

Solarise Façade

3D PV-integrated façade systems

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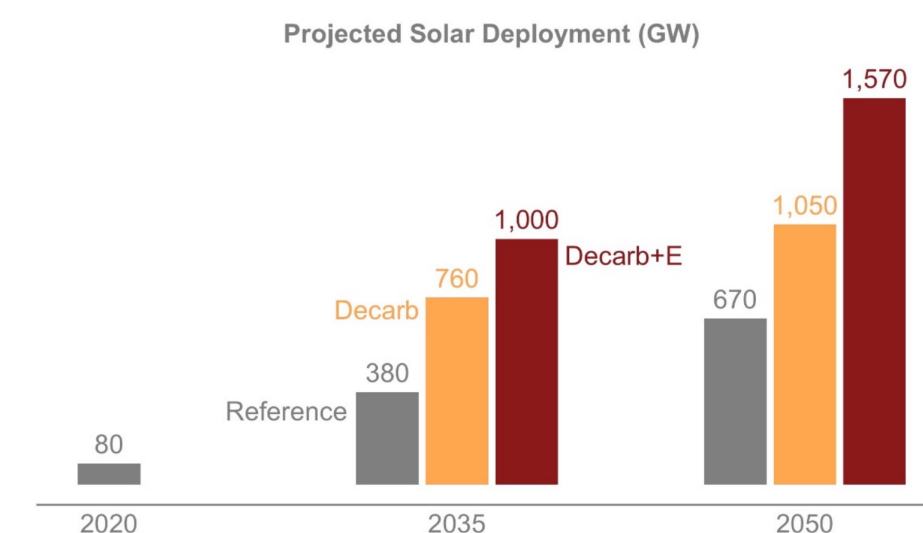
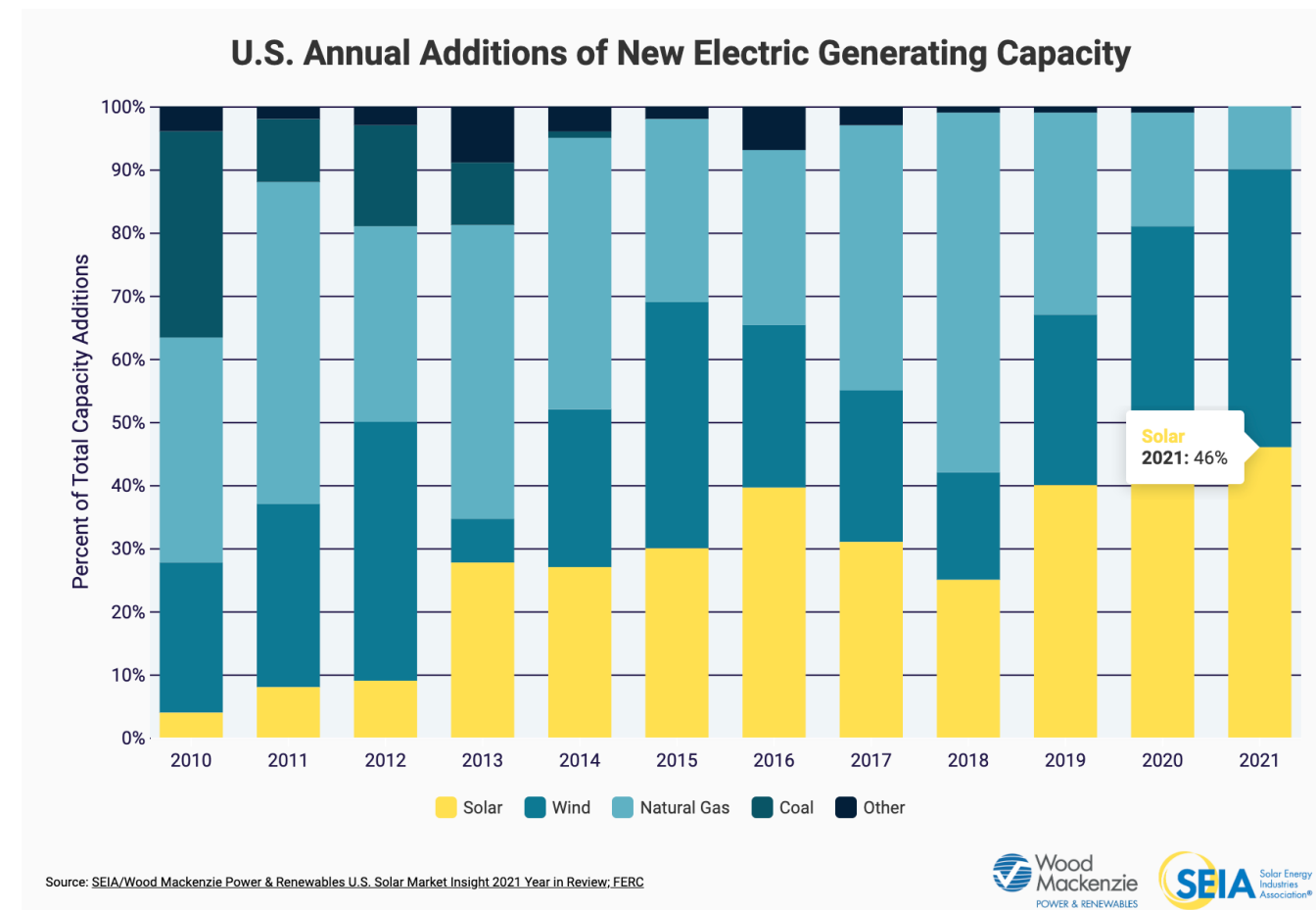
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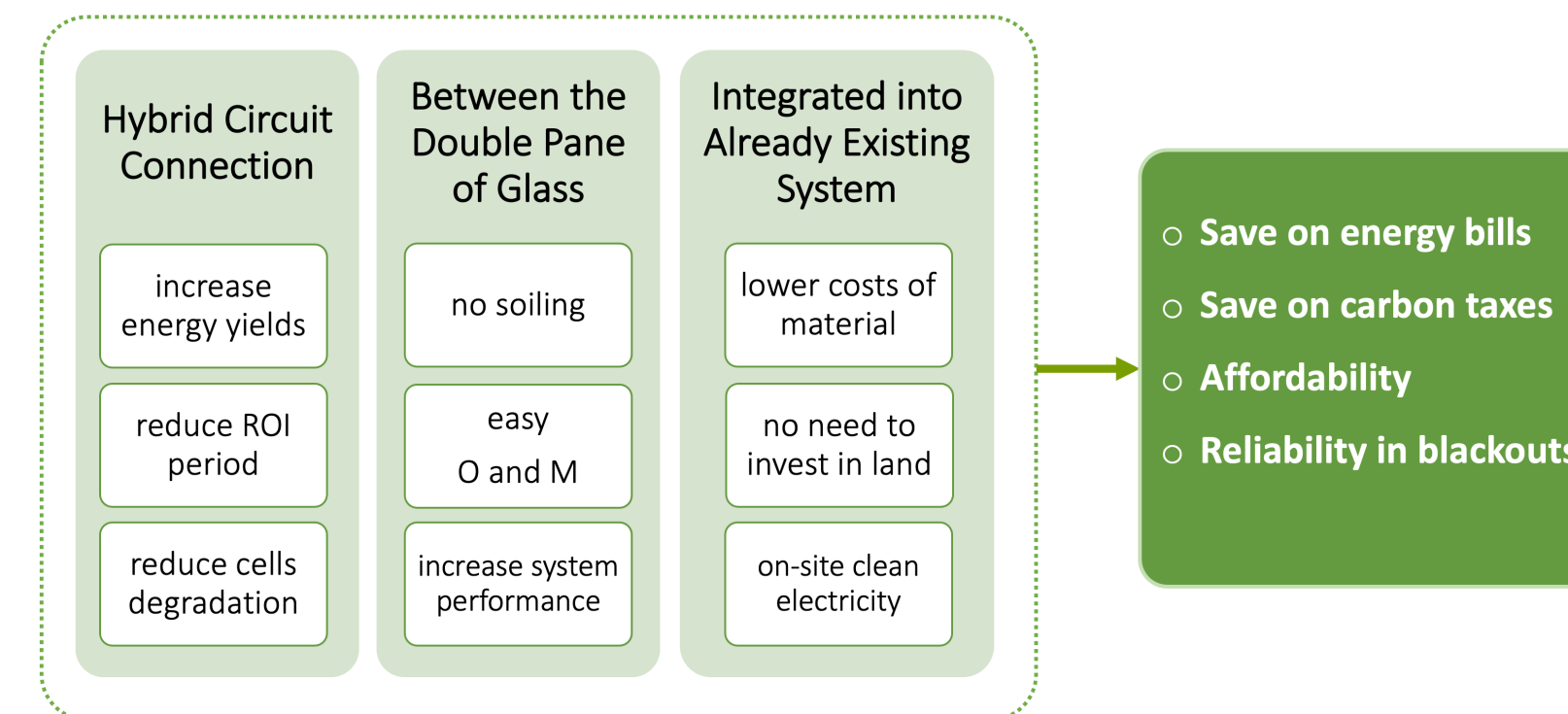
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Solar energy rapid growth and Decarbonization goal

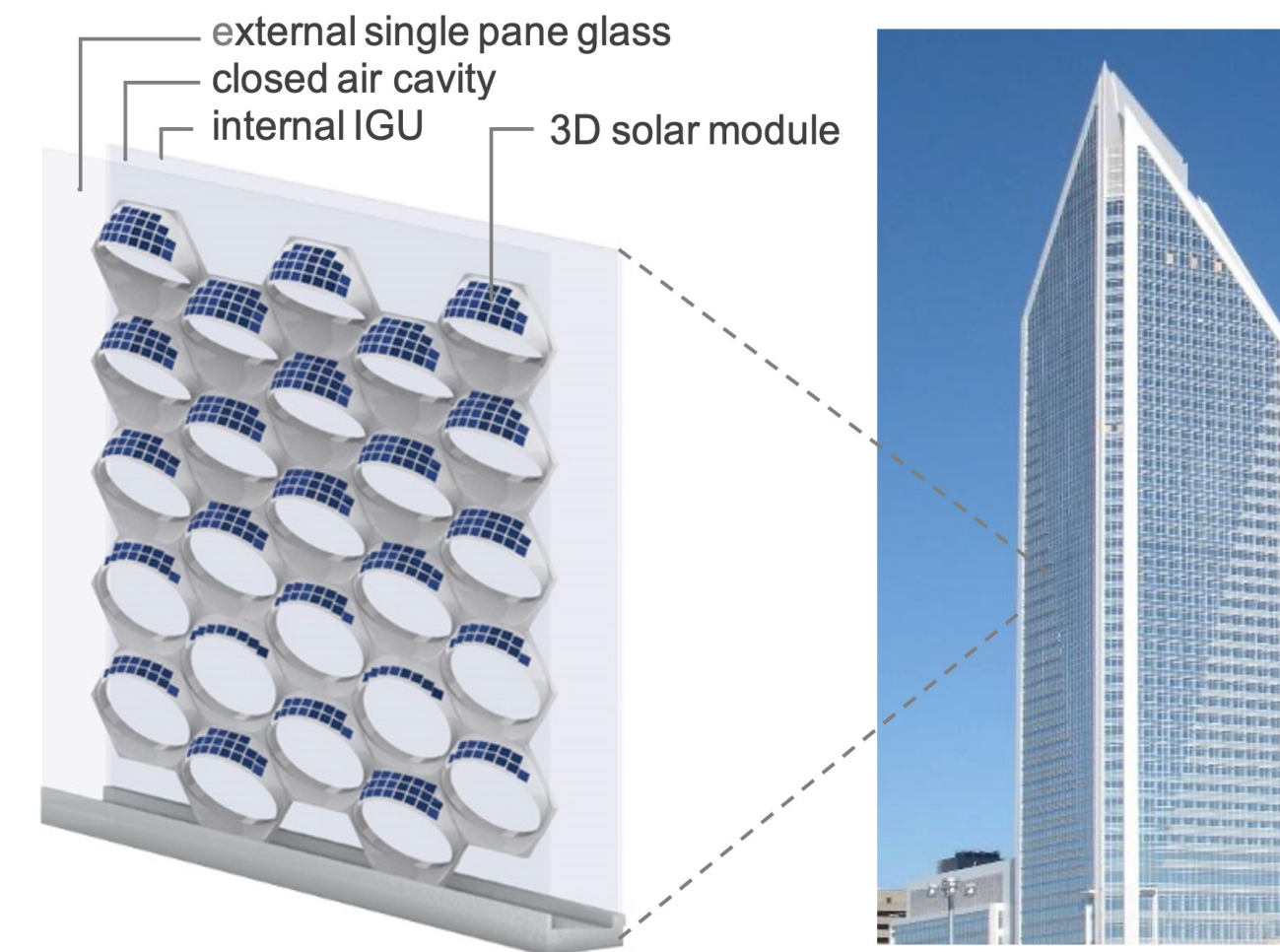


How does Solarize Façade tackle the challenges?

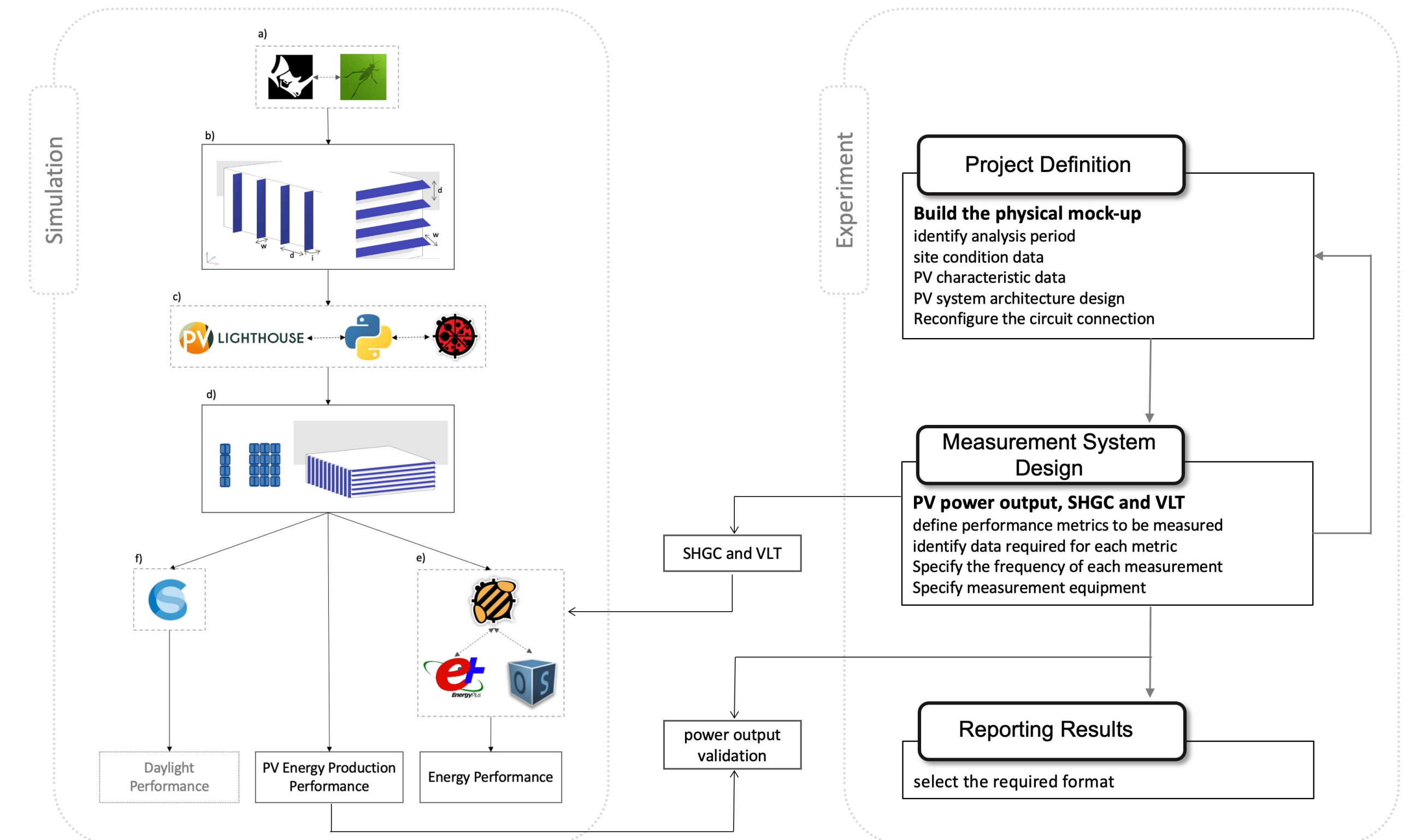


Multi-disciplinary design and application

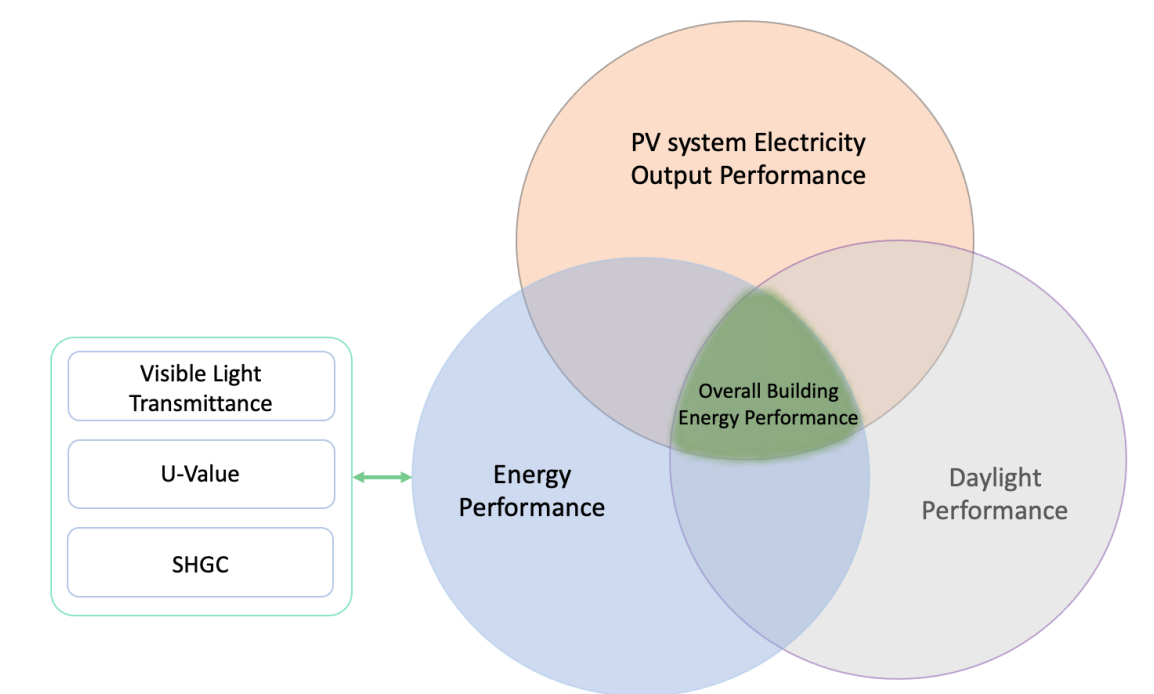
- Generates on-site electricity
- PV systems size is large enough to meet 85-99% of the building's electricity demand
- Reduces building heating and cooling loads
- Allows sunlight penetration into the building
- Provides view-outs for occupants
- Enables tall buildings to achieve NZE
- Integrated into an already existing system



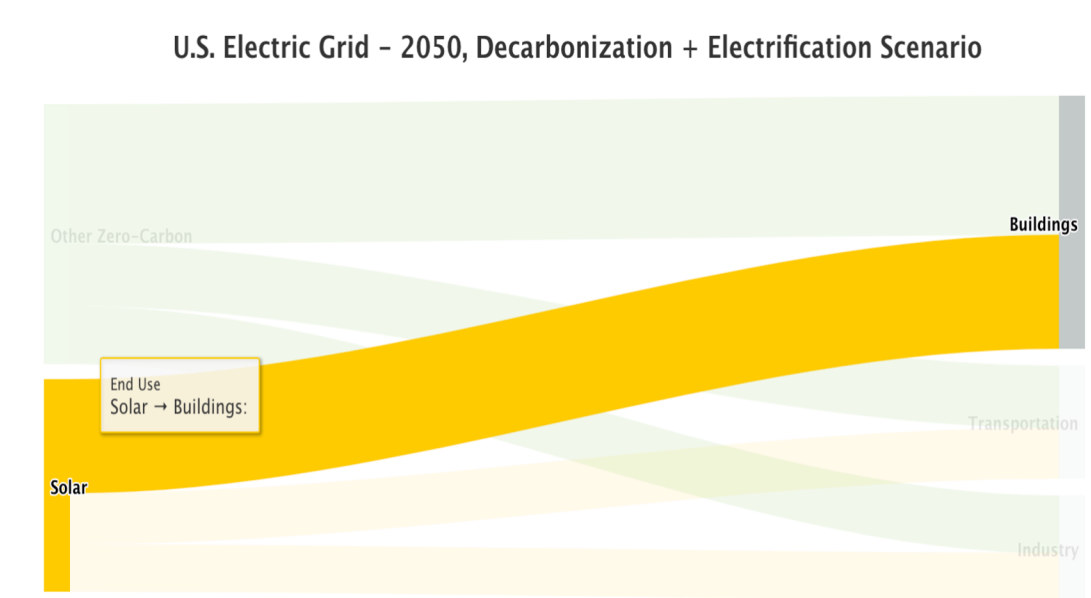
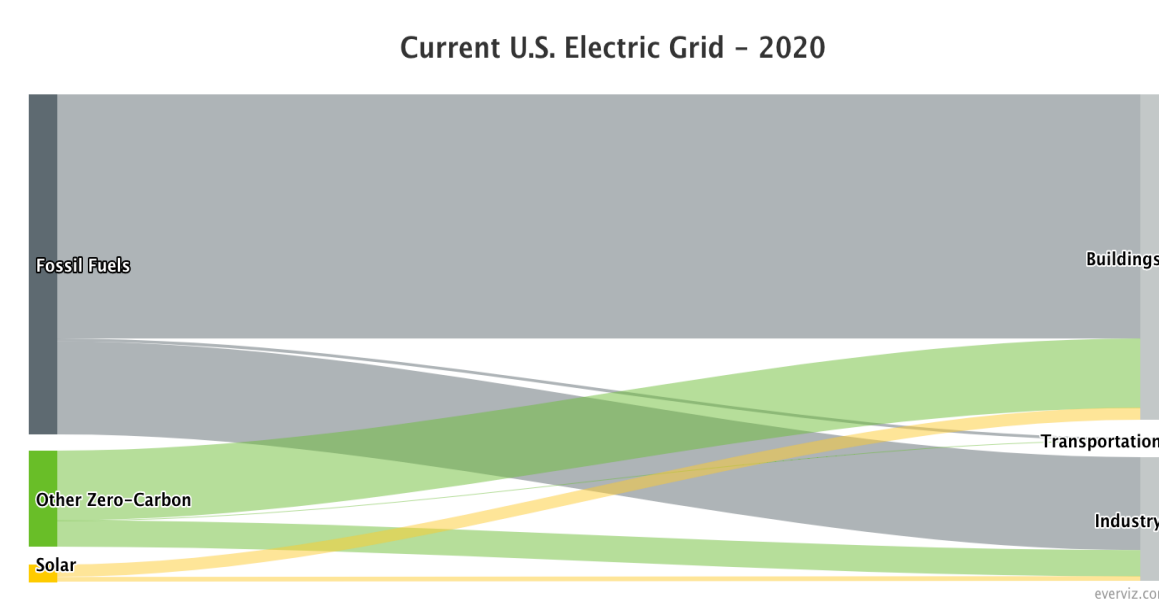
Validating Hypothesis



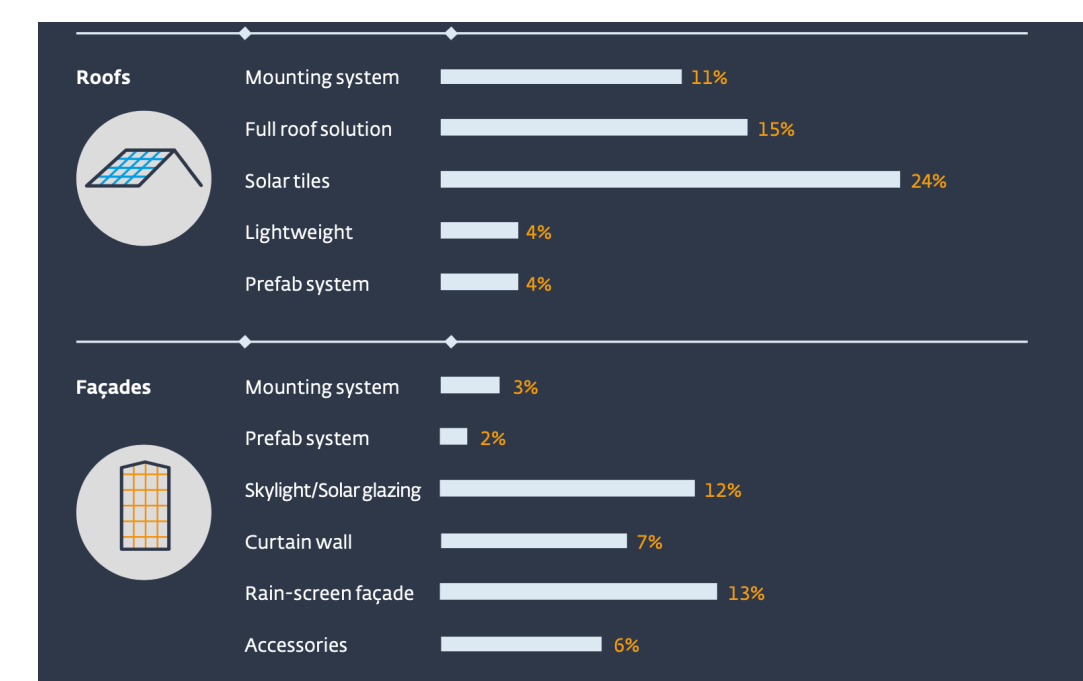
- Reduces building electricity consumption
- cuts down energy bills
- Increases PV system power output under partial shadow condition
- Decreases the ROI period significantly
- Offers easy operation and maintenance
- Ensures zero power loss due to high-temperature levels during the PV system operation
- higher longevity and less degradation



Building sector, the major electricity consumer



Challenges of common PV sys. to supply building electricity

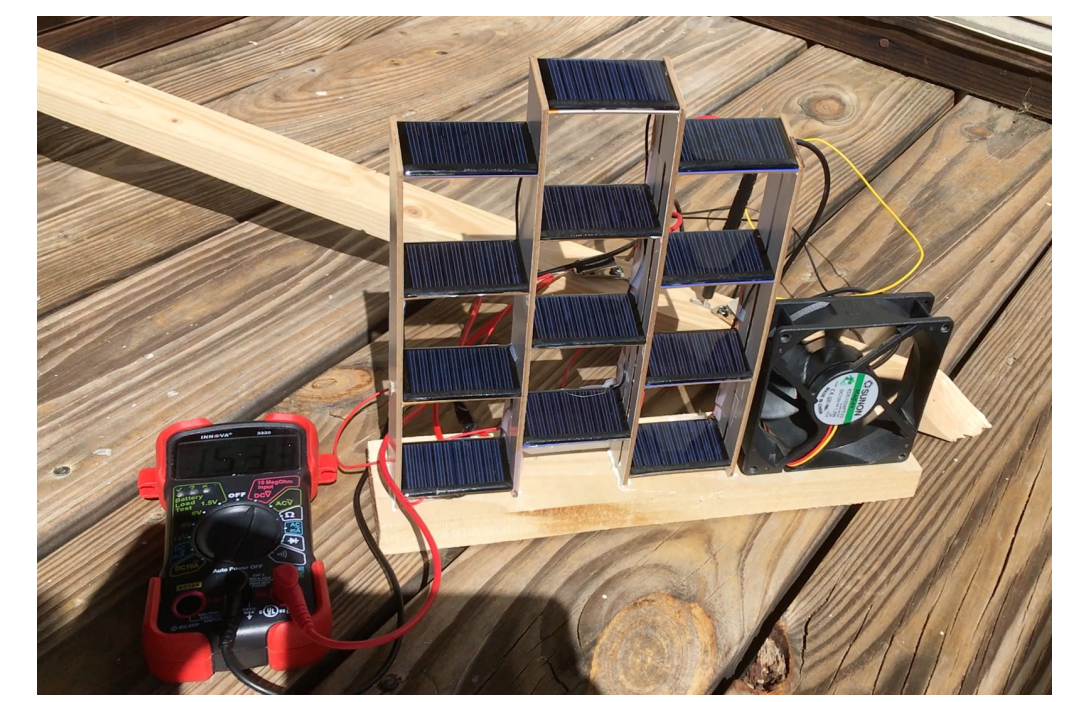
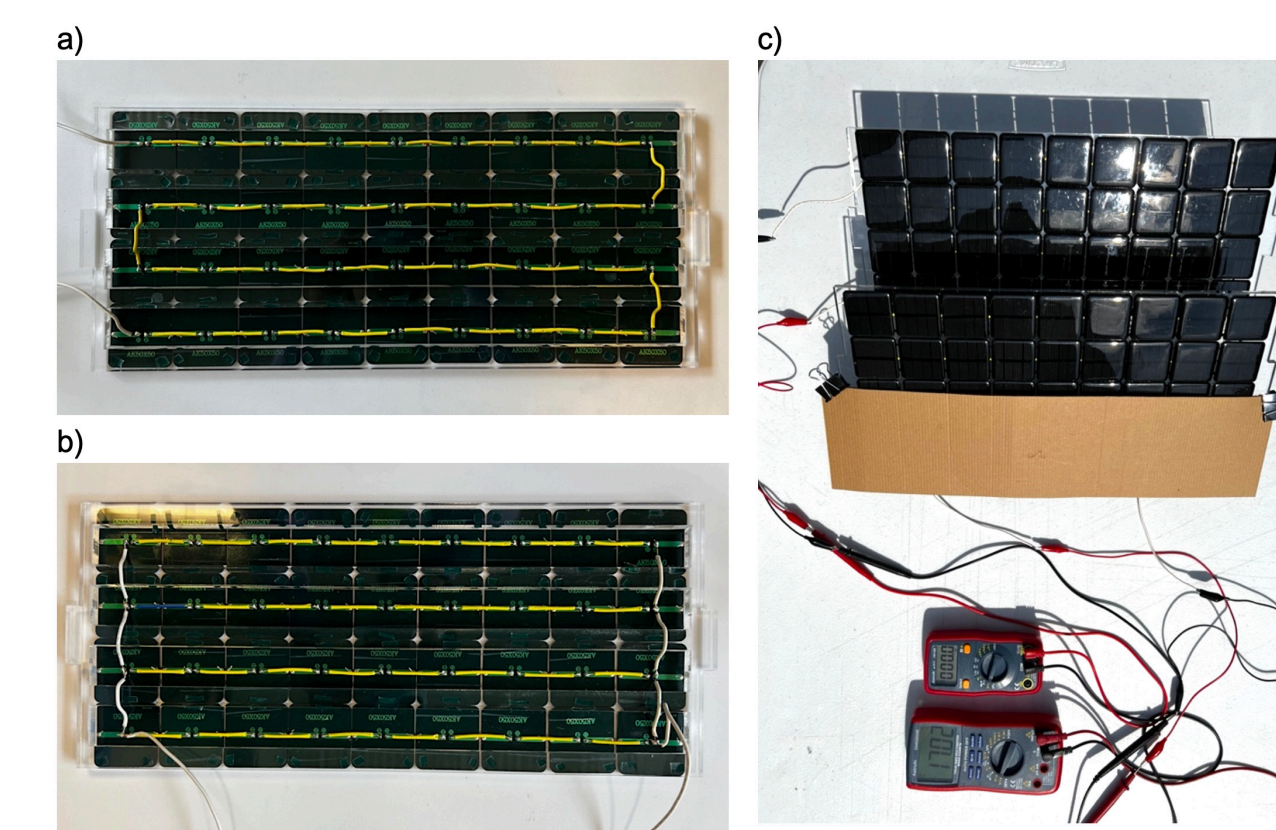
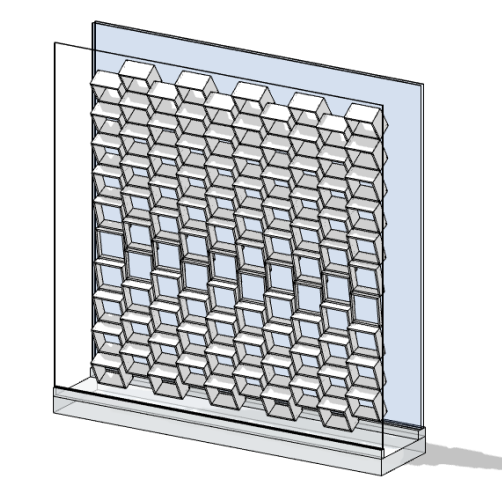
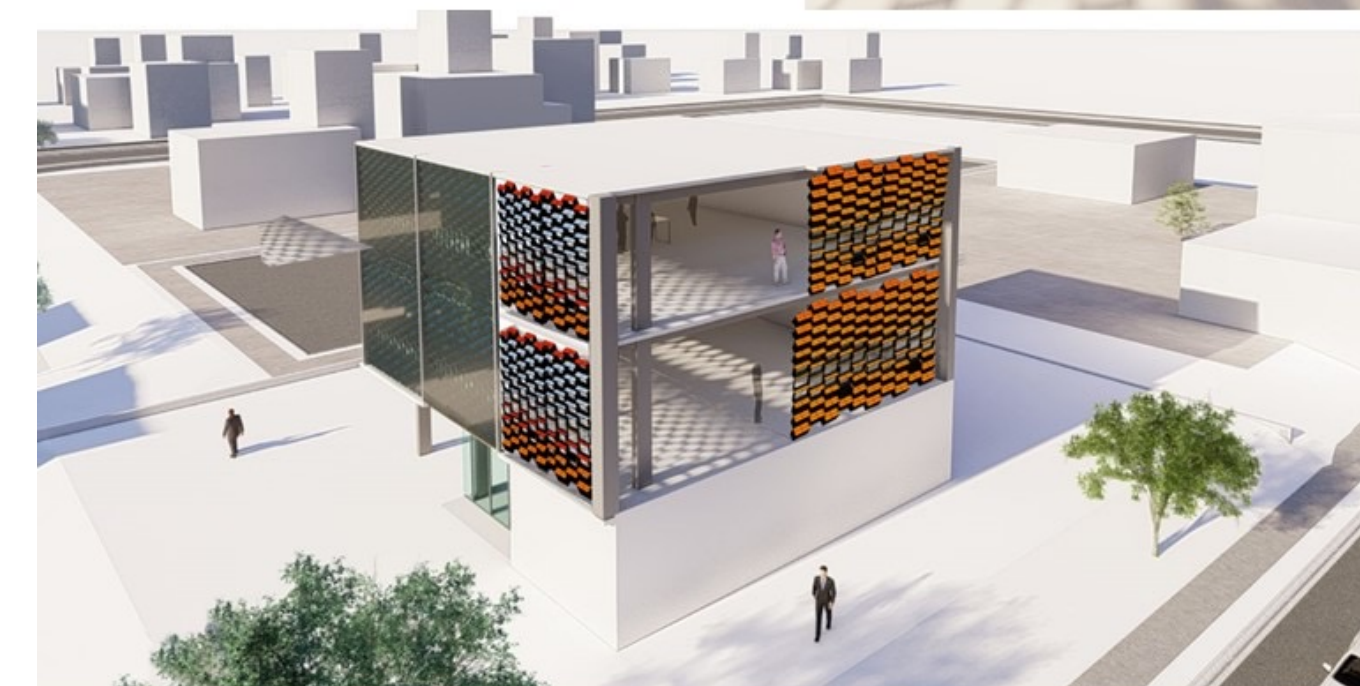
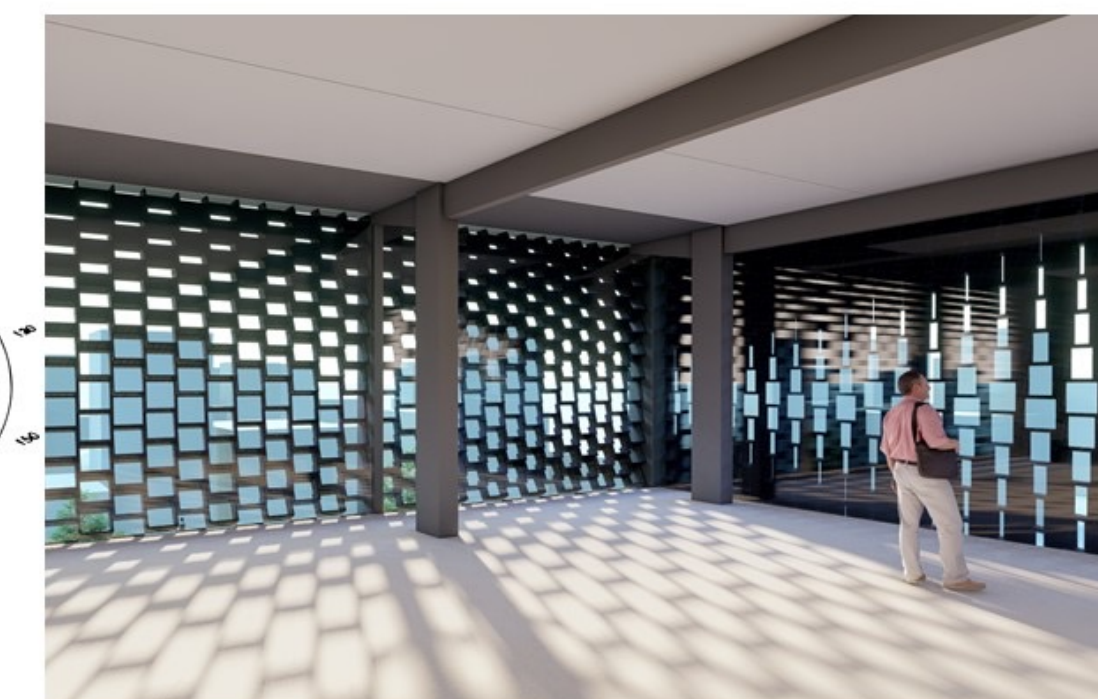
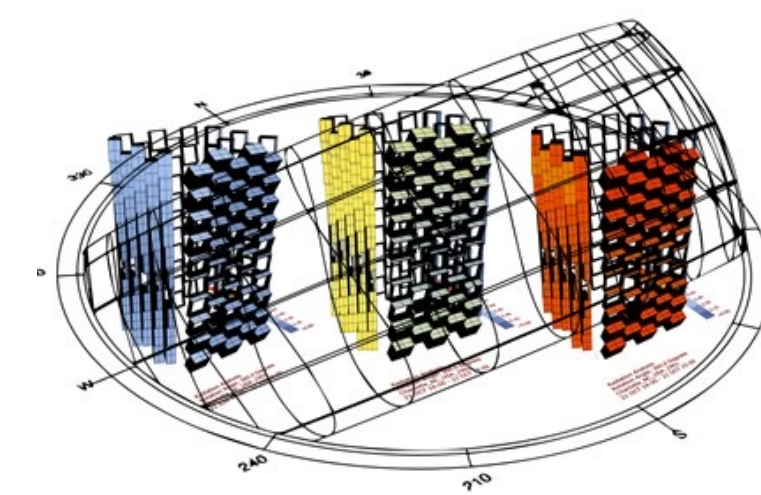


1- Solar farms

- Not affordable for building owners due to the high costs of land
- Extra money is required for mounting racks, etc.
- Not ecologically friendly since vast area of topography needs to be flattened

2- Rooftop PVs

- The rooftop area is not sufficient to install enough PV panels that supply the entire building's electricity



References

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