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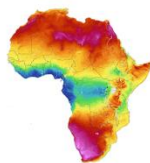


SOLAR THERMAL ENERGY RESEARCH GROUP

Effect of remuneration structure on CSP plant configuration and position

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SOLAR THERMAL ENERGY
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Overview



- Two remuneration tariffs
- Calculation of profit
- Effect on locations
- Effect on plant configuration
- Effect on output





Tariffs



- Time of day tariff
 - 05:00 to 17:00 and 22:00 to 23:00 → R1.65/kWhr
 - 17:00 to 22:00 → R3.95/kWhr
- Time of day and seasonal tariff
 - 20% price hike during June, July and August





Calculating Profit

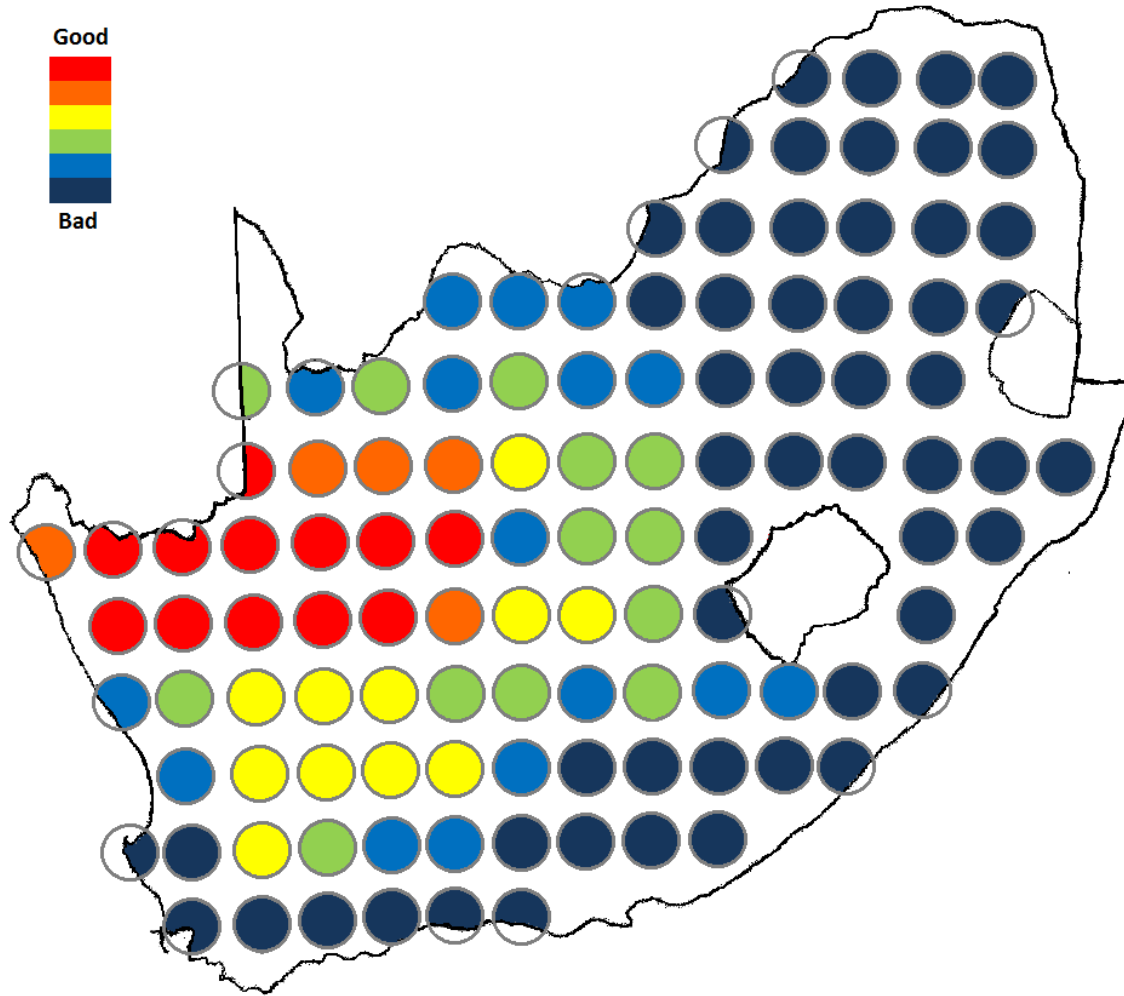


- Calculate LCOE
- Hourly Profit = (Tariff – LCOE) Output



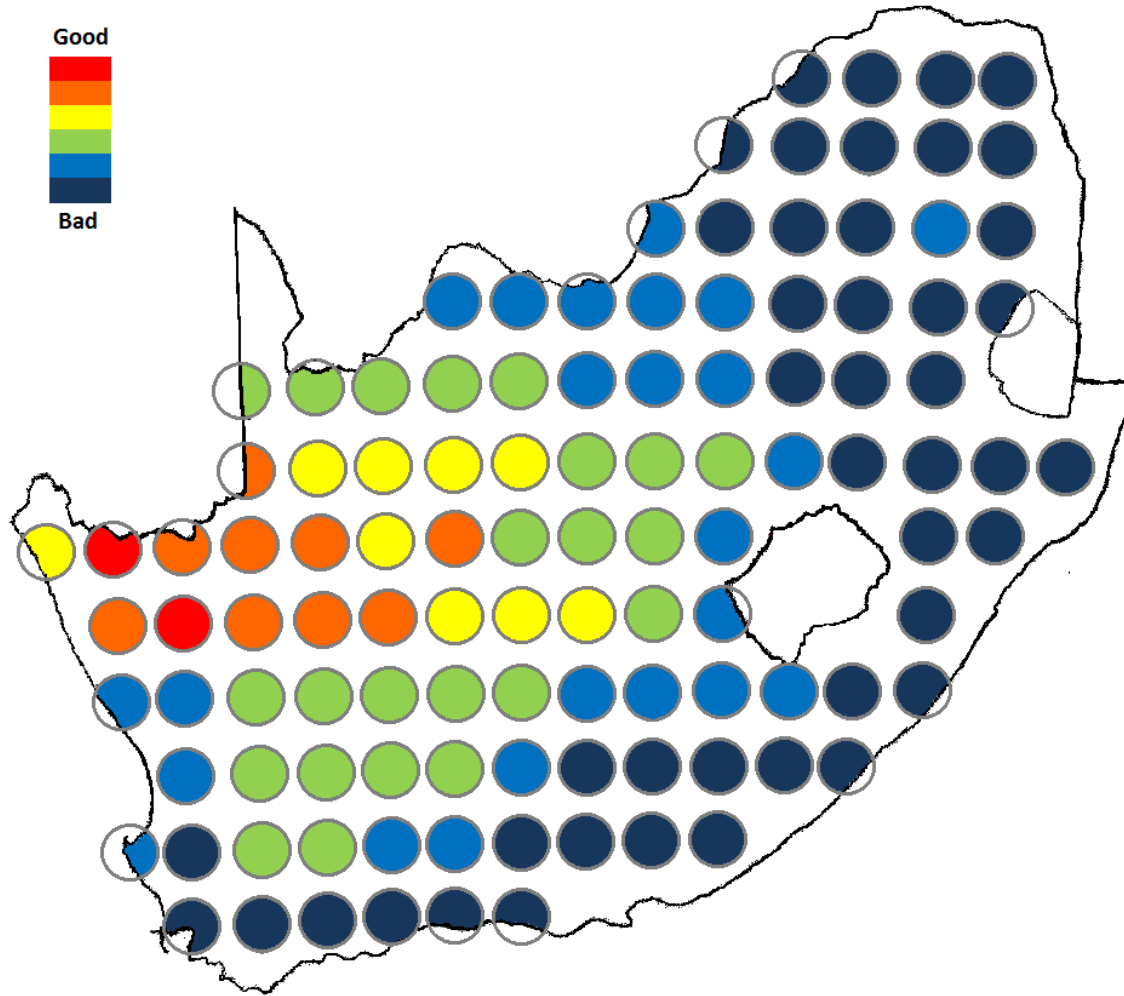


Profitability: Time of day Tariff





Profitability: Time of day and seasonal tariff





Plant Configuration



- Solar Multiple
 - Average increase 5.07%
 - Maximum increase 24.24%
- Hours of Storage
 - Average increase 6.58%
 - Maximum increase 38.89%

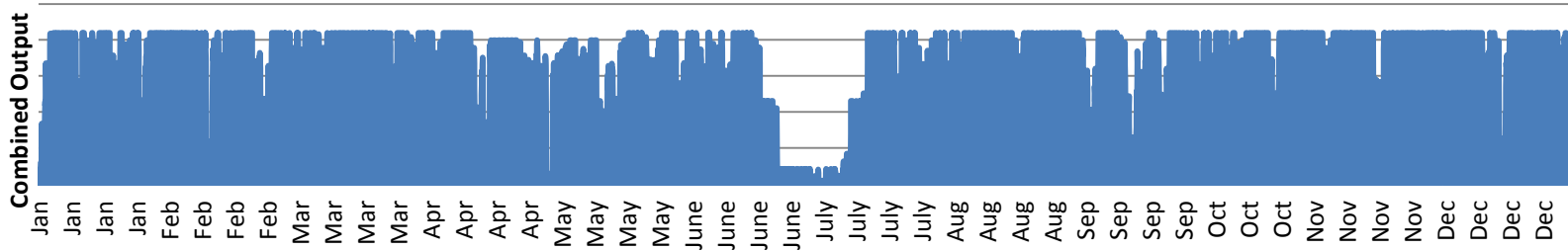




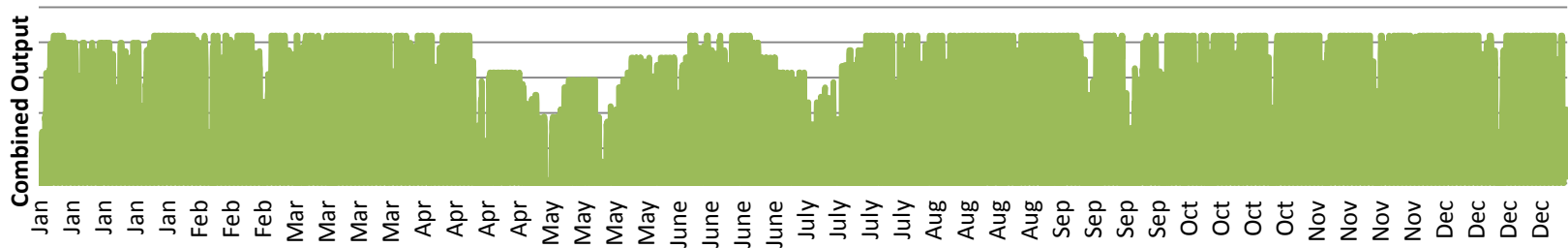
Power Output



Time of day



Time of day and seasonal





Conclusion



- Remuneration Determines:
 - What gets built
 - Where it gets built
 - How it is operated



Acknowledgements:

EPPEI

STERG

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