Photovoltaic vs Solar Water heating systems for industrial applications

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Vs

Workshop on Scientific basis on satisfactory performance of low and mid temperature Solar Heat for Industrial Processes (SHIP) systems

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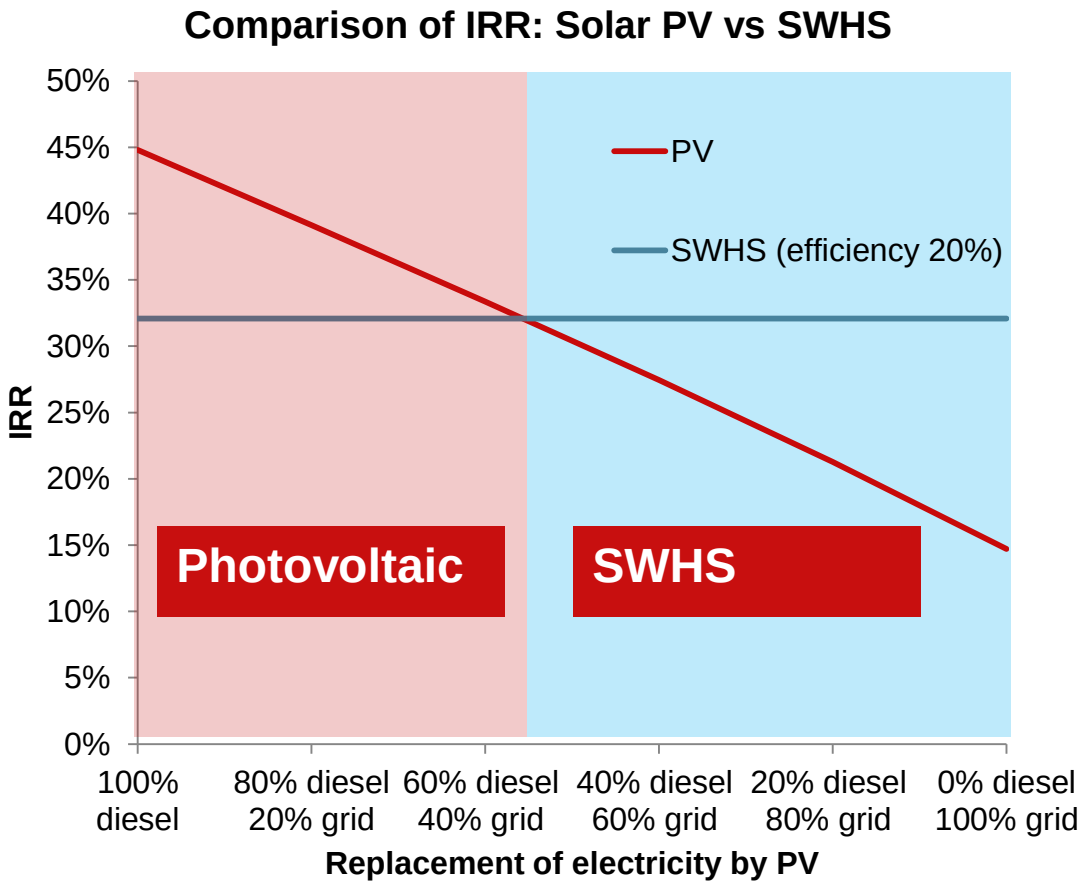
Which one makes sense and when?

Principle assumptions

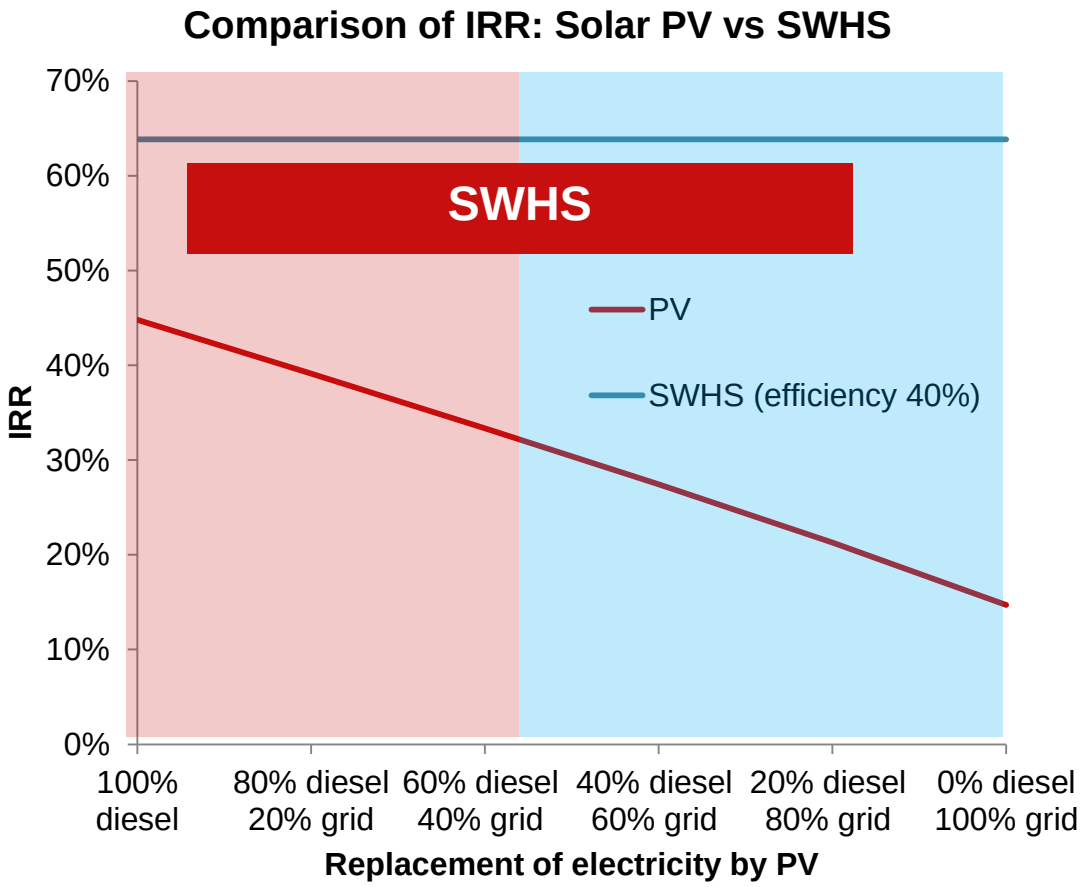
- Solar water heating system efficiency – 20%
- Fuel replaced by SWHS – 100% diesel
- Fuel replaced by PV – varying fraction of diesel
- Collector area – same for both
- Solar radiation - same for both



Which one makes sense and when?

Principle assumptions

- Solar water heating system efficiency – 40%
- Fuel replaced by SWHS – 100% diesel
- Fuel replaced by PV – varying fraction of diesel
- Collector area – same for both
- Solar radiation - same for both



Conclusions

- Improvements in the system efficiency of SWHS system (easily possible) can boost the SWHS system market as compared to PV
- If any industry has potential to replace both electricity and heat by solar energy, please make the decision wisely
- Always target to replace diesel / furnace oil as compared to replacing electricity from the grid
- Monitoring of solar systems (both PV and solar thermal) is essential
- Once installed, make the best use out of the systems (by good operation and maintenance) – Solar energy is free!

Thank you!

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