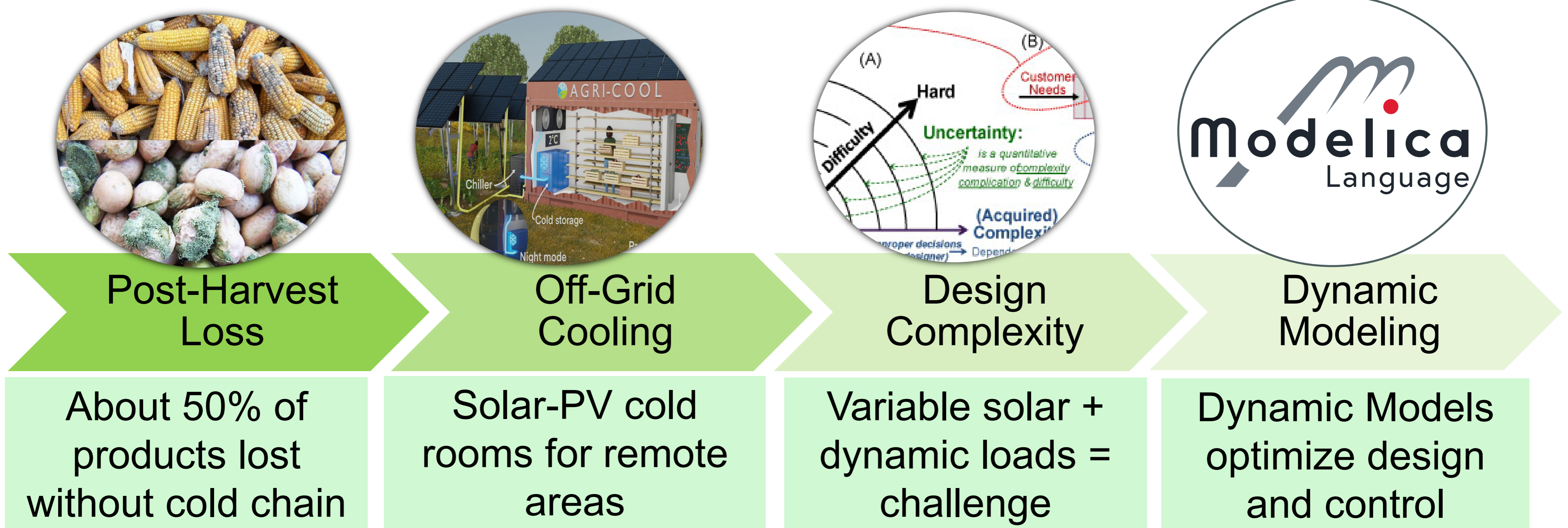


# Physics-Based Dynamic Modeling of Solar-Powered Off-Grid Cold Storage for Perishables Using Modelica: A Case Study – Xingalool, Somalia

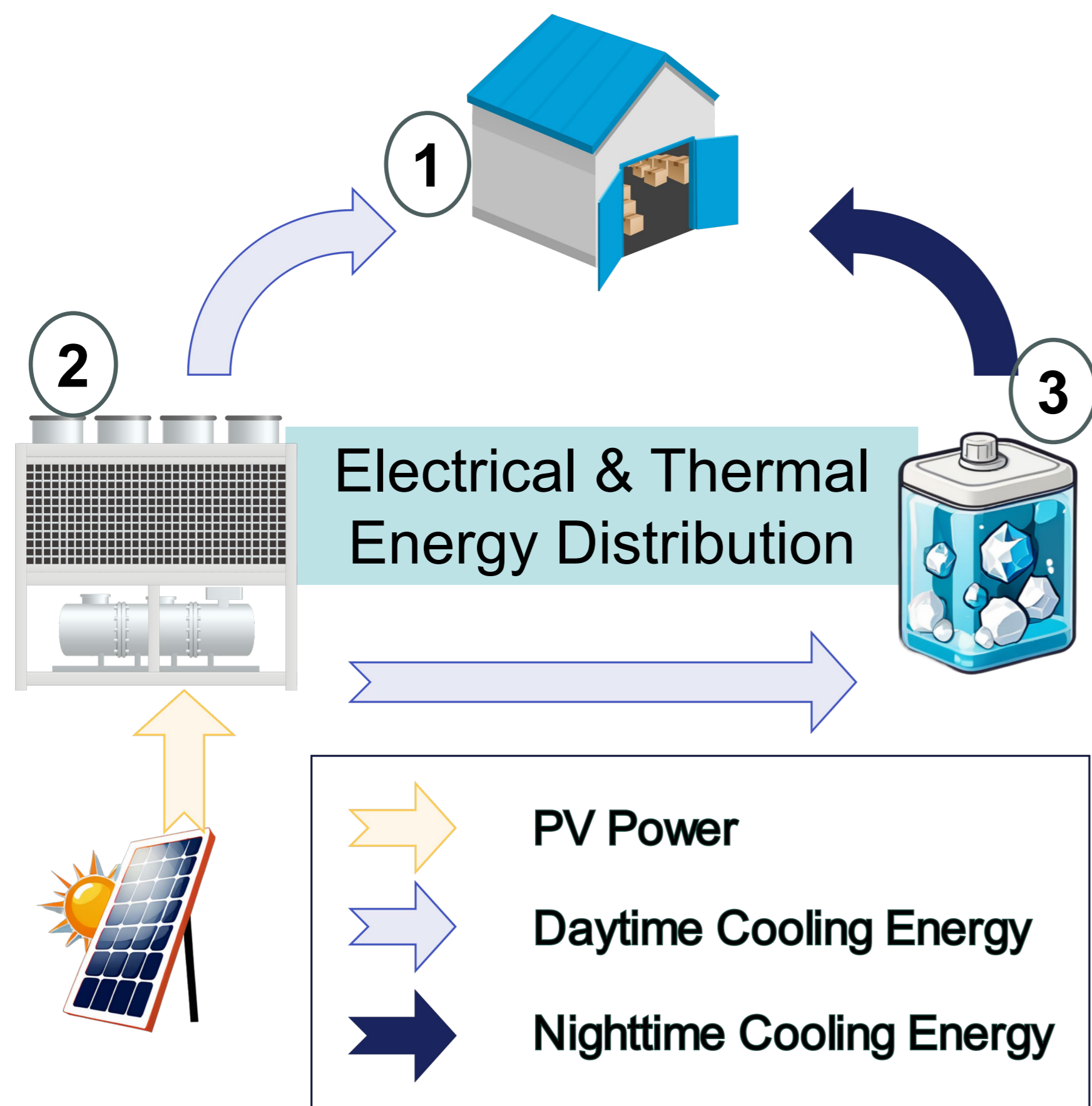
B. Bakhsh Zahmatkesh, M. Shahi, A. Mahmoudi

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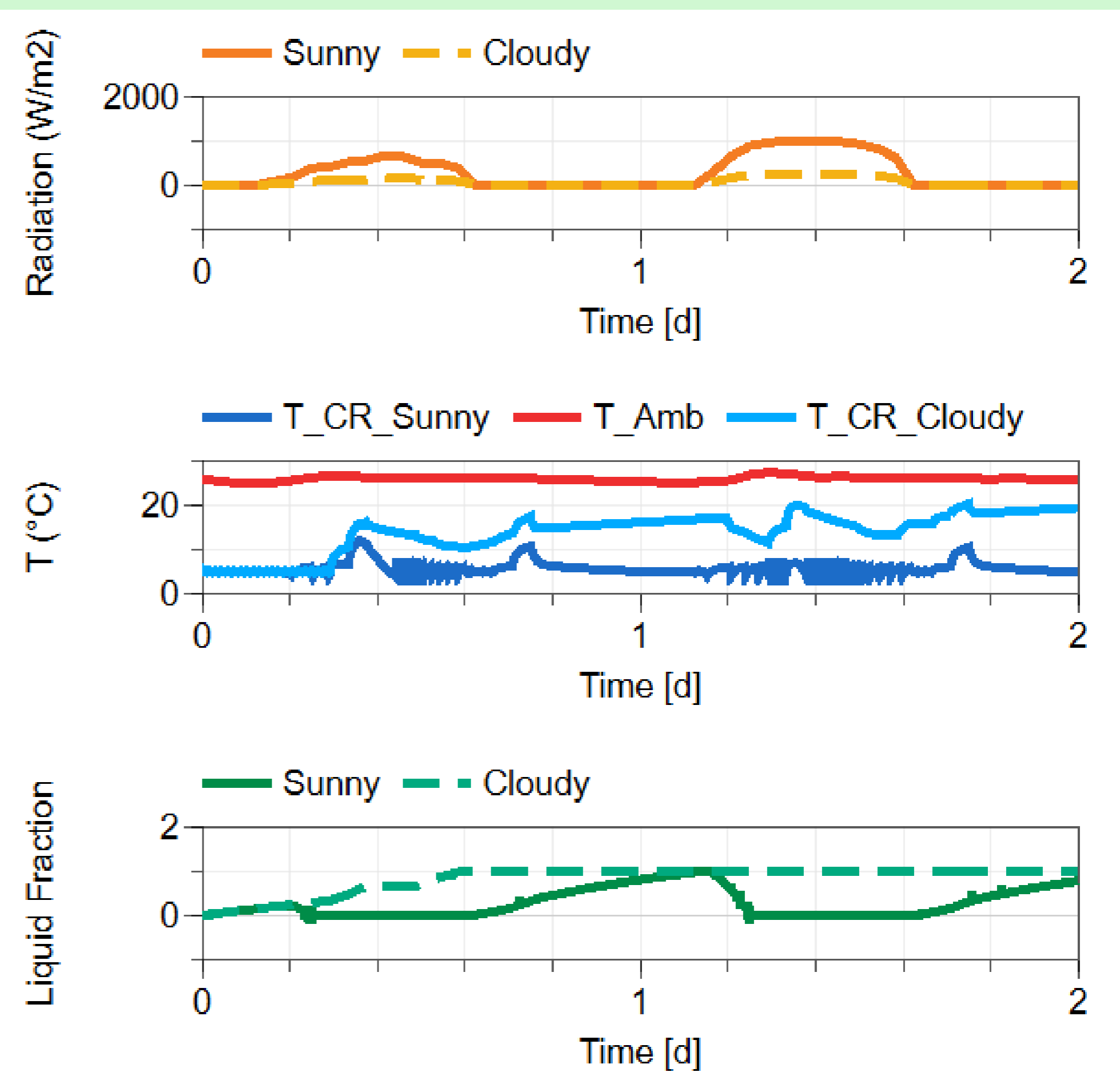
## From Problem to Approach



## Modelica Modeling for Off-Grid Cooling Facility



## Case Study Results and Analysis



Behavior of System in Sunny & Cloudy Days

## Conclusion

The dynamic model reveals how PV, storage, and control choices shape system performance.

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