BIPV ORIGINS AND EVOLUTION

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BIPV Concept

BIPV consists of materials generally used in the building envelope that allow the generation of electricity through photovoltaic cells of different formats.[1]

[1] BIPV for Commercial and Institutional Structures, page 4, 2015

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Brief History of BIPV

BIPV first appeared in the 1970, in the form of solar modules, on structures in remote areas which offered no access to electricity.

As technology evolved, BIPV began to take a different look, where the PV element became part of the building envelope.

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Types of BIPV

- Crystalline Silicon,
- Amorphous Crystalline Silicon,
- CIGS (Cooper, Indium, Gallium, Selenide,
- Double Glass Solar Panels,
- Solar Glass,
- Peroskyte Cells.

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Advances in BIPV

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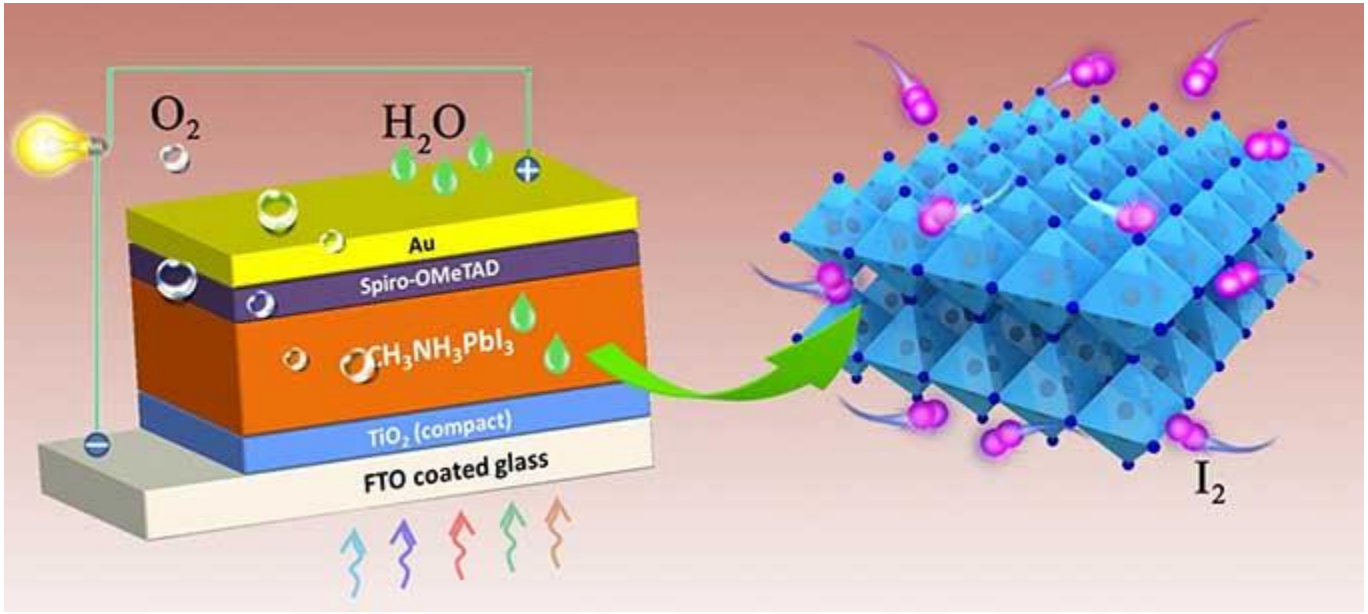

Chemical Structure of the Peroskite Cell[2]

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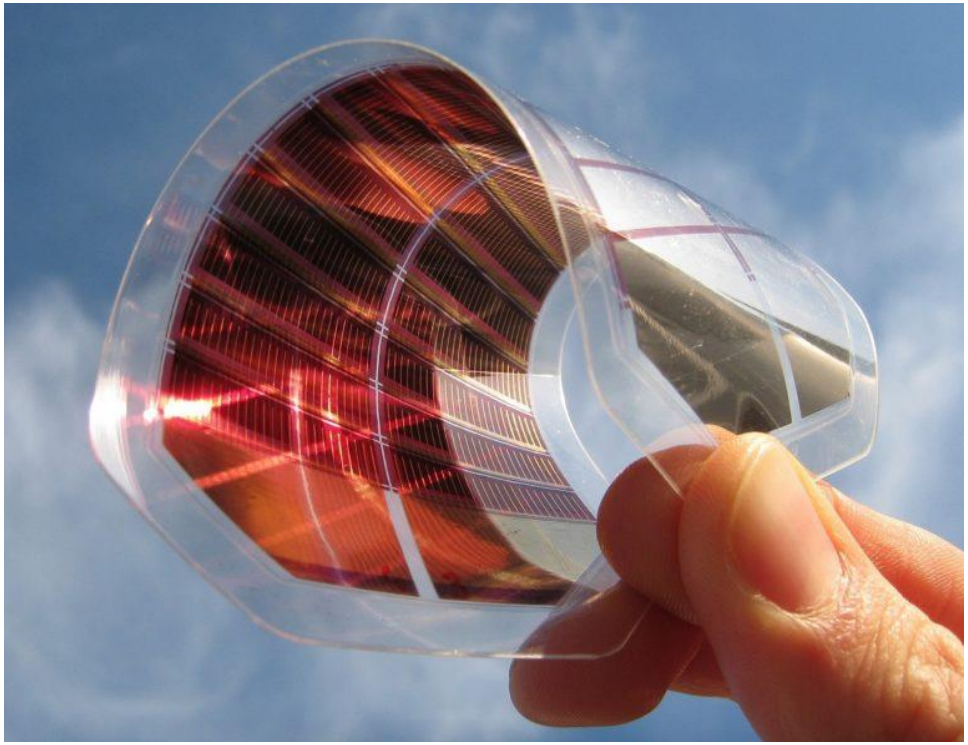

https://sciencetrends.com/dimensional-engineering-another-approach-resolving-stability-issue-high-efficiency-perovskite-solar-cells/

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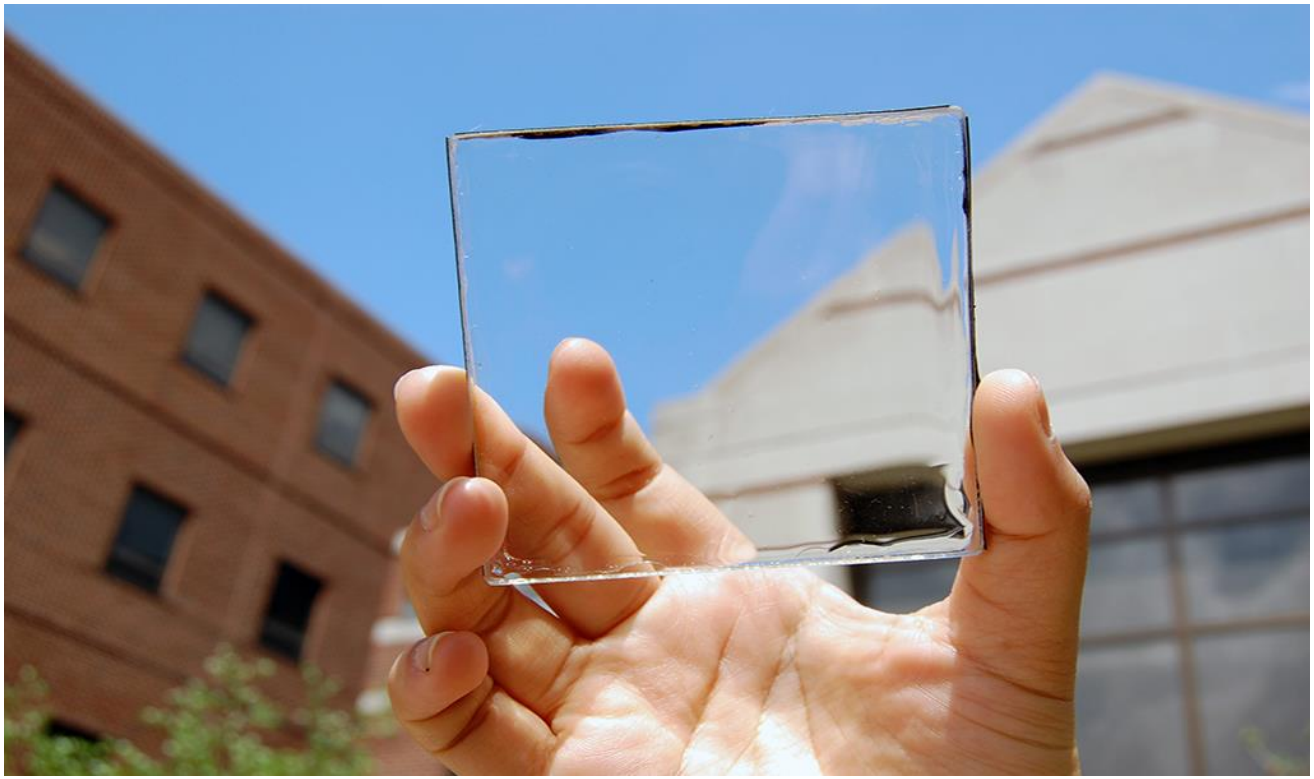

http://msutoday.msu.edu/news/2017/transparent-solar-technology-represents-wave-of-the-future/

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Conclusions

BIPV technology is continuously evolving, presently its cost can compete with Trinidad and Tobago Commercial Tariff. Having said this, in an ever changing world, and with the constant decrease in prices, BIPV giving the cost of maintenance it is the most viable alternative to a building envelope.

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THANK YOU

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