

Flexible Perovskite Solar Cells with Carbon Electrodes

 **Timeline** | 10/2023 to 09/2026

 **ICIQ People** | [Palomares Research Group](#)

 **Overall Budget** | 5 659 254.25 €
ICIQ's Budget | 420 312.50 €

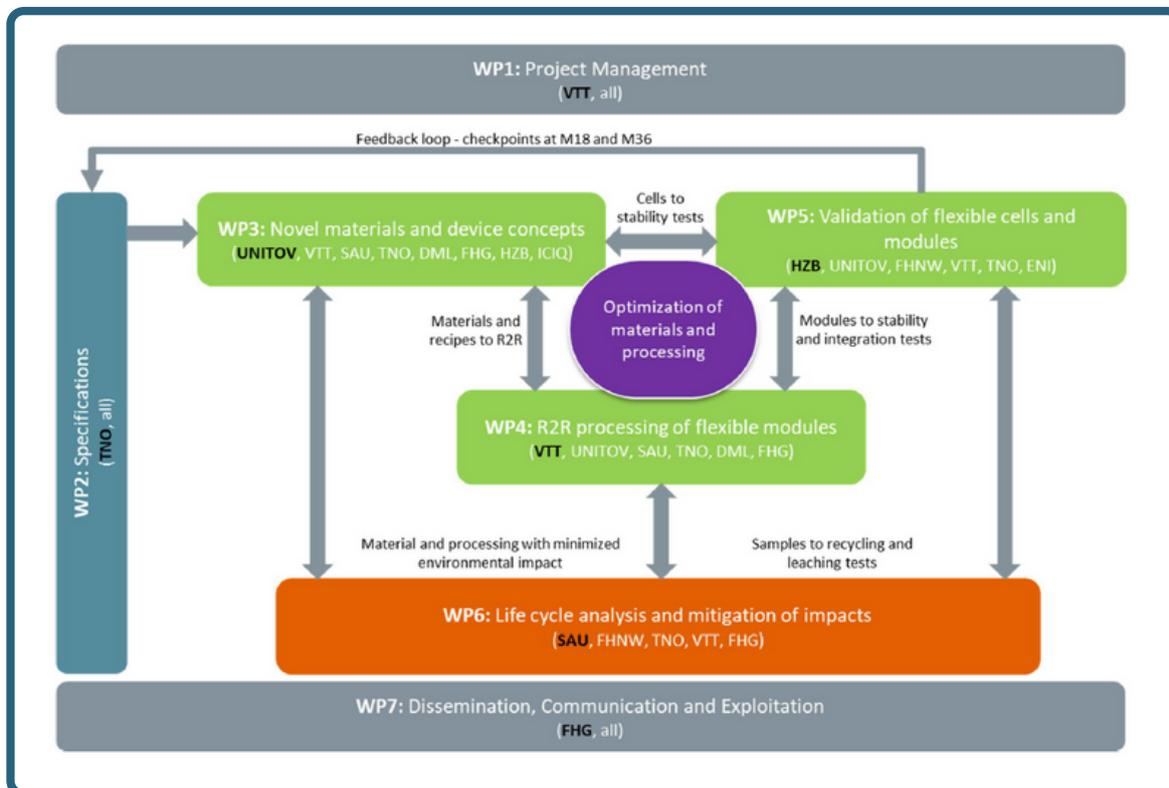
 <https://cordis.europa.eu/project/id/101122283>

 **Call** | [HORIZON-CL5-2022-D3-03](#)

SUMMARY

Several advantages arise from the incorporation of carbon electrode in the perovskite solar cell (PSC) architecture such as reduced material cost, improved device stability and simplified device fabrication process as well as lower emissions. Thus, the primary objective of PEARL is to realize flexible perovskite solar cells processed with industrially viable, scalable and environmentally sound methods, showing long term operational stability surpassing the IEC standards, efficiency of > 25%, lowered production costs below 0.3 EUR/Wp and minimal emissions < 0.01 kg CO₂eq/kWh. To reach these objectives, PEARL is focusing on the development of planar, conventional n-i-p, and further n-i-c, device architectures utilizing low-temperature carbon pastes as the top electrodes aiming to the emerging markets of building integrated photovoltaics (BIPV), vehicle integrated photovoltaics (VIPV) and internet of things (IoT).

WORK PLAN



CONSORTIA

