

EUROPEAN COMMISSION

HORIZON 2020 PROGRAMME

TOPIC H2020-LC-SC3-2019-RES-IA-CSA

Increase the competitiveness of the EU PV manufacturing industry

GANo. 857793

High-performance low-cost modules with excellent environmental profiles for a competitive EU PV manufacturing industry



HighLite- Deliverable report

D8.1- Mid-term report on cost evaluation of HighLite technologies

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 857793. The information and views set out in this publication does not necessarily reflect the official opinion of the European Commission. Neither the European Union institutions and bodies nor any person acting on their behalf, may be held responsible for the use which may be made of the information contained therein.

About HighLite

The HighLite project aims to substantially improve the competitiveness of the EU PV manufacturing industry by developing knowledge-based manufacturing solutions for high-performance low-cost modules with excellent environmental profiles (low CO₂ footprint, enhanced durability, improved recyclability). In HighLite, a unique consortium of experienced industrial actors and leading institutes will work collectively to develop, optimize, and bring to high technology readiness levels (TRL 6-7) innovative solutions at both cell and module levels.

HighLite consortium members



Document information

| | |
|-------------------------------------|--|
| Deliverable No. | HighLite D8.1 |
| Related WP | WP8 |
| Deliverable Title | Mid-term report on cost evaluation of HighLite technologies |
| Deliverable Date | 31 – 03 - 2021 |
| Deliverable Type¹ | Report |
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Document history

| Date | Revision | Prepared by | Approved by | Description |
|------------|----------|------------------|--------------|-------------|
| 10/03/2021 | 1 | Tadas Radavičius | Josco Kester | First draft |
| 26/03/2021 | 2 | Tadas Radavičius | Loic Tous | Final |

Dissemination level²

| | | |
|-----------|---|---|
| PU | Public | |
| CO | Confidential, only for members of the consortium (including the Commission Services) | X |

¹ Deliverable Type

Please indicate the type of the deliverable using one of the following codes:

R Document, report

DEM Demonstrator, pilot, prototype

DEC Websites, patent fillings, videos, etc.

OTHER

ETHICS Ethics requirement

ORDP Open Research Data Pilot

DATA data sets, microdata, etc.

² Dissemination level

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EU-RES Classified Information: RESTREINT UE (Commission Decision 2005/444/EC)

EU-CON Classified Information: CONFIDENTIEL UE (Commission Decision 2005/444/EC)

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Publishable summary

The objective of this report is to review the progress related to the current costs of products which are being developed in the HighLite project. The current estimates show that it is possible to achieve the project cost target of ≤ 0.25 €/Wp for $>22\%$ efficient BAPV modules with a carbon footprint < 250 kg CO₂-eq./kWp for GW-scale production in Europe. The higher prices and limited availability of low CO₂ wafers (needed to reach the carbon footprint objective) are one of the challenges that will need to be addressed in the final report. Similarly, the production costs for both IBC and SHJ solar cells are highly dependent on silver consumption per cell (and silver prices). Therefore, a detailed sensitivity analysis will be performed for the final cost evaluation report that is due at M36.

The small production capacity coming from research institutes or companies with limited production capacity (<100 MWp/year) requires further scaling and automation to become cost-competitive. Related to BIPV applications, the installation type, and associated costs such as finance and personnel in a specific country need to be taken into consideration in the next steps. VIPV applications are a new type of market where approaches towards defining the LCOE calculation methodology need to be developed/adapted. Further in-depth data collection will be done until the final deliverable report to achieve full (module) manufacturing cost calculations, estimate ROI and LCOE for BAPV, BIPV, and VIPV applications.