



# CHP and Heat Solutions Powered by Round the Clock Solar

**247SOLAR**

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# 247Solar, an MIT spinoff, with US DOE funded technology

Developed and now commercializing a proprietary platform with four disruptive zero-carbon energy products with numerous applications

## The Company

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- Founded by MIT Prof David Gordon Wilson, deceased, and Bruce N. Anderson, MIT alumnus and CEO
- Building first commercial-scale systems now in Arizona, USA
- Customer deployments/sales beginning H2 2022
- Robust pipeline and pending sales of zero-carbon solutions for customers worldwide



*Solar Power That Gets  
You Through the Night*



# The 247Solar Plant™

Produces highly reliable, zero-carbon power and industrial heat round-the-clock

## 247Solar Plant™

The only modular, complete renewable baseload solution for 24/7 zero-carbon power & heat that employs all core ultra-high temperature technologies

### 247Solar Converter™

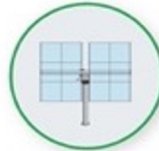
Only device that converts sunlight to industrial heat 800-1000C

#### 247Solar Converter™



Concentrates sunlight to heat air to 970°C/1800°F

#### Heliostats



Sun-tracking solar mirrors

SUNLIGHT

Reflected from heliostats to solar collector

AIRFLOW  
Warm air up ↑ hot air down ↓

#### Thermal energy storage



Proven technology, no moving parts



Heat2Power™ Turbine

### HeatStorE™ Long Duration Thermal Battery

Only Long Duration Energy Storage with 24/7 full-power dispatchability, even when fully discharged. Employs the Heat2Power™ Turbine

### Heat2Power™ Turbine

Only engine able to convert ambient pressure hot air from industrial processes to zero-carbon electricity

# The 247Solar Plant™



Distributed baseload zero-carbon power and industrial heat 24/7

## Single system

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- 400 kWe, 600 kWth
- Simple, few moving parts
- 24/7 operation replaces fossil plants

## Multiple identical systems

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- Remote monitoring, operation
- ~5 acres/3,000,000 kWh/yr
- Built and operated by local citizens

# Round-the-clock solar power and industrial heat

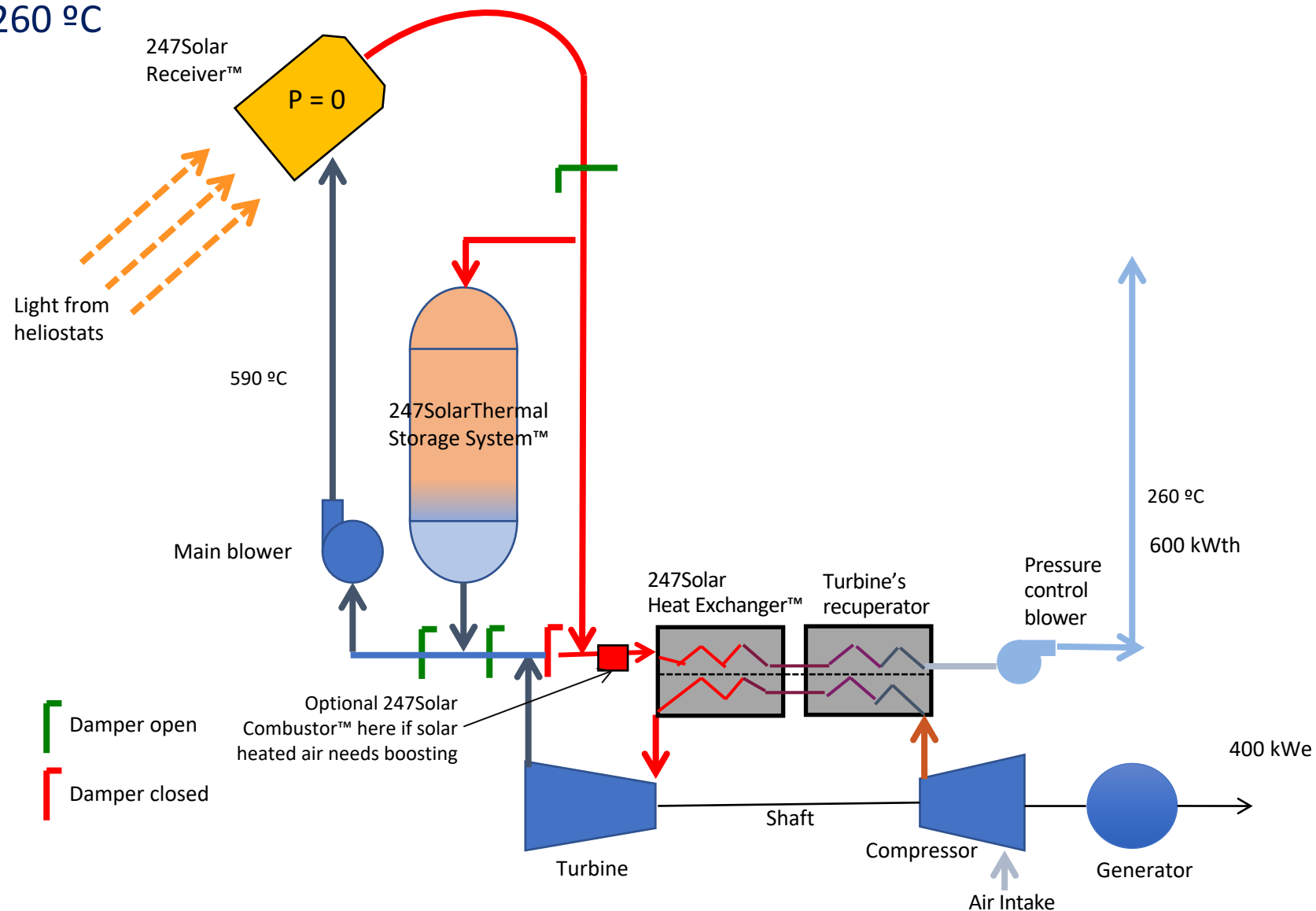
Standard Plant: 260 °C

Medium temperature heat for:

- Process steam
- Drying
- Cold generation through absorption chiller
- DHW

# Round-the-clock solar power and industrial heat

Standard Plant: 260 °C



# Round-the-clock solar power and industrial heat

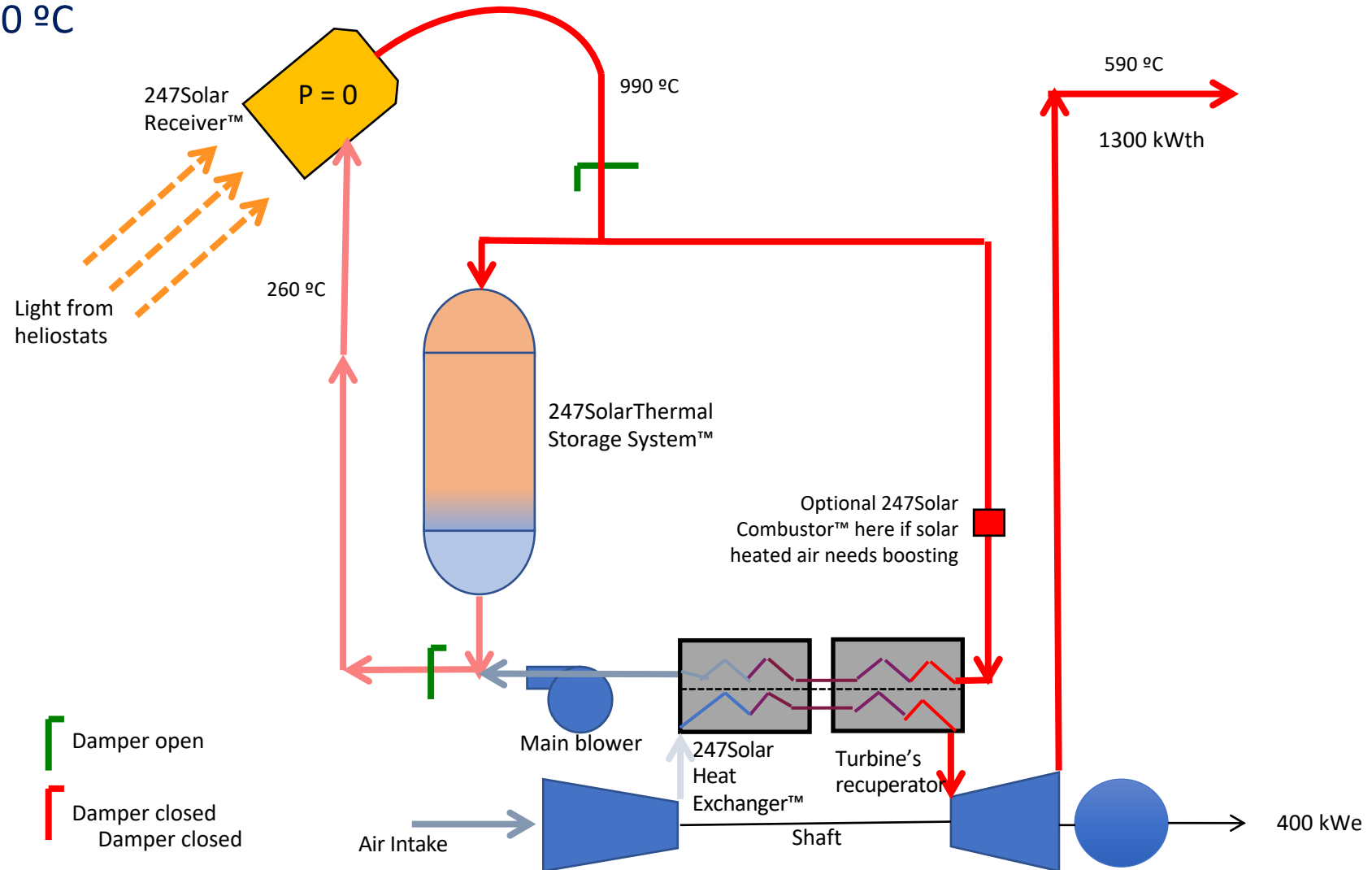
Advanced Plant: 590 °C

High temperature heat for:

- Process steam
- Drying
- Cold generation through absorption chiller
- DHW

# Round-the-clock solar power and industrial heat

Advanced Plant: 590 °C





# Round-the-clock solar power and industrial heat

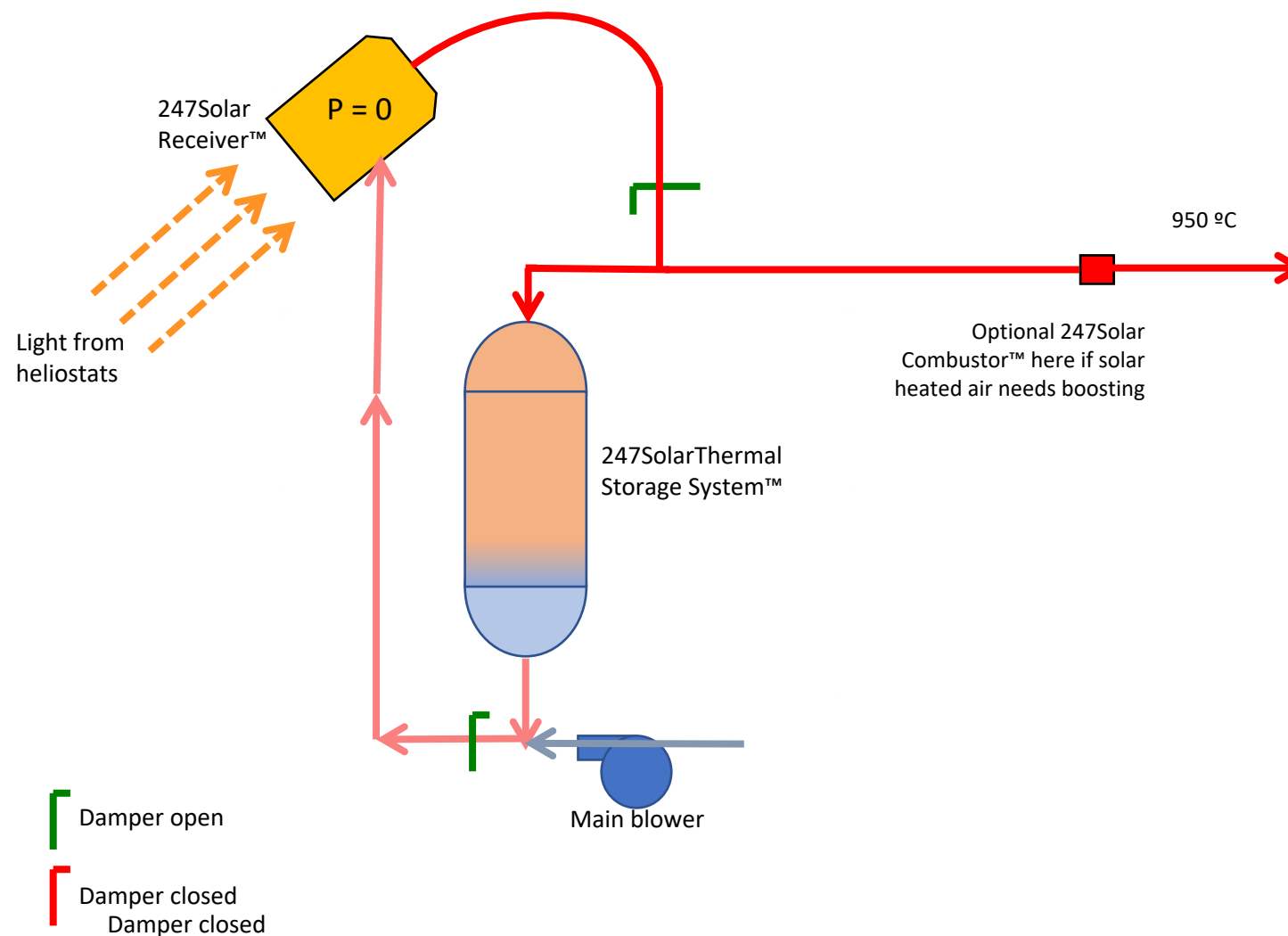
Only Heat: 950 °C

Very High temperatura heat for:

- Process heat

# Round-the-clock solar power and industrial heat

Only Heat: 950 °C



# Round-the-clock solar power and industrial heat

For carbon-free Economic Development Zones for capacity building and jobs creation

- Distributed power generation co-located near communities
- Phase in additional power generation as demand grows
- **Attract industry, create jobs by offering industrial grade heat/steam**
- Harden the grid and avoid challenges associated with centralized power
- Energy independence and stabilized energy costs



# Economic Development Zones Jobs Jobs Jobs

Distributed clean, reliable, affordable power and industrial heat round the clock



## Lower costs of electricity

Lower transmission costs

- Infrastructure
- Operation
- Line losses



## Carbon-free economic growth

Greater grid reliability

Fewer grid outages



No cost for back up  
reserve power plant



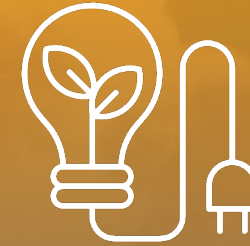
# Use Case Economic Development Zones

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## Example

**An African country** requires 50 MW of baseload power but can't secure funding for a conventional fossil plant.



## Solution

**3-year staged deployment of multiple 247Solar Plants** in five locations as Economic Development Zones near population centers.

Plants are deployed over time as demand grows. New industries and jobs are created.



# Use Case Economic Development Zones

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## OUTCOMES

- Up to 40 years of stable and predictable power (and heat) costs
  - Reduced dependence on power from neighboring countries
- Reduced dependence on imported fossil fuels for power generation
- Reduced carbon emissions from power generation and industrial steam
- Baseload power at the highest possible reliability and capacity factors
  - Baseload power built and operated primarily by local citizens
    - New industry and jobs creation





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The 247Solar Plant™ is a dream come true for the 21st century – a solar power plant with built in storage so it can generate electricity economically any time day or night when needed. “

**S. David Freeman**

Former head, Sacramento Municipal Utility District, Tennessee Valley  
Authority, New York Power Authority,  
and Los Angeles Department of Water and Power (deceased)

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