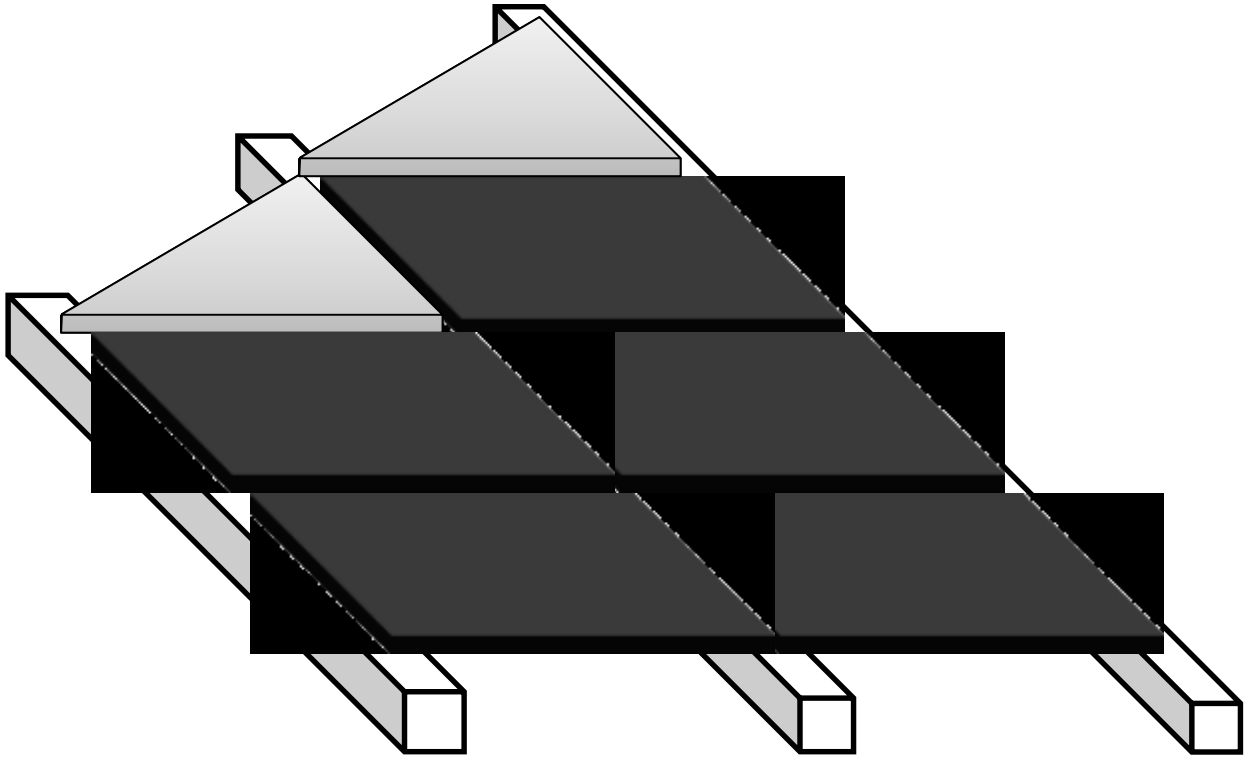

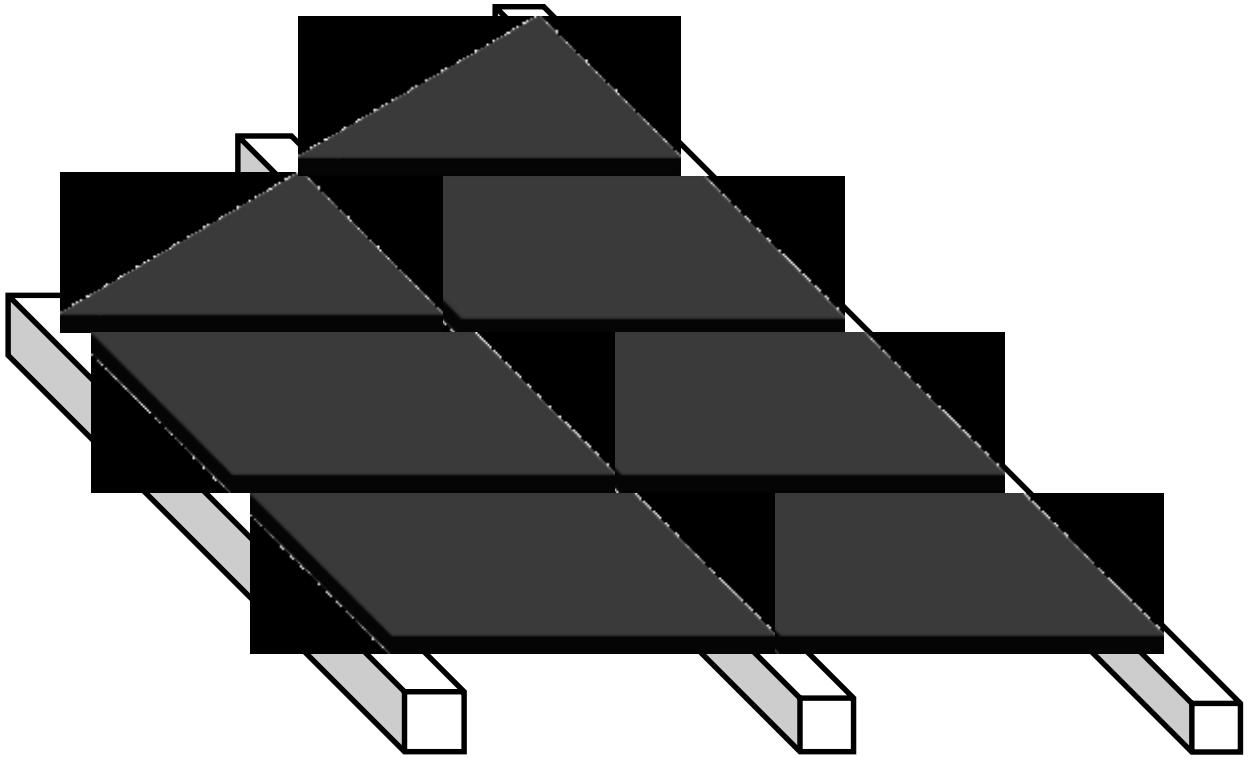

Can it be done?

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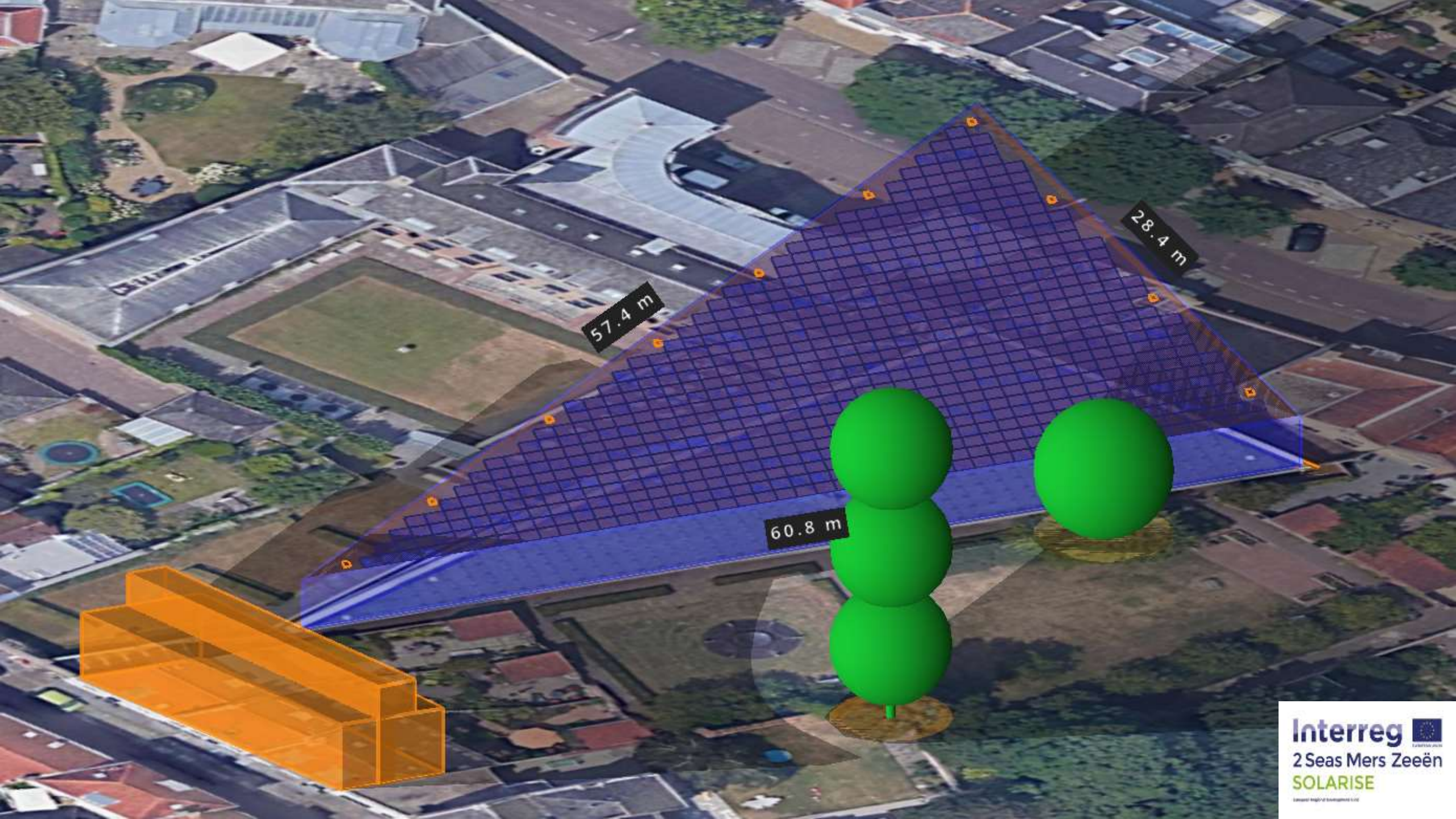

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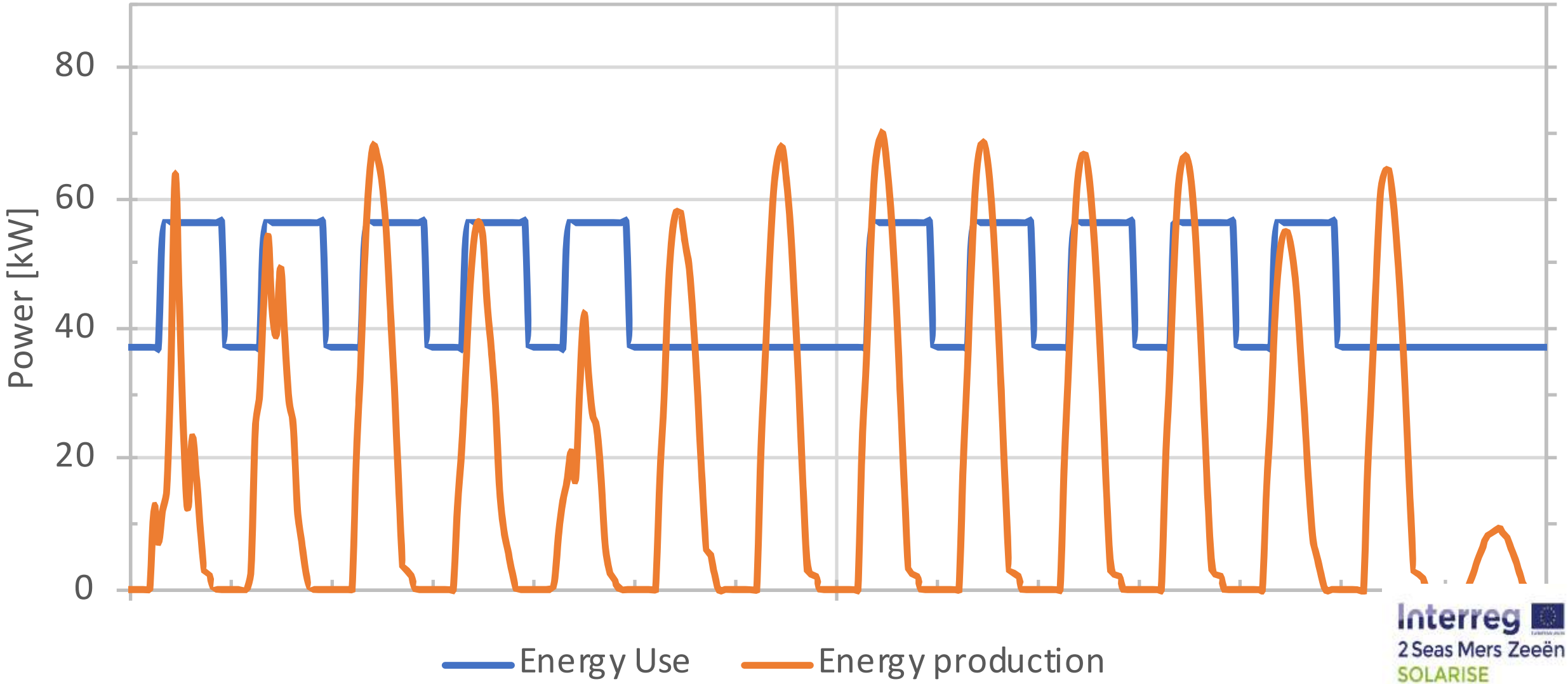
Example energy use & energy production

during two summer weeks



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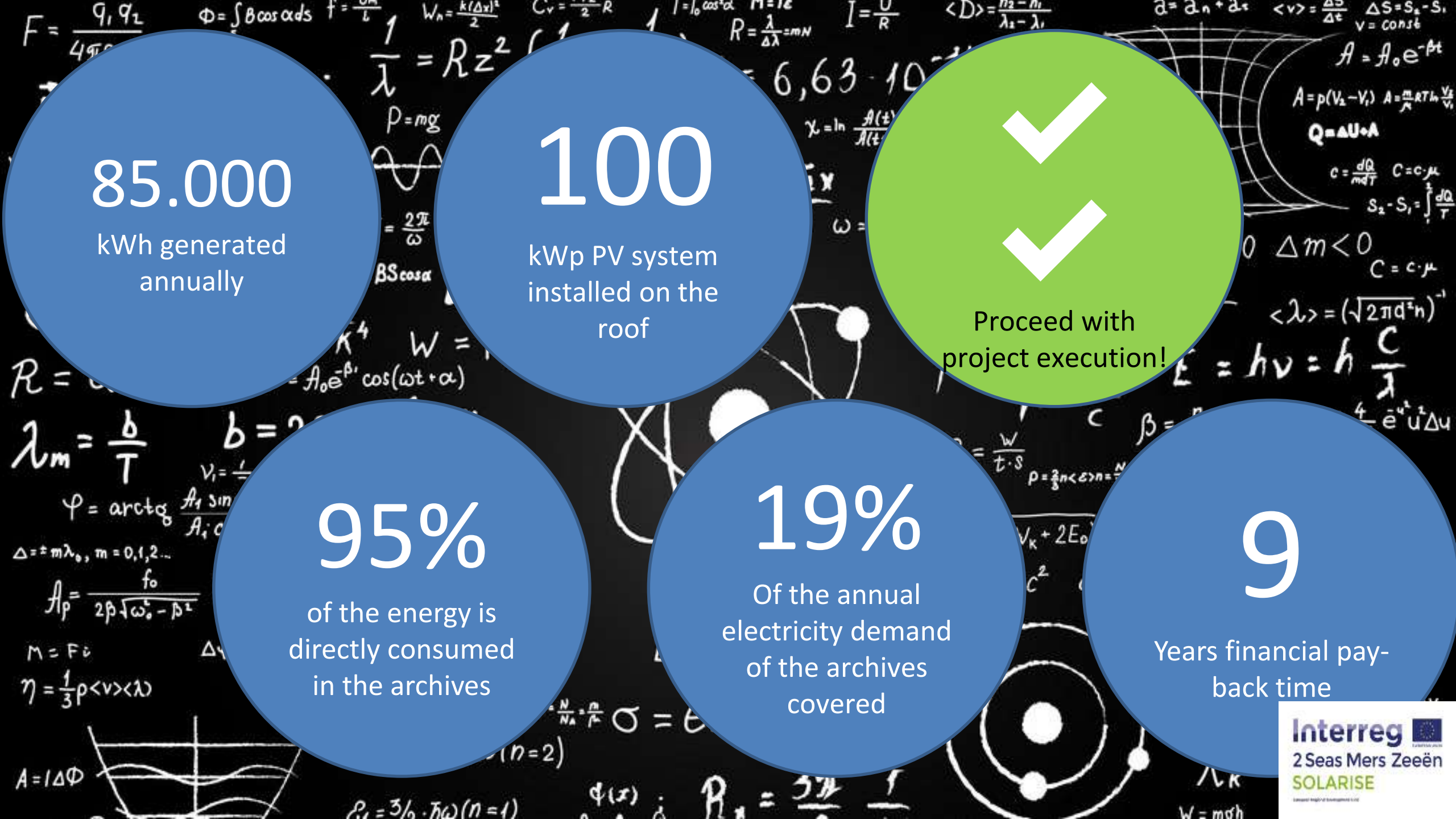

85.000

kWh generated annually

100

kWp PV system installed on the roof

Proceed with project execution!

95%

of the energy is directly consumed in the archives

19%

Of the annual electricity demand of the archives covered

9

Years financial pay-back time

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Theatre

- First theatre built in 1807 AD
- Most recent renovation from 2018

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The challenge

- Roof already has PV – But limited applicability due to air treatment system
- What about the façadess?
- How to maintain aesthetics?
- How much energy could be harvested?
- How much energy could be used locally?

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How much PV would fit?

→ Potential for 50 kWp PV system

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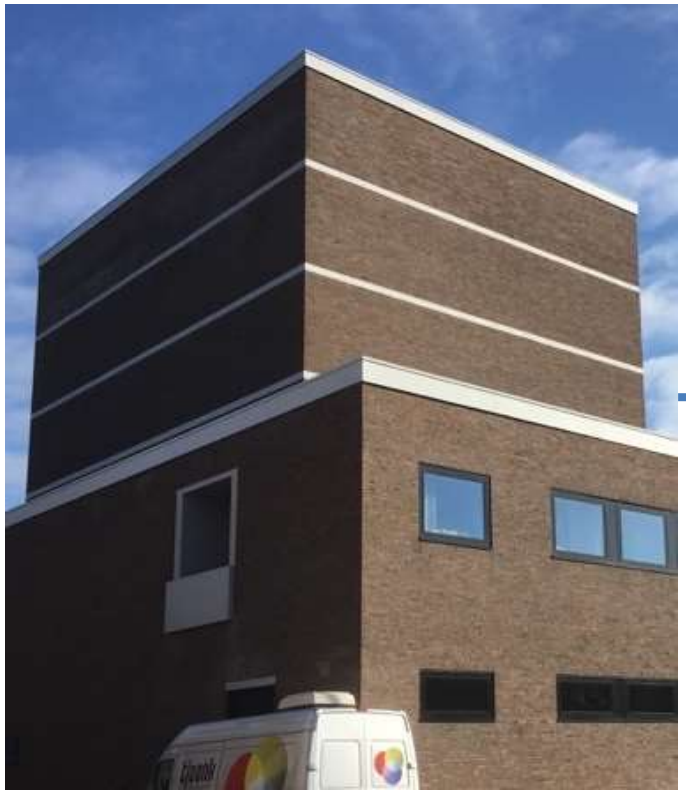
Three levels of PV deployment

Conservative case:
"We don't want to change the building - PV is only allowed on the roof"



Basic case:
"PV is allowed – But the building should be kept as much as possible in the original shape"

Ambitious case:
"PV is an opportunity to re-design the façade and improve the communication and aesthetics of the building!"

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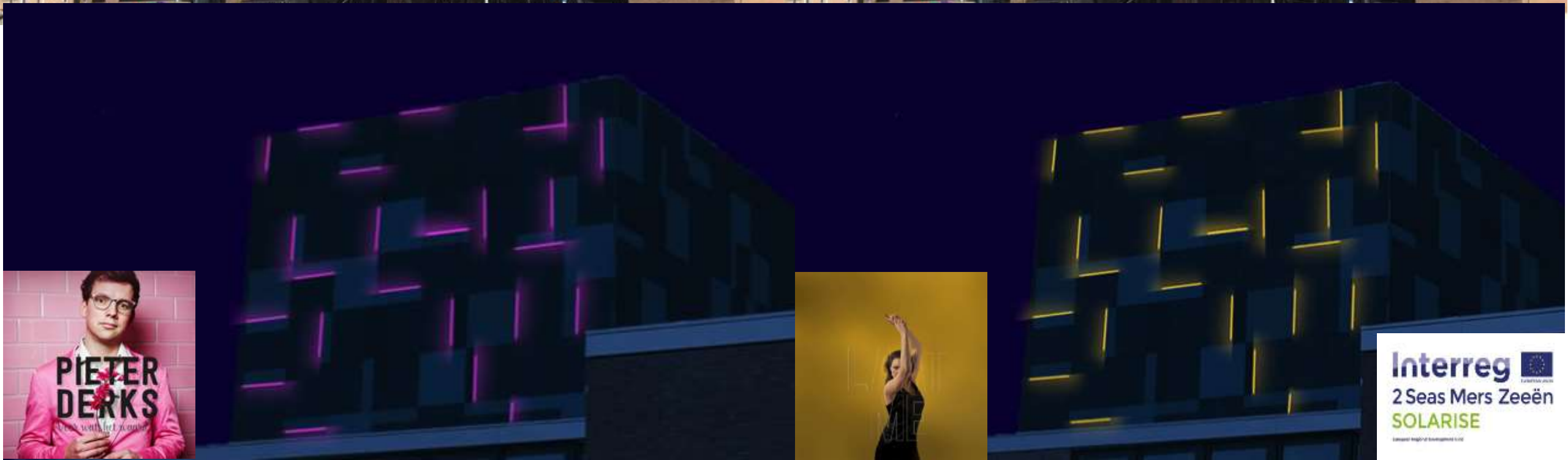

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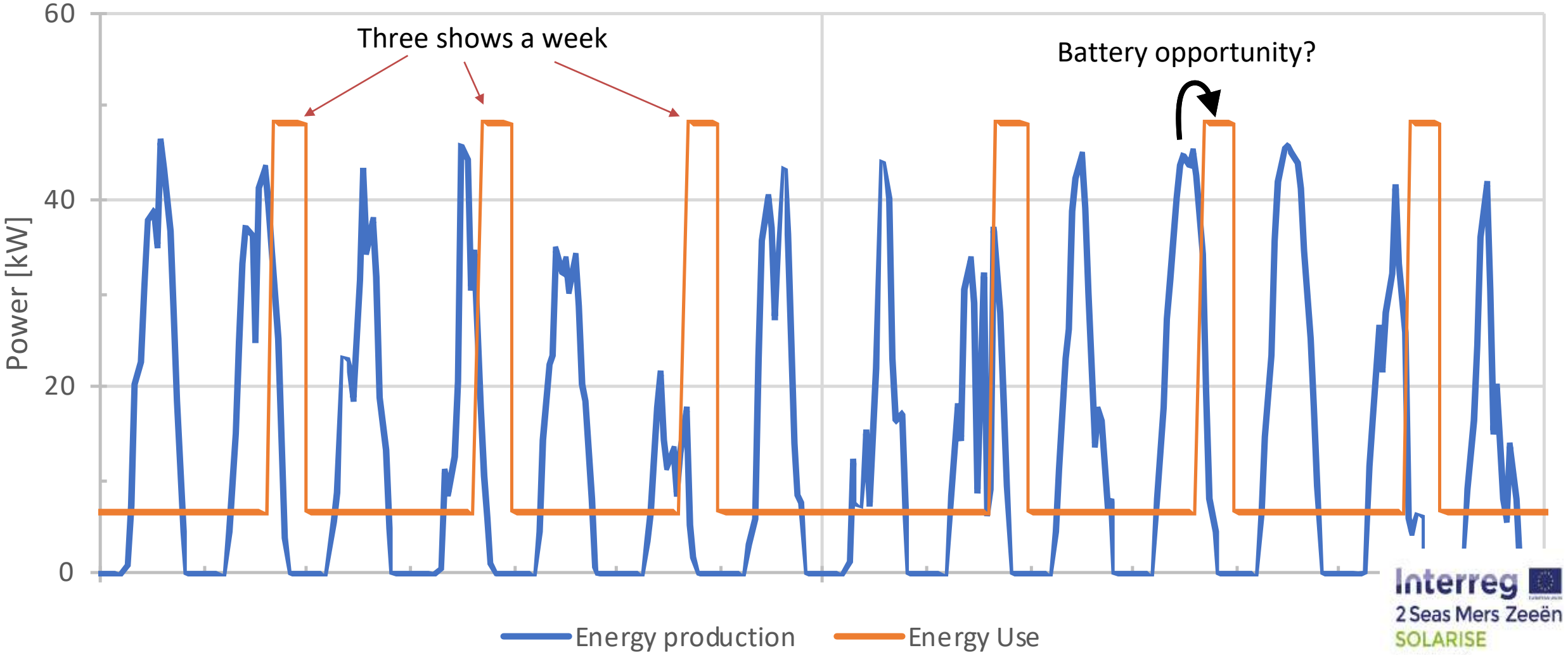
Example energy use & energy production

during two spring weeks



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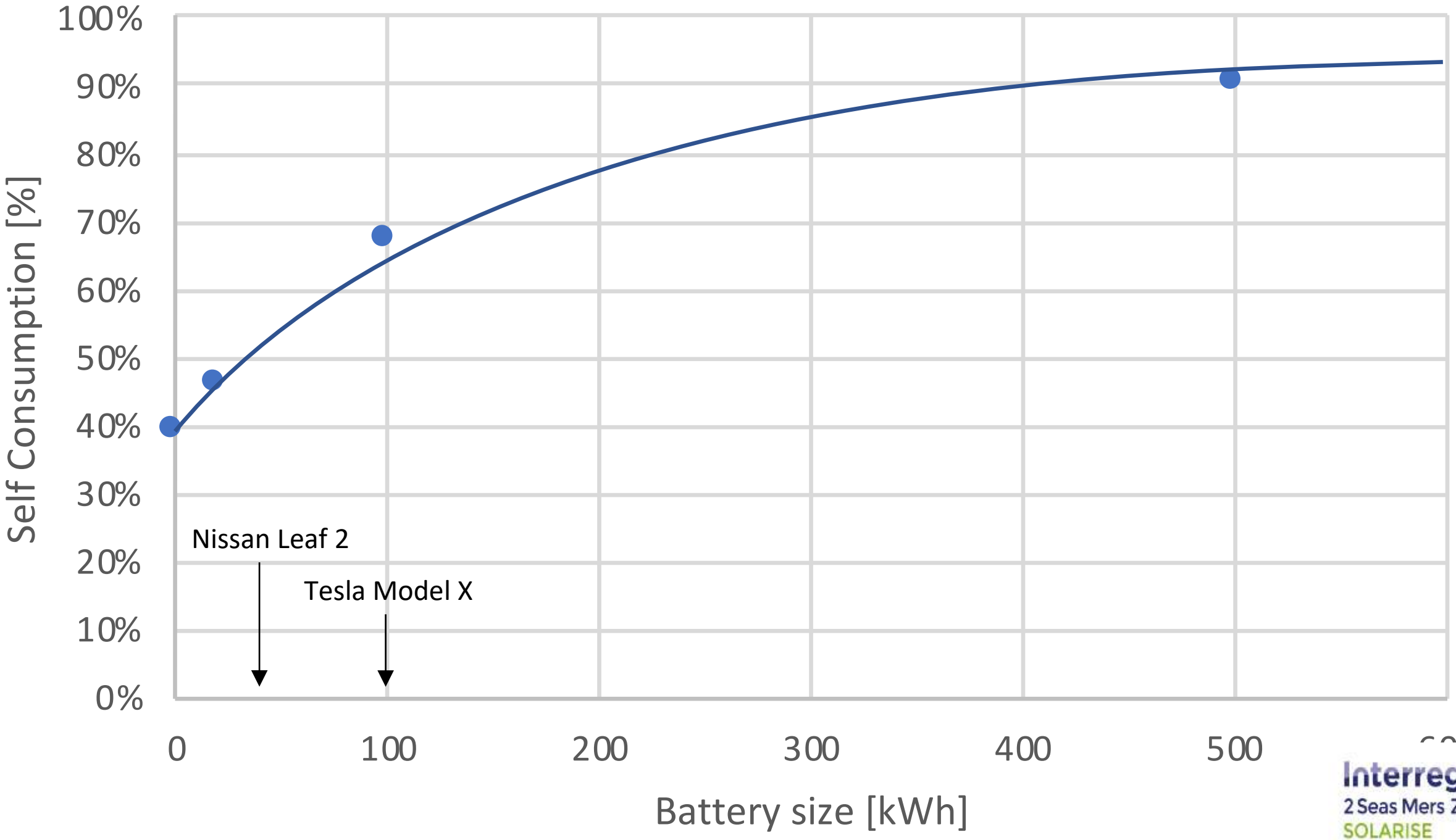

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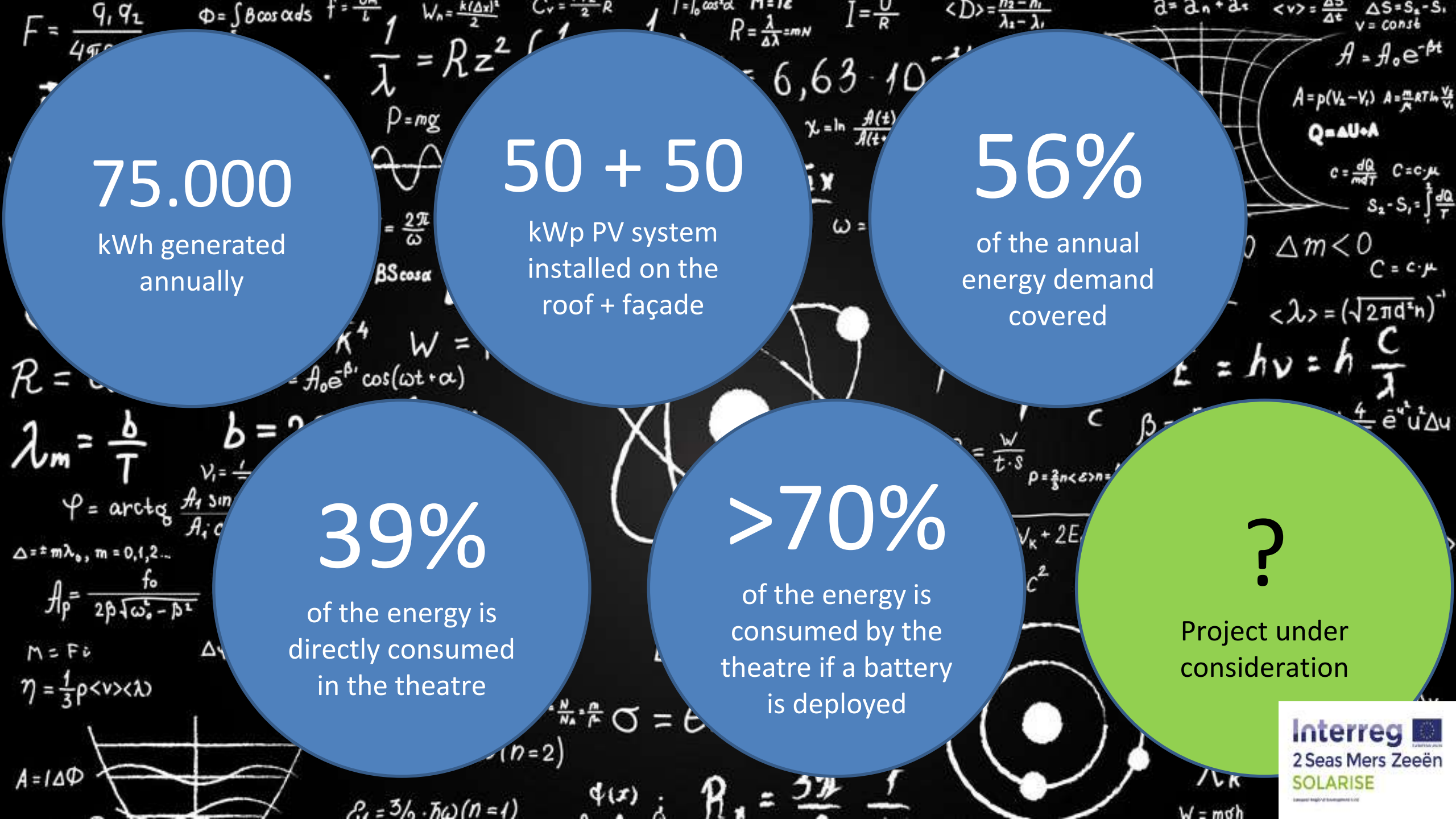

75.000
kWh generated annually

50 + 50
kWp PV system installed on the roof + façade

56%
of the annual energy demand covered

39%
of the energy is directly consumed in the theatre

>70%
of the energy is consumed by the theatre if a battery is deployed

?
Project under consideration

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Three down… many more to go!

Thank you for your attention!

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