Spectrum Shifting Nanocoating

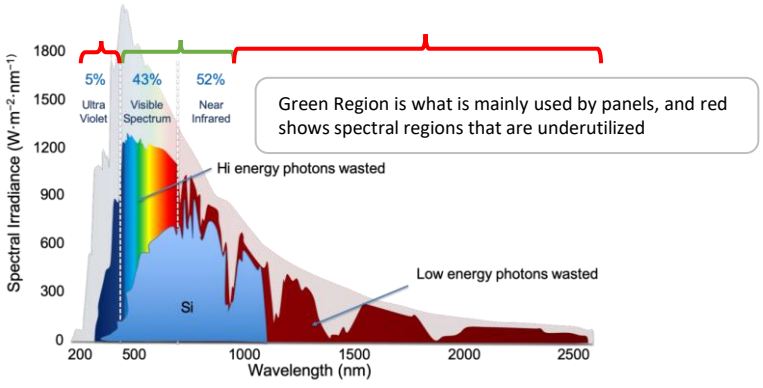
Enhance Solar Cell Efficiency by harnessing unused photons

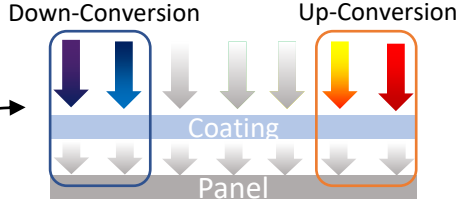
The Problem

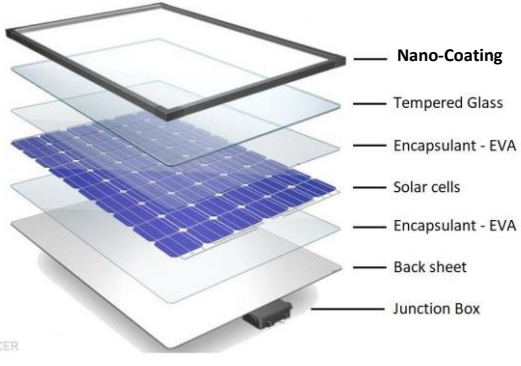
Inherent limitations of the photon to current conversion process lead to the lower efficiency in solar cells. One of the problems is the mismatch between the solar spectrum and the optical responsivity profile of the solar cell material of Silicon. There are regions of the solar spectrum which are not effectively used for the conversion to current.

The Solution

A Nanoparticle coating that can be applied in retrofit to existing panels that can shift the input spectra into a region that can be processed by the solar panels





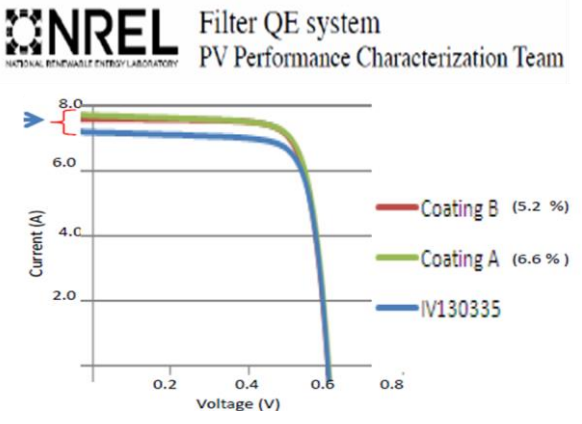


Shifting the Spectrum can yield greater performance and reduce the cost of electricity generated by the panels

Accomplishments to Date

Developed prototype Nano-Coating that can boost efficiency of solar panels, some of the initial results were promising showing boost to current output of the panels.

Prototype validation showed a performance enhancement of 6.6% through the Commercialization Assistance Program (CAP)



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