

Cost-effective and innovative solar energy integration in stock and new buildings  
- how to generate revenue with your building façade and roof

## e-PIZ, the cladding system with PV integrated

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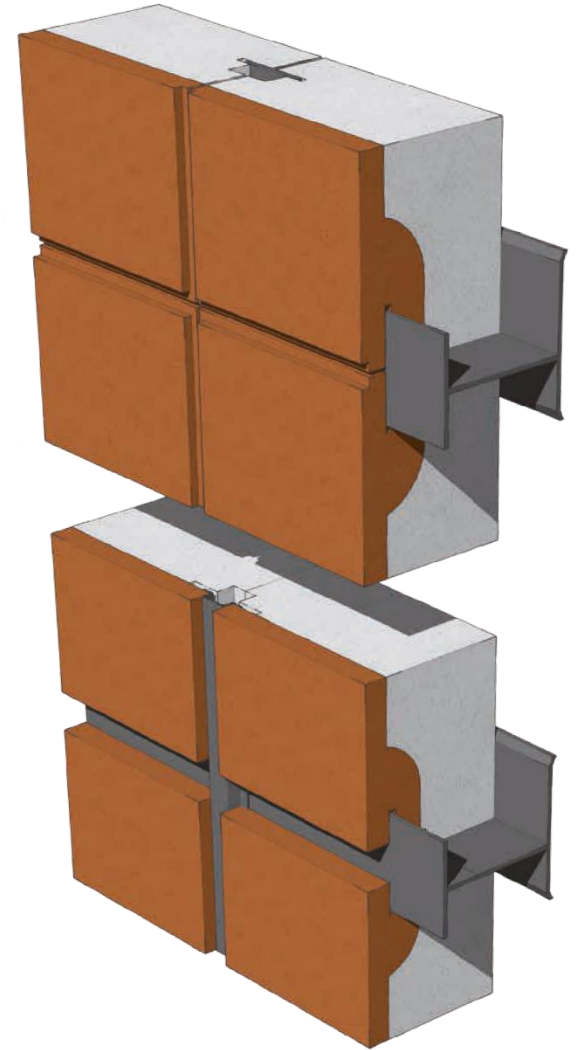
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## PIZ cladding system

Dry façade system composed by panels made of fiber-reinforced mortar modified with stabilizing fillers and water proofing pigmented in mass coupled with insulating material (rockwool or EPS with graphite)



## BIPV BOOST project

In BIPVBOOST project PIZ has developed two types of products:

e-PIZ panel composed by:

- PIZ panel
- PV cells with 3+3 mm glass



e-PIZ panel composed by:

- PIZ panel
- lightweight PV (CIGS technology)

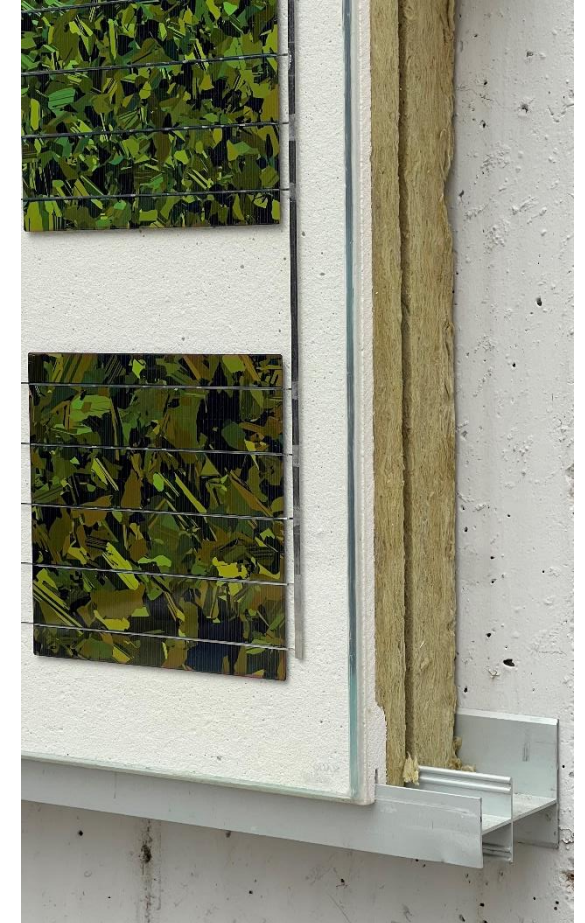


## e-PIZ composed by cells with 3+3 mm glass

e-PIZ system is developed as a multifunctional BIPV façade cladding system that offers energy production along with an high level of thermal insulation and a good level of acoustic insulation.

### Challenges:

- To create a solid connection between panel and PV
- To have good impact strength
- To have a good fire reaction

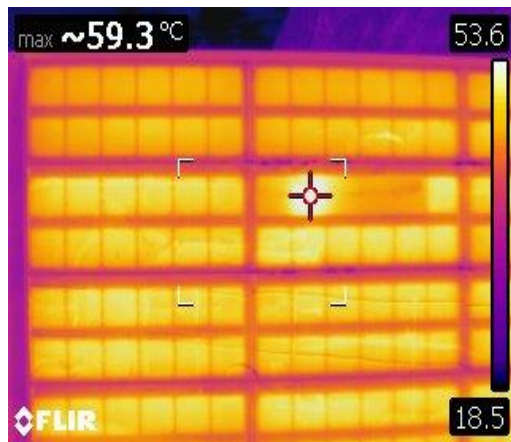


## Tests

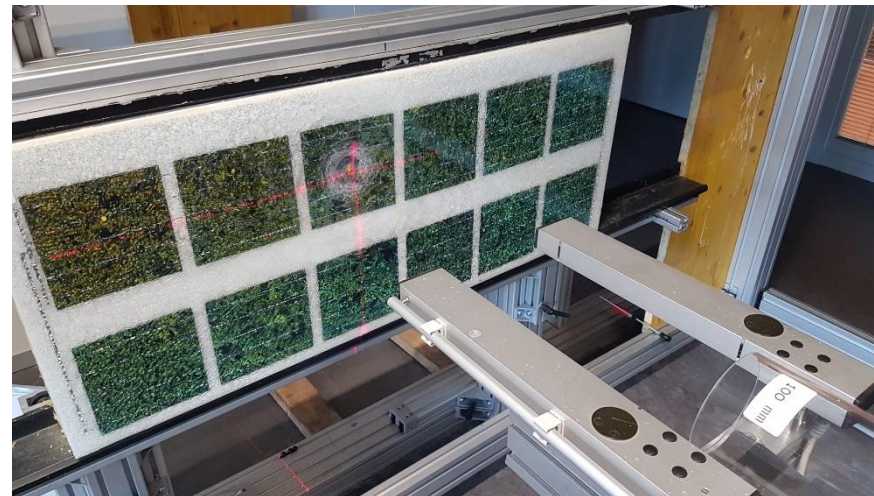
Under the BIPVBOOST project, ePIZ was successfully developed and tested.

A commercially available adhesives for combining the glass PV laminate to the PIZ mortar surface was found with good adhesion results.

All the achievements have been demonstrated by preparing fully functional BIPV prototypes and performing an extensive testing campaign which validated the product at TRL7.



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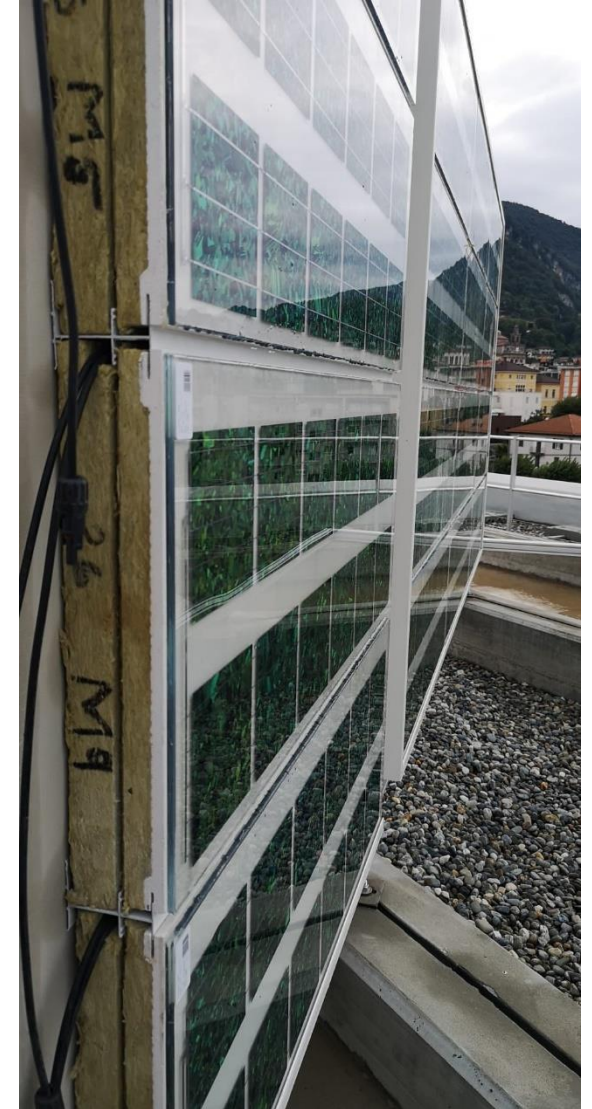


## e-PIZ composed by cells and 3+3 mm glass

### Final performance:

The characteristics and performances of e-PIZ installed (typology with 80 mm rockwool 135kg/m<sup>3</sup>) are:

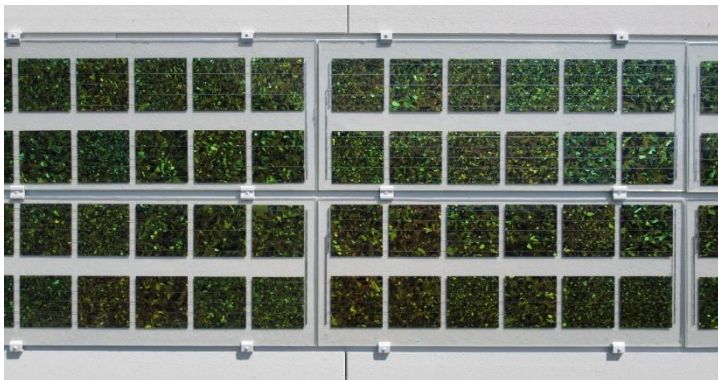
- Weight of 41.5 kg/m<sup>2</sup>.
- Thermal resistance value of 2.11 m<sup>2</sup>K/W
- Impact strength : Category IV
- Weighted sound reduction index of 13 dB
- Reaction to fire : B-s1, d0
- Nominal peak power of 80-90 W/m<sup>2</sup>



## Demo site

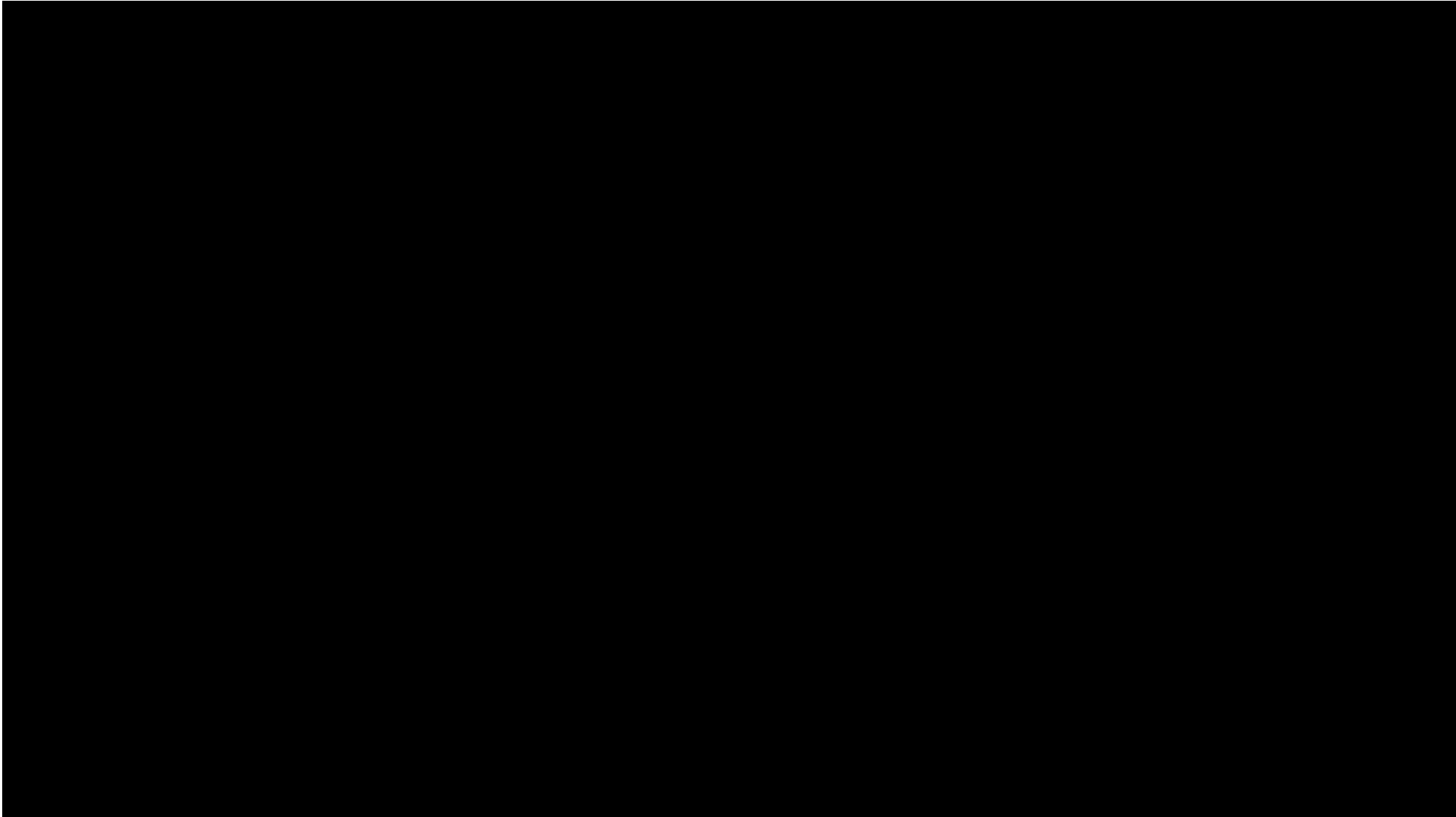
Demo site: Morbegno (SO) – Italy.

Power installed: 9 kW on the facades of two buildings along four different facades.





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# Conclusion

With all the improvements in the design and production process, we were able to obtain a reduction of 29% in the production cost of ePIZ with glass-glass PV modules.

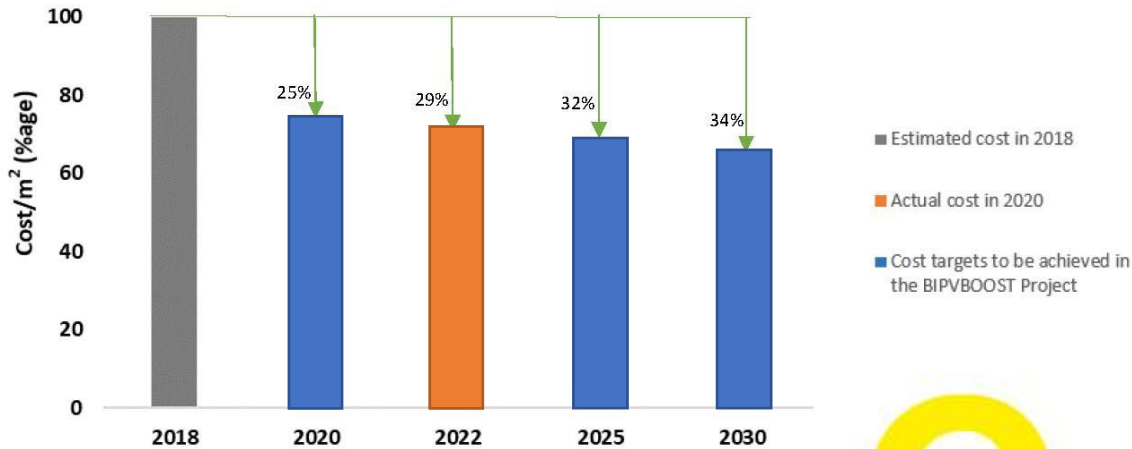


Figure 2.22 Cost comparison along the project value chain



Thank you

[www.piz.it](http://www.piz.it)

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