

DIP CASE STUDY

CLIMAGULF COOLING SOLUTION

FOR OILFIELD FACTORY

ABOUT OILFIELD PETROLEUM LLC

OilField Petroleum L.L.C is recognized as a pioneer in offering design, manufacturing, and machining services across various market sectors. The company holds certifications of ISO 9001, and 14001. The workshop is meticulously maintained and well-equipped to produce high-quality products, ensuring that all tolerances meet market requirements and guarantee customer satisfaction.

Problem Identification

Extreme Heat Stress

- **Heat-related illnesses:** Risks include dehydration, heat exhaustion, and potentially life-threatening heatstroke.
- **Increased Fatigue:** Extreme temperatures accelerate fatigue,

Poor Ventilation

- **Sweat Discomfort:** High humidity hampers cooling through sweating, causing discomfort and skin irritations.
- **Air Quality Issues:** Poor factory ventilation traps hot, humid air, worsening discomfort and respiratory challenges.

Safety Hazards

- **Hot Surfaces:** Overheated machinery poses burn risks and complicates safe handling especially motors and controls.

Productivity and Health impacts

- **Reduced Productivity:** Extreme heat impacts focus, alertness, and energy, lowering overall productivity.
- **Health Issues:** Heat exposure can cause chronic health issues

Proposed Solution

Installation Overview

- **Area:** 400 SQM with an elevation of 8M
- **Application:** Production shop floor with CNC machines
- **Objective:** Provide comfort cooling to staff and maintain humidity within limits to avoid corrosion.

Breezair Coolers

- **Efficient Cooling:** Cooling through 100% Fresh Air Adiabatic Cooling
- **Installation:** Four roof-mounted units with down-discharge.
- **Energy Saving:** More efficient than air conditioners.
- **Self-Supporting:** No extra support structures needed. Lightweight.

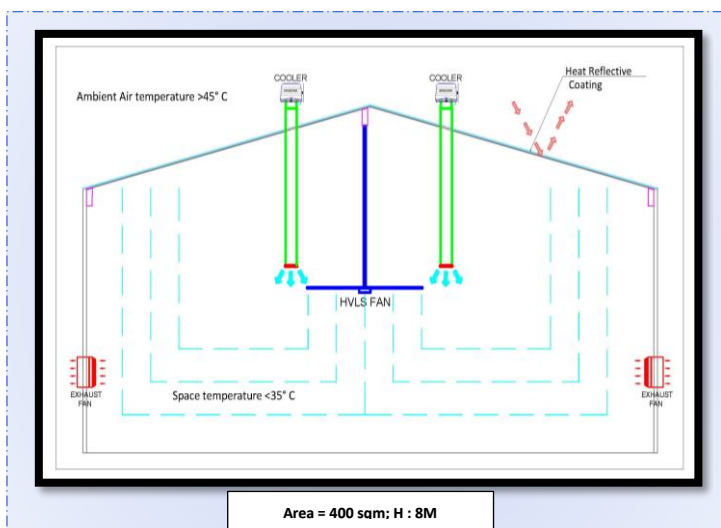
HVLS Fan:

- **Comfort:** Large fans circulate air for a better feel of cooling
- **Energy Efficiency:** Enhanced cooling effects with minimal power.

Roof Coating:

- **Heat Reduction:** Roof coatings lower heat absorption by surfaces
- **Energy Saving:** Reduces cooling needs and cuts energy costs.
- **Durability:** Enhances metallic roof lifespan.

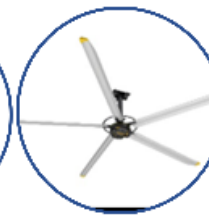
Design



COMBINATION OF PRODUCTS – SPACE COOLING



Coolers



HVLS Fans



Roof Coating

Results

Comfort and Productivity

- Improved focus, alertness, and overall performance.
- Reduced heat stress and fatigue.

Improved Indoor Air Quality (IAQ)

- Introduction of cool, and 100% fresh air enhances air quality while HVLS improves cooling by increasing air movement

Energy and Cost Savings

- Low-energy solutions including evaporative cooling, HVLS fans, and reflective roof coating significantly reducing the cooling costs.

Environment

- Water-based air cooling and roof coating.
- Water-based air cooling: Zero refrigerant chemicals.
- Water-based roof coating: Low VOCs.

Clients Feedback

"The installation of Breezair coolers, with HVLS fan, and roof coating has significantly improved our factory's cooling and air ventilation. The energy-efficient solution has enhanced worker comfort and reduced operational costs effectively." ~ **Mr. Rajesh Koothully – Manager**

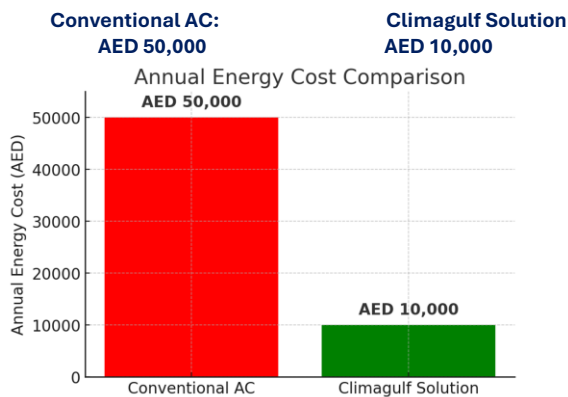
Key Takeaways

By integrating Breezair coolers, HVLS fans, and reflective roof coatings, Climagulf Trading Company LLC successfully implemented a cost-effective, sustainable cooling solution for the oilfield factory. **The Results:**

- Enhanced staff comfort and well-being.
- Savings in operational expenses.
- Reduced energy consumption
- Better I.A.Q

BENEFITS

Comparing annual energy cost: (approx. values)



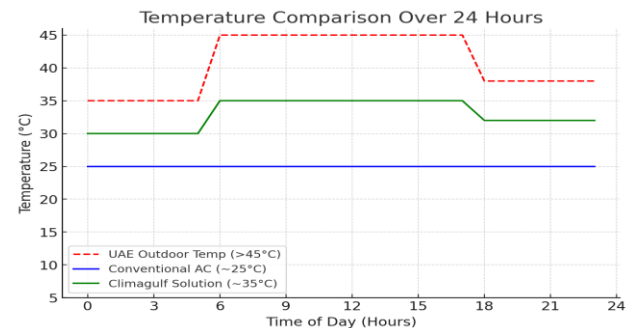
*ROI: Highest:



Power consumption comparison using icons:

Conventional AC:
30 kW

Climagulf Solution:
6 kW



*The above outcomes are based on UAE conditions > 45 °C. AC condition @ 25 °C; CGT air cooling conditions @ 35 °C

