

# Executive summary (CoolPower)

*Redefining Cooling for the Energy-Challenged World*



## Problem

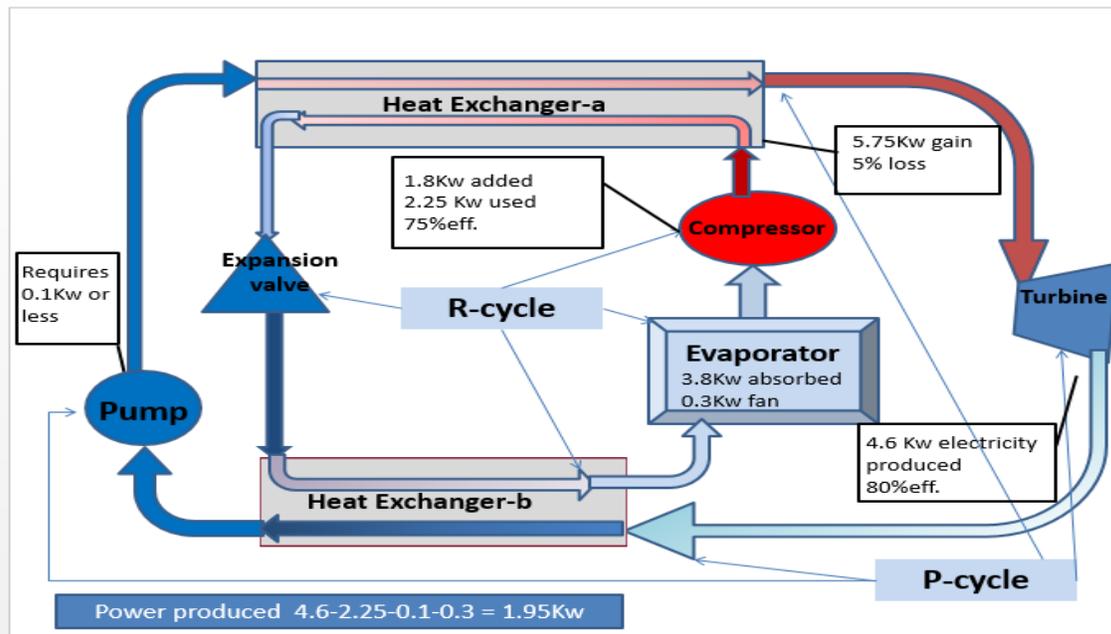
- Climate change is fueling more heatwaves (up 57% since 2000). Global demand for air conditioning will triple by 2050, but traditional ACs worsen the problem
- Refrigerant leaks: up to 3,800x more potent than CO<sub>2</sub>
- Rising electricity demand, mostly fossil fuel-based
- Waste heat increases local temperatures

## Solution – CoolPower

- The world's first dual-function air conditioner that: Cools efficiently, and generates electricity from the absorbed heat
- Uses green refrigerants and hybrid cycles (R-cycle & P-cycle)
- Delivers comfort, savings, and blackout resilience

## Technology & Traction

CoolPower integrates two proprietary cycles: R-cycle, efficient cooling, and P-cycle: energy harvesting from absorbed heat. Together, they deliver reliable cooling + electricity, ideal for homes, businesses, and institutions in unstable grids.



**Figure 1** a hybrid cooling cycle(R-cycle), and energy harvesting principles (P-cycle)

**. Traction so far:**

- 3 working prototypes built and 2 tested (the third testing is ongoing)
- 100+ customer interviews across
- Egypt/MENA 70% of customers are willing to pay a premium for blackout-proof cooling.
- Backed by 2 NVL incubator rounds
- MVP targeted for mid-2026



**Figure 2:** our second prototype set up

## **Market, Model, Team & Ask**

### **Market & Go-to-Market:**

- Launch in Egypt (\$570M AC market, 5.7% CAGR), expand to MENA
- Target customers: residential, SMEs, government, institutions, industry
- Business model: unit sales, service contracts, spare parts, warranties

### **Team:**

- **Dr. Mahmoud Tharwat** – Founder & CEO | Pharmacist; Thermodynamics & Business studies; Idea man
- **Dr. Mostafa Abdelfattah** – Technical Manager | PhD Mechanical Power Engineering; Asst. Prof., Suez University
- **Eng. Mohammed Abdelfattah** – Product Developer (Mechanical) | MSc Mechanical Engineer; cruise ship systems repair
- **Eng. Ahmed Nady** – Product Developer (Electrical & Control) | Master Electrical Engineer; National Grid Company
- **Dr. Ahmed Yousef** – Business Administrator | MBA; Software Pre-sales & Digital Transformation expert

### **Our Ask:**

**We are raising \$250,000 in pre-seed funding to:**

- Finalize our MVP
- Launch our pilot in Egypt with initial production of 100 CoolPower units
- Prepare for MENA expansion (18-month runway)

Our team combines deep technical and business expertise, ready to deliver at scale.

CoolPower delivers triple impact cooling, energy independence, and climate resilience.

Join us to cool the world sustainably — one home, one city at a time.