



PerTPV – Perovskite thin film photovoltaics
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Invitation List for the Stakeholder Workshop

WP6

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Summary

PerTPV (Perovskite Thin-Film Photovoltaics) is a project led by Prof Henry Snaith at the University of Oxford, UK. Funded by the European Union's Horizon 2020 Research and Innovation programme, the project will commence in 2018 and run for three years. This innovative project aims to develop very high efficiency thin film solar cells, which surpass the industrial expectations for stability and are produced via means compatible with high volume manufacturing. The PerTPV project website can be viewed [here](#).

Stakeholder Workshop

A Stakeholder Workshop will be organised in the UK at month 30 of the project where key stakeholders will be invited, in particular, the external industrial advisory board but also representatives from EU commission and coordinators of related H2020 projects, investors, policy makers and associated industries.

The objective of this one-day event will be to demonstrate the progress of the PerTPV project and the implications and promise it holds for the European PV related industry.

Our preliminary invitation list includes 7 x end users and suppliers of PV equipment and materials; 5 x H2020 project leaders and representatives from Swiss research programmes; 6 x industry investors and a policy advisor.

Project Objective

Solid state lead halide perovskites have recently emerged as the latest thin-film photovoltaic device class. High power conversion efficiencies (23 %) and advancing stabilities (> 1000 hours at 60 °C under 1 sun illumination, and 85°C/85%RH) have been obtained using lab scale processes and small area cells (<1 cm²). The building blocks of the perovskite materials are low cost and the processing into the final perovskite thin-film can be achieved with low-temperature fast processes. This makes these materials very cost efficient and promises to deliver a future PV technology with a levelized cost of electricity (LCOE) below that of existing mainstream PV. There has been much advancement with combining perovskite with silicon cells, to deliver a “tandem” junction cell with much higher efficiency than either sub-cell. This perovskite-on-silicon approach is expected to deliver the first perovskite PV products.

Today, this technology is designed for wafer-based module volume manufacturing. Further development of the perovskite technology for large area sheet-to-sheet and reel-to-reel coating, offers real promise for ultra-high-volume manufacturing.

Within PerTPV, we will advance the perovskite thin-film PV technology to the next level by undertaking a “double pronged” drive on both performance (efficiency and stability) and the development of scalable device and module fabrication methodologies, compatible with high volume manufacturing. Our consortium consists of leading academic groups in perovskite PV research, as well as research companies and three industrial partners at complementary positions in the value chain (technology driver, materials supplier and equipment supplier).

In addition to our ambitious targets of surpassing 30% power conversion efficiency in a thin film all-perovskite tandem cell and delivering a certifiably stable module technology, we will also perform full life cycle analysis and ensure a safe means to undertake mass deployment and recycling of the perovskite PV modules. A final output of the project will be a full cost model and pilot line specification, with the intention of ramping up to pilot manufacturing following successful completion of the project.

