



# ECOSun- Economic COgeneration by Efficiently COncentrated SUNlight

Elsen Aydın

ODTÜ-GÜNAM

Ankara-Türkiye / [elsen.aydin@odtugunam.org](mailto:elsen.aydin@odtugunam.org)

## ECOSun CPV-T System

### Goal

- Dramatic cost reduction in electricity & heat co-generation.

### Innovation

- Novel injection-molded parabolic trough concentrator.
- Special c-Si-PV-cells in Co-Generation Absorber Module (CAM).

### Heat Transfer

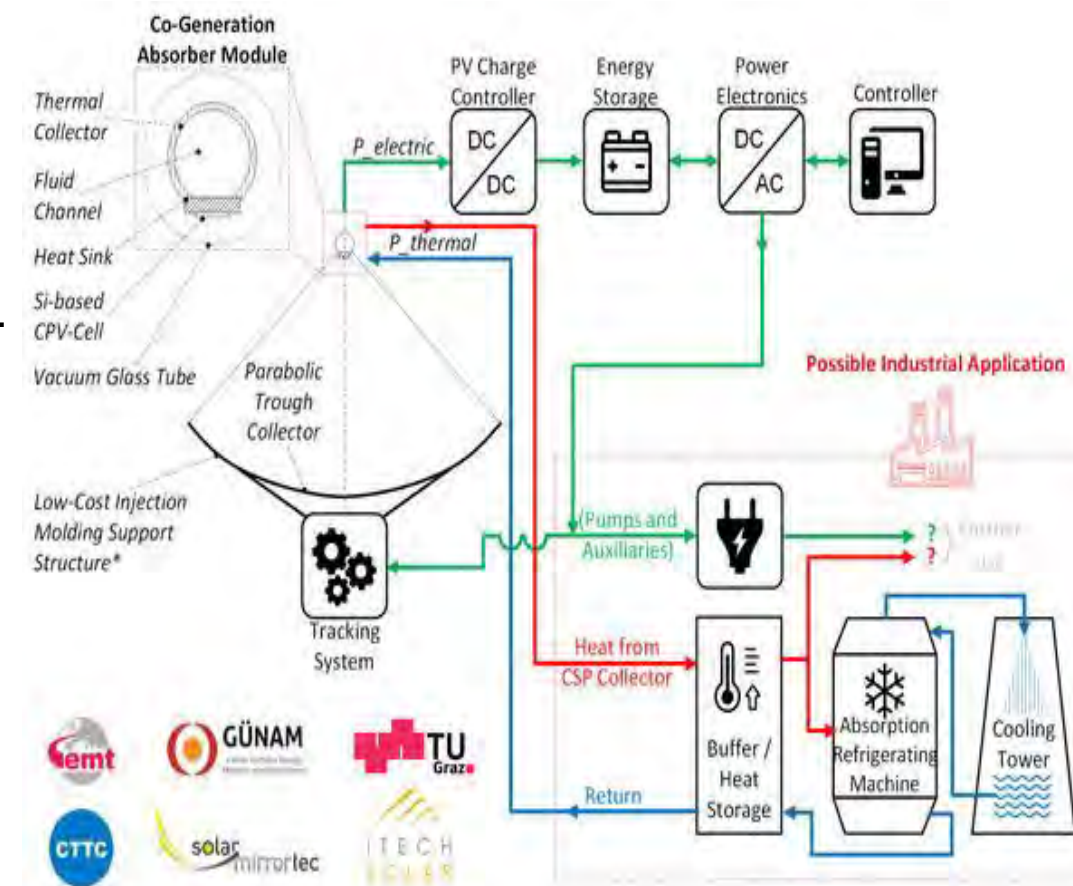
- Cells dissipate heat to a transfer fluid (HTF).

### Applications

- Combined heat and electricity for solar cooling/heating.

### Key Benefit

- Enhanced overall system efficiency.



## Key Outcomes, Results, and Benefits

### Key Outcomes

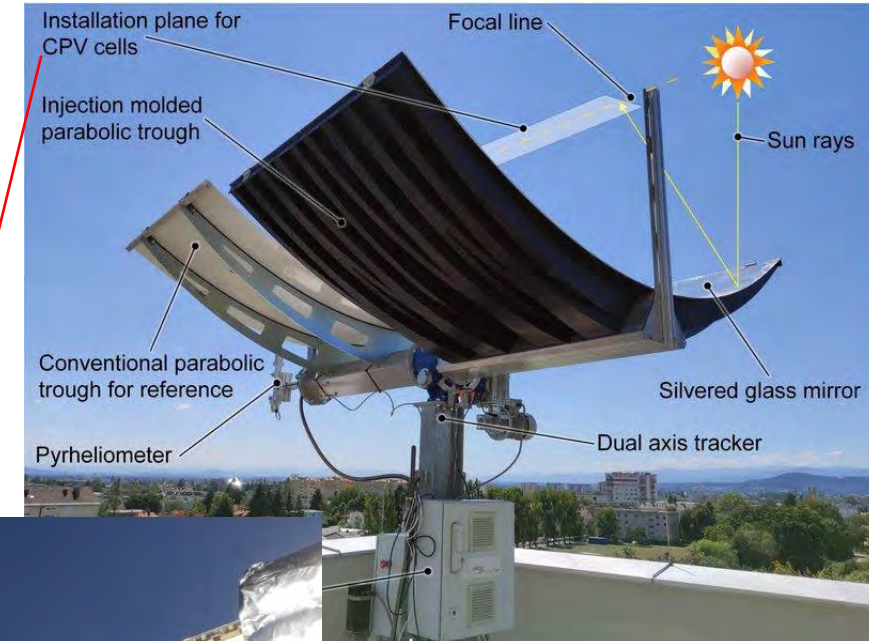
- Progressed TRL from 4-5 to 6-7.
- Set efficiency and LCOE targets.

### Results

- Achieved 18.1% CPV Electrical efficiency at 25°C/60x (Al-BSF Solar Cell)
- Reached 47% Thermal efficiency.
- Realized LCOE close to targeted 7.8 € cents/kWh.
- 25% cost and weight reduction in collector structure.

### Benefits

- Patented through structure innovation.
- Strengthened Europe's renewable energy leadership position.
- Material savings with reduced PV cell area.





## Experiences from ECOSun's Transnational Setup

- Cultural Collaboration
- Unified Communication
- Regulatory Alignment
- Synchronized Operations
- Trust in Virtual
- Settings Risk Management
- Diverse Innovations
- Localized Implementation
- Transnational Crisis Management
- Global Vision, Local Action



## Thank You ....

- Graz University of Technology (TUG) Institute of Electrical Measurement and Measurement Signal Processing (EMT) Team (*Austria*)
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