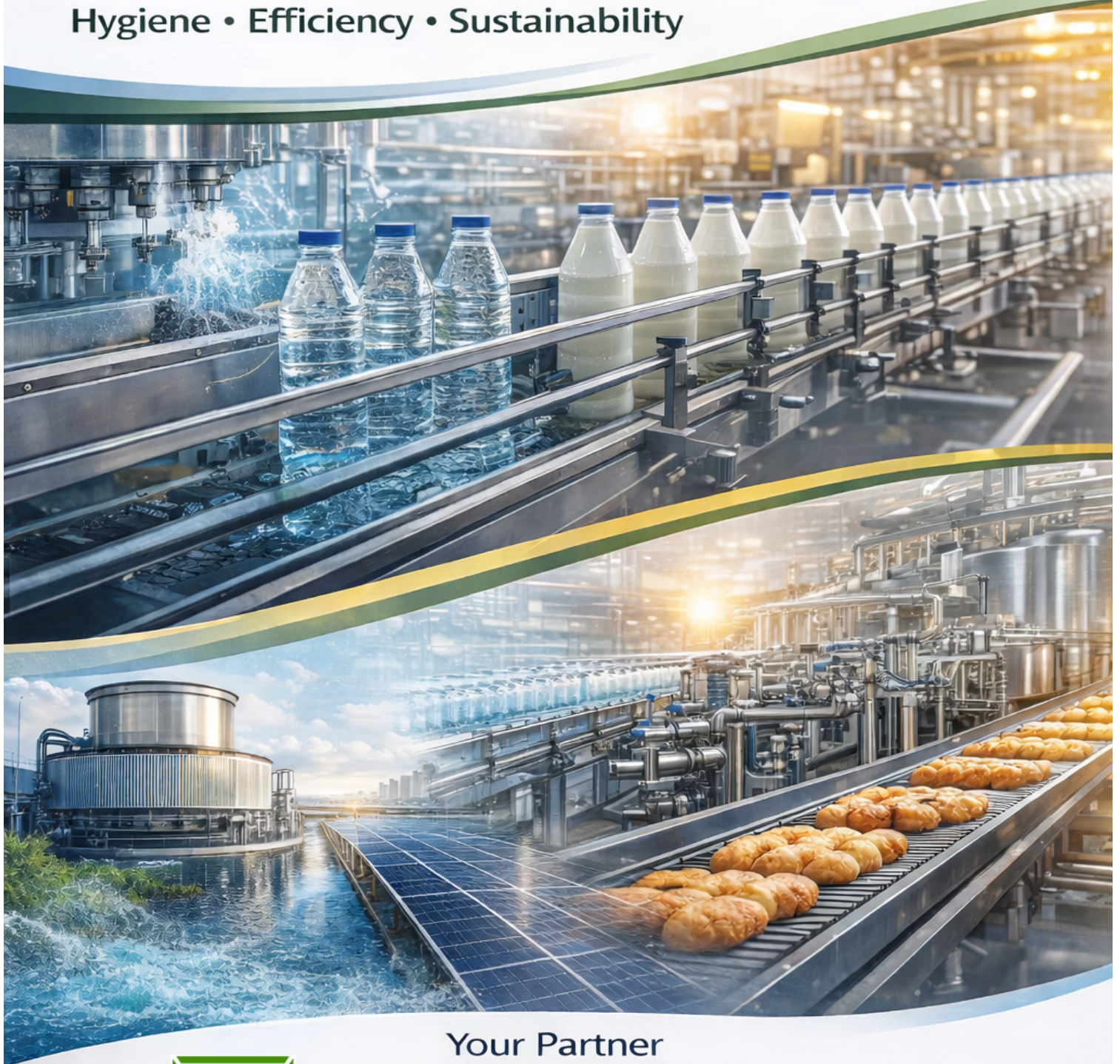


# Engineering Solutions for Air, Water & Energy Systems

for Food, FMCG & Consumer Processing Plants

Hygiene • Efficiency • Sustainability



Your Partner



**CST-HEATKAL**  
EnviroTech







# CORE CHALLENGES IN FOOD, FMCG & CONSUMER PROCESSING PLANTS

(System-Level Challenges Impacting Hygiene, Energy & Operating Cost)

## ENERGY-INTENSIVE THERMAL SYSTEMS

### Excessive Steam, Hot Water & Fuel Consumption

Food & FMCG plants require continuous availability of steam and hot water for:

- ✓ Process heating
- ✓ CIP / SIP cleaning
- ✓ Sterilisation & hygiene maintenance



## WATER WASTAGE & HIGH RO REJECT LOSSES

### High Water Consumption & Disposal Losses

Food processing plants are among the **highest water consumers** due to washing, cleaning, product-contact hygiene req:

- ✓ RO reject water discharged without recovery
- ✓ Hot condensate mixed with cold drains
- ✓ High cooling tower evaporation & blowdown
- ➔ This results in high **fuel consumption**, unstable temperatures and rising operating lcost.



## HIGH REFRIGERATION & COOLING LOADS

### Inefficient Heat Rejection & Peak Load Stress

Cold storage, freezing and chilling operations demand:

- ✓ Washing, Cleaning in coils
- ✓ Poor condensate performance during summer
- ✓ High compressor power consumption
- ✓ Water contamination risks in open systems
- ➔ This is a system design problem, not a cleaning problem.



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# How CST & HEATKAL Can Help

Cool, Clean, and **Efficient** Engineering Solutions for Food, FMCG & Consumer Plants



## Diagnosis

- On-Site Surveys
- Baseline Analysis
- System Diagnostics
- Energy Audits



## Optimization

- Customized
- Engineering Solutions
- System Upgrades
- Hygiene Optimization



## Implementation

- Solution Deployment
- Equipment Integration
- Project Management

**PRECISION • HYGIENE • EFFICIENCY • STABILITY**

## The CST-HEATKAL Advantage in Food Processing

We conduct deep technical audits, then deliver solutions at **SYSTEM** scale,



### Diagnosis

- ✓ Comprehensive Field Study
- ✓ Water, Energy & Air Balance
- ✓ Real Plant Measurements



### Optimization

- ✓ Utility Optimization Upgrades
- ✓ Heat & Water Recovery Solutions
- ✓ Automation & Control Retrofits



### Implementation

- ✓ Solution Commissioning
- ✓ ROI-Driven Payback
- ✓ Routine O&M Support

## UTILITIES WE OPTIMIZE



Steam & Hot Water



Process Cooling



HVAC & Ventilation



Water, RO & Effluent



Refrigeration & Chilling



Renewable Energy





# Elevate Your Food & FMCG Processing Plant with CST-HEATKAL

Innovative, Clean, and Efficient Engineering Solutions to Enhance Hygiene, Reduce Resource Costs, & Boost Sustainability



## Enhance Efficiency

- Slash utility, water & fuel costs
- Higher production uptime & reliability
- Increased automation & control



## Maintain Hygiene

- Ensure consistent product quality
- Meet stringent regulatory standards
- Advanced CIP, SIP, UV & RO systems



## Leverage Renewables

- Harness solar & waste heat
- Reduce carbon emissions
- Qualify for green incentives

### UTILITIES CST-HEATKAL HOW WE CAN OPTIMIZE



Steam & Hot Water



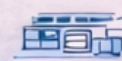
Process Cooling



Water, RO & Effluent



Refrigeration & Chilling



Refrigeration & Chilling



Renewable Energy

## Partner with CST-HEATKAL for Sustainable Success

Contact us to reduce resource costs while boosting hygiene and sustainability at your plant



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