

Thermodynamics and Heat Transfer

LE5: Renewable Energy Systems- Part 2 (50 Points)

Problem 1: Describes all the performance models in the System Advisor Model (SAM) (10 points).

Problem 2: Describe the financial models in the System Advisor Model (SAM) (10 points).

Problem 3: For one station in the united states: Design a solar dish/Stirling power plant.

Total capacity of the power plant is 100 MW (30 points).

Report:

- A summary of your analysis (one table)
- Monthly energy production (one graph)
- Resource Beam normal irradiance (W/M^2) (monthly profiles, time series and heat map)
- System power generated (monthly profiles, time series and heat map)
- System total net efficiency (monthly profiles, time series and heat map)