
AVEVAWORLD

Accelerating Sustainability: Digital Advisory Platform for Power Optimization and Cogen Efficiency

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Khurais Producing Facility improves power efficiency and reduces emissions by 65%

Challenge

- Lack of real-time visibility into power consumption trends
- High energy losses due to inefficient recycle operations
- Manual monitoring and reporting led to delays in corrective actions

Solution

- Deployed AVEVA™ PI System™ to automate power monitoring and analytics
- Implemented real-time advisory dashboards using PI AF and AVEVA™ PI Vision™
- Enabled automated alerts to detect inefficiencies and trigger immediate actions

Results

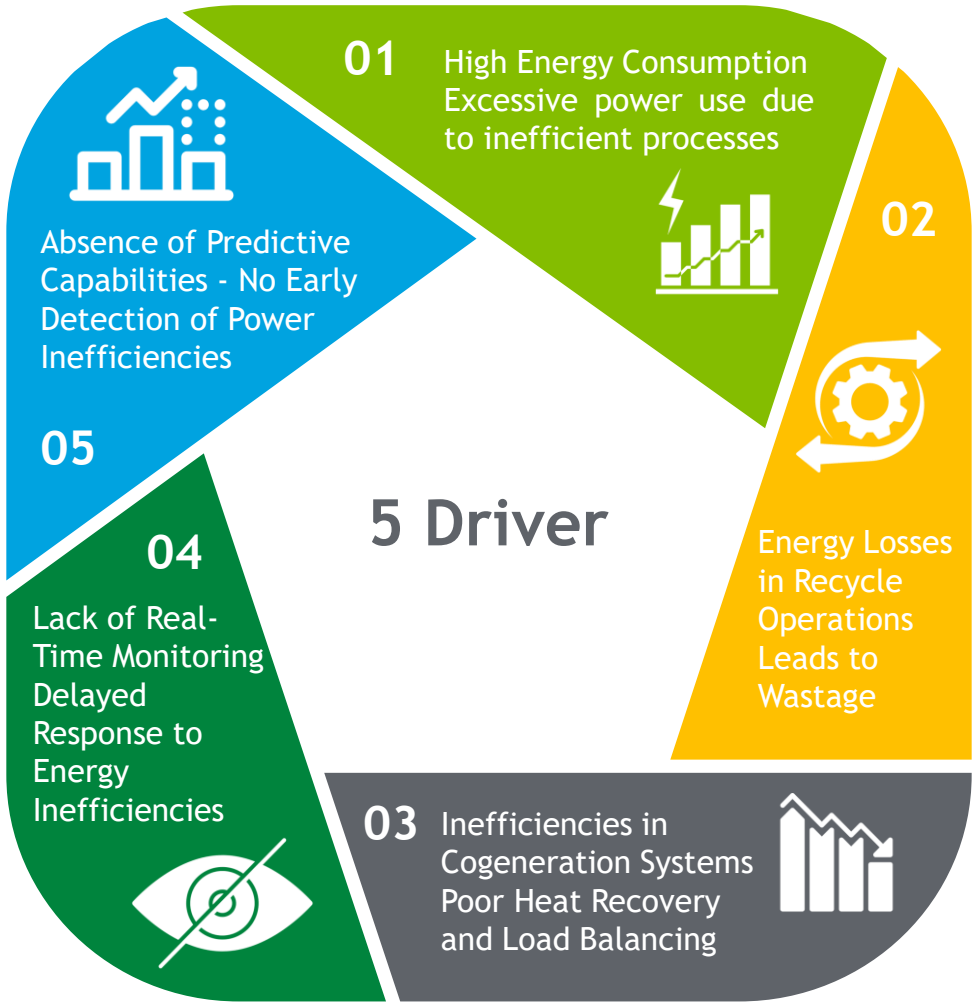
- **Achieved a 65% reduction in emissions**
- **Reduced maintenance costs by 48%**
- **Increased mean time between failures by 23%**
- **Reduced reactive maintenance interventions by 85%**

Khurais Central Processing Facility Overview

- GOSPs
- Gas Trains
- WIP & Utilities
- Cogen

- Oil
- Gas
- NGL
- Power
- Treated Water

Challenges



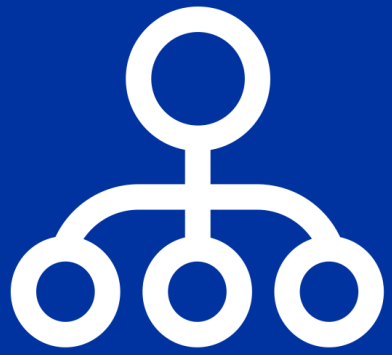
Solution

PROBLEM

Deployment Phase

AVEVA PI Asset Framework (AF) Implemented for Over 4,000 Assets to Establish a Centralized Data Structure and Enable Advisory Dashboards

Standardization Phase



Development of a Pre-Defined Decision Tree to Structure Reliability Assessments and Automate Decision-Making

Automation Phase

Enrollment of Advisory Alerts to Enable Real-Time Monitoring and Proactive Response to Asset Conditions

SOLUTION

Work Done

1 Advisory Automated Power Monitoring for Recycle Optimization

Optimize power consumption during recycle operations to minimize energy losses and reduce emissions

2 Cogeneration (Cogen) Dashboard for Best Practices

Enhance the efficiency of the cogeneration system by optimizing power generation and heat recovery cycles

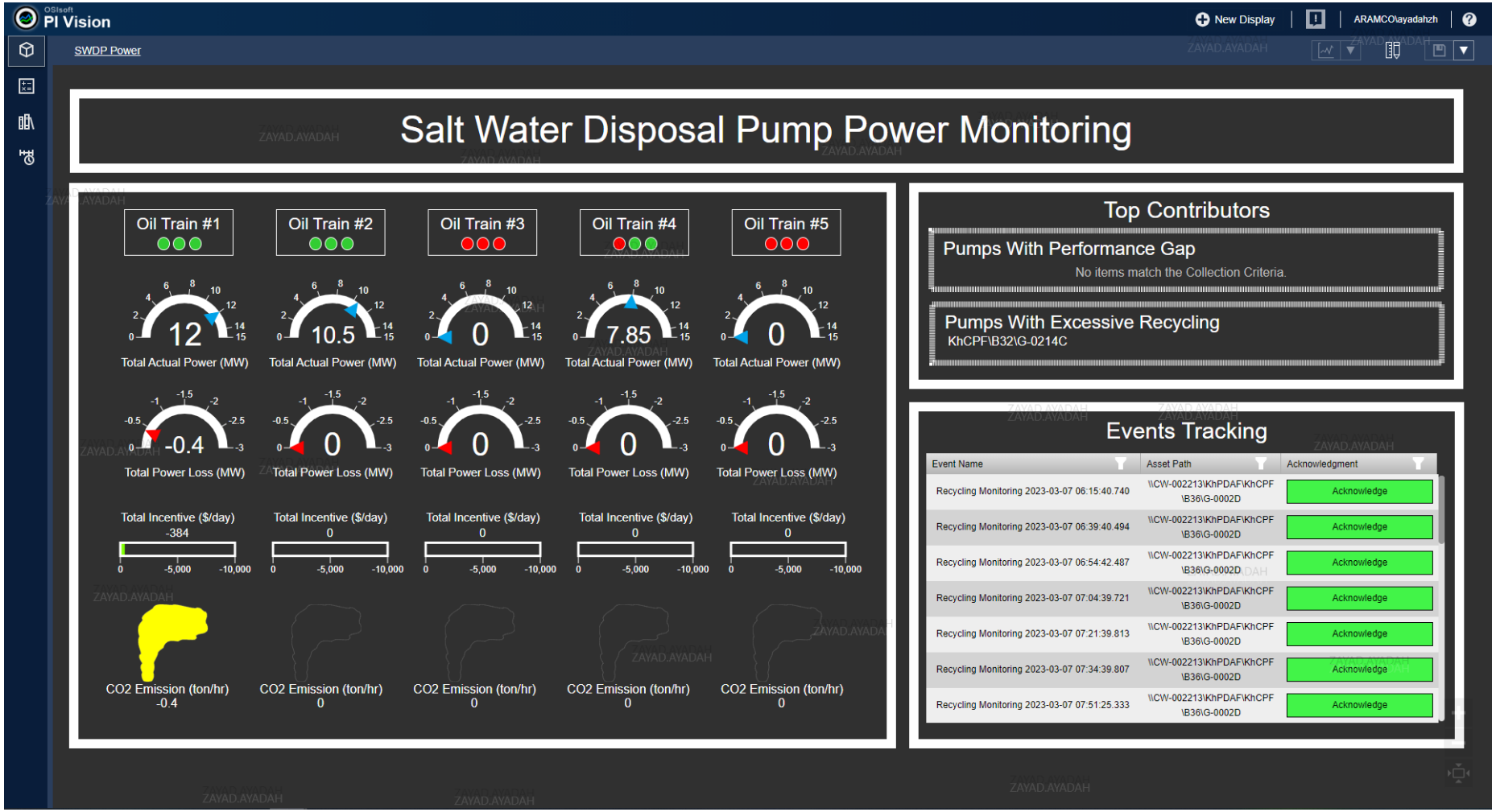
3 Integration with Broader Digitalization Initiatives

The project's success was amplified by integrating it with existing Khurais digitalization initiatives, creating a comprehensive digital ecosystem

Advisory Automated Power Monitoring for Recycle Optimization

Develop power correlation model of the rotating equipment of interest	Perform energy loss calculation from recycling	Calculate incentives from both power savings and CO2 reduction	Implement actions to close the performance gaps (energy loss) using the decision flow chart	Acknowledge the action	Elevate the notification to the Management if the decision was not implemented

Advisory Automated Power Monitoring for Recycle Optimization



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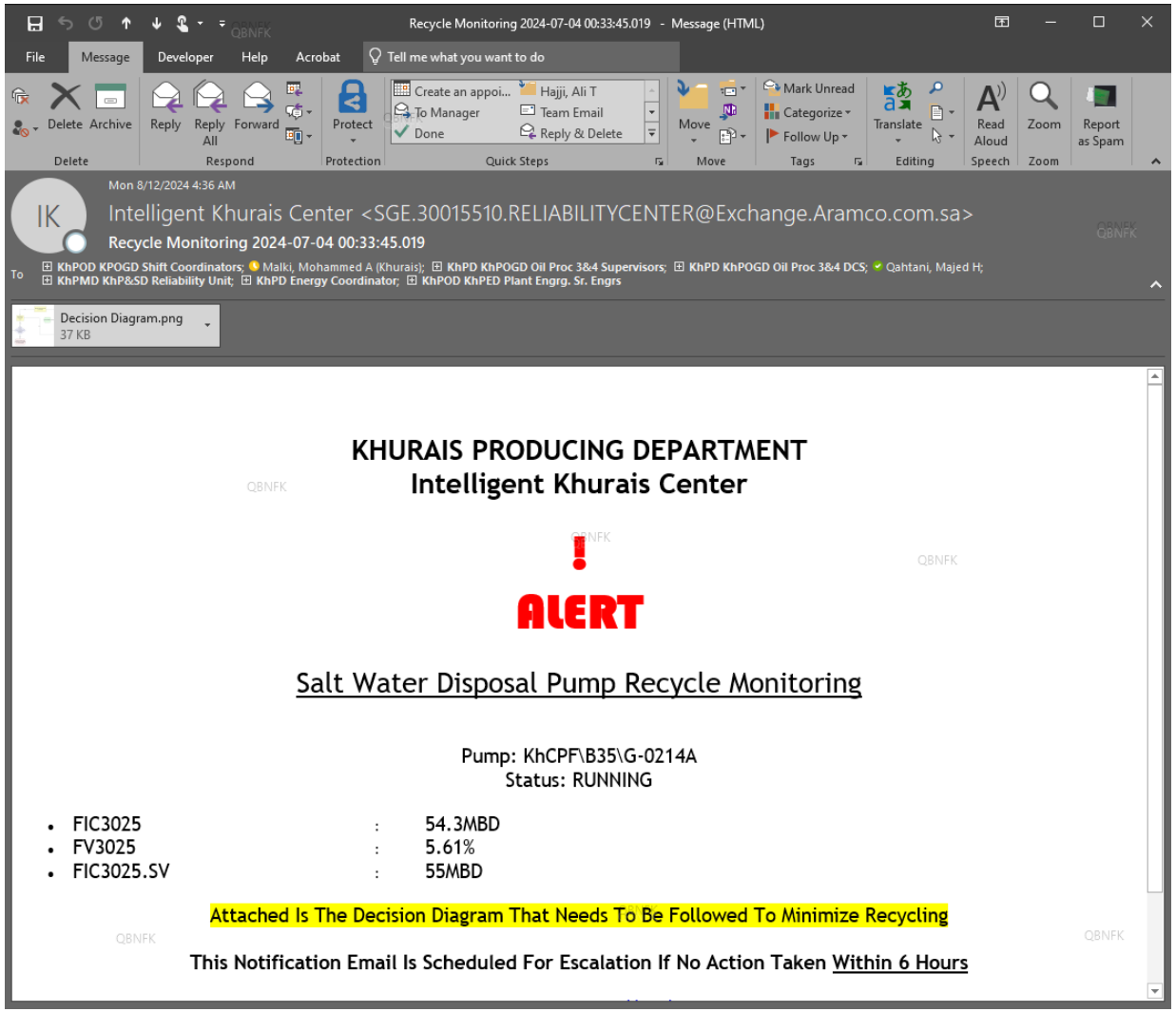

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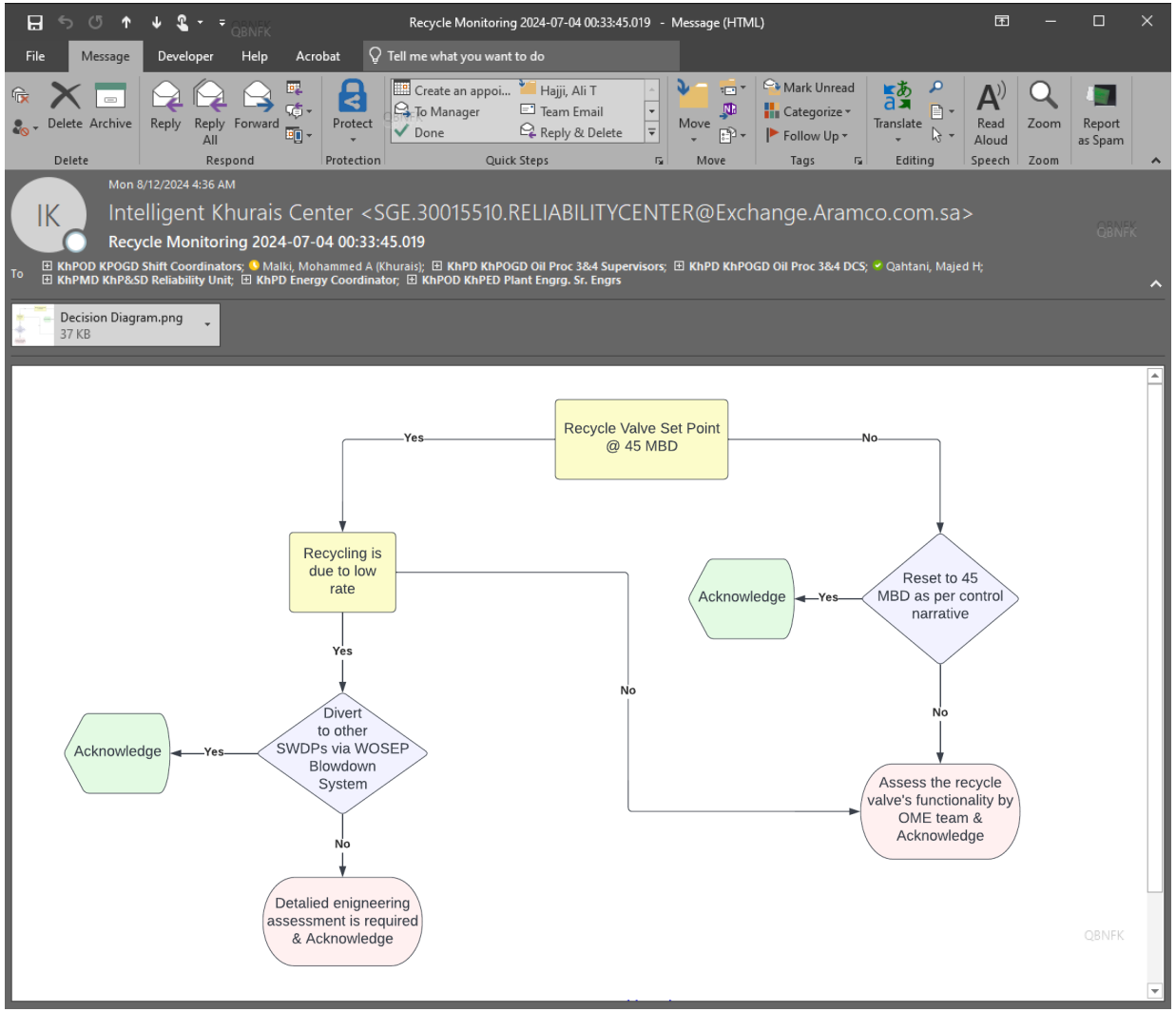
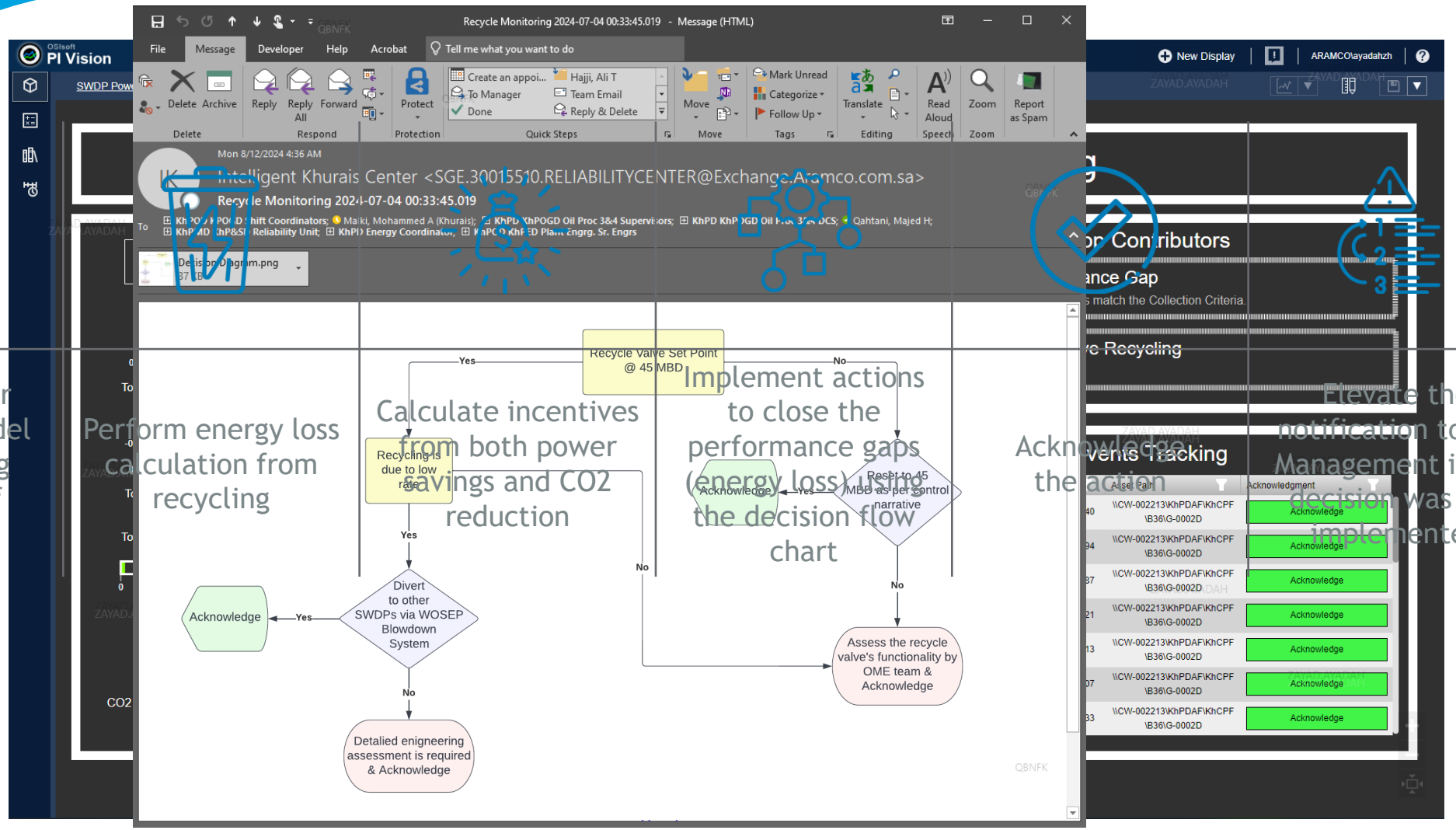


Advisory Automated Power Monitoring for Recycle Optimization



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Perform energy loss calculation from recycling

Calculate incentives from both power savings and CO2 reduction

Implement actions to close the performance gaps (energy loss) using the decision flow chart

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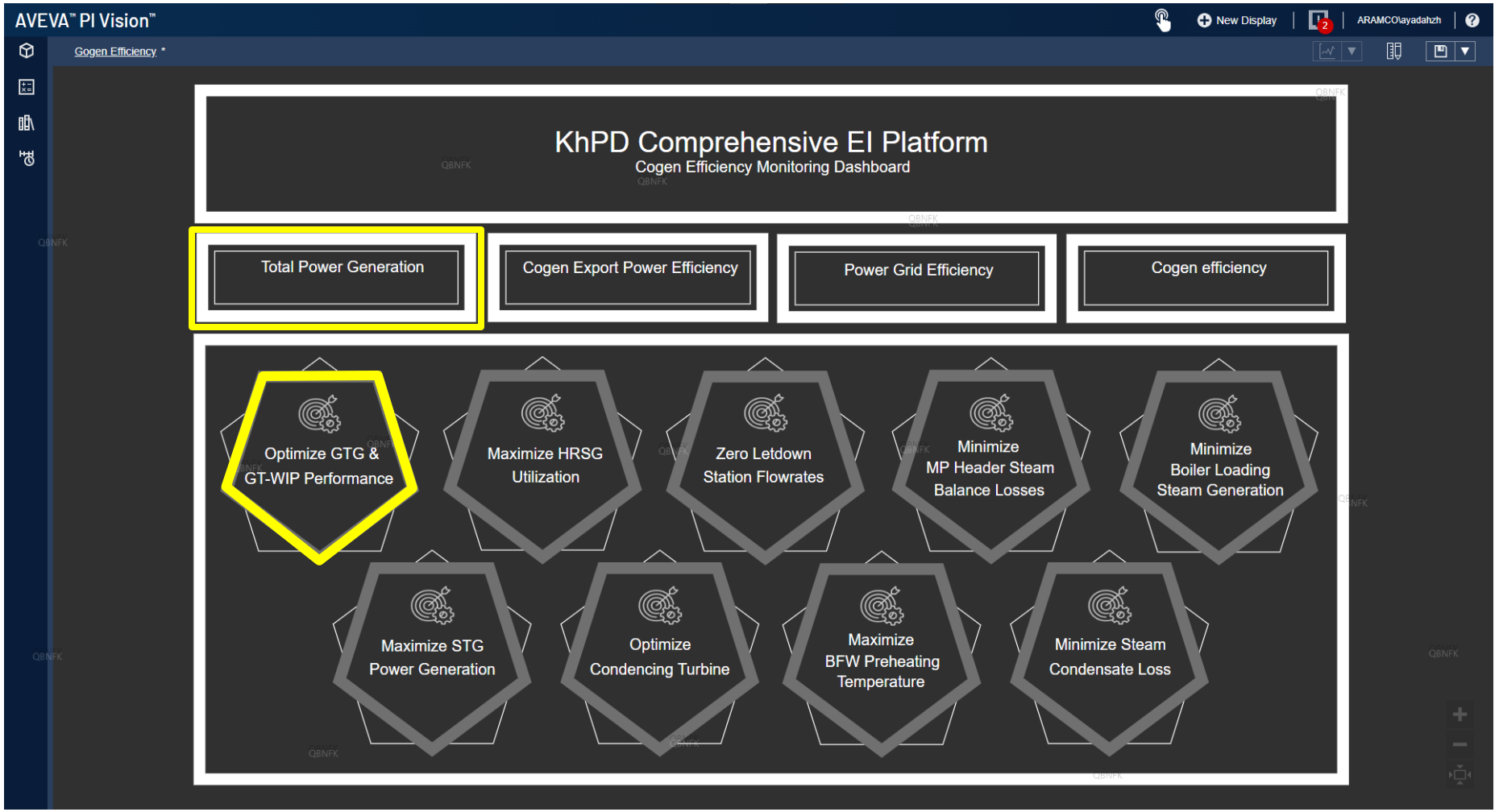
Cogeneration (Cogen) Dashboard for Best Practices



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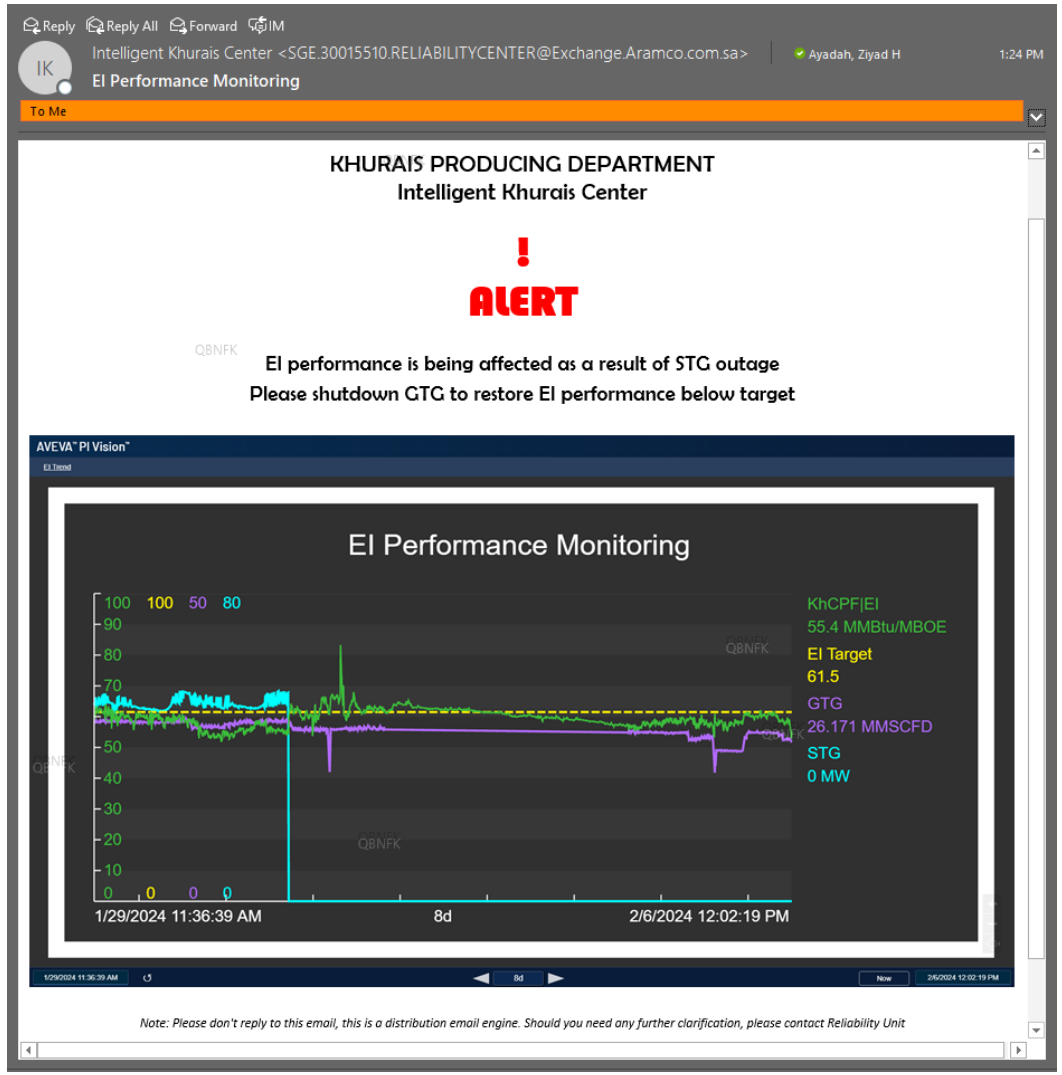

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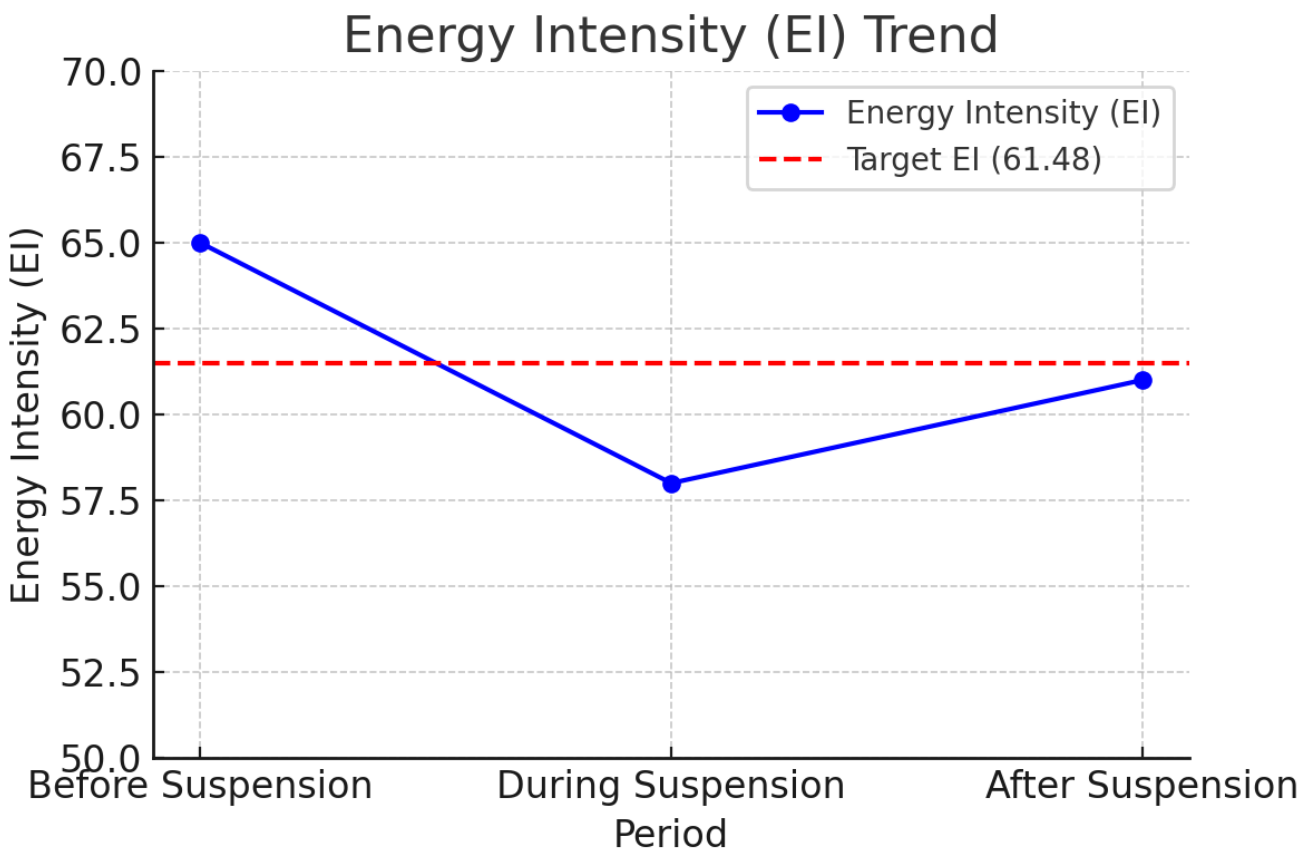
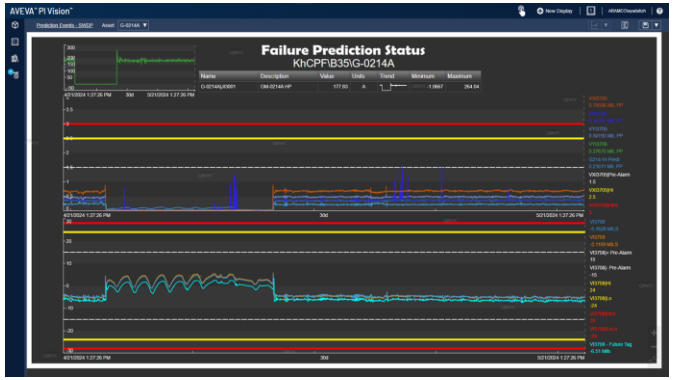
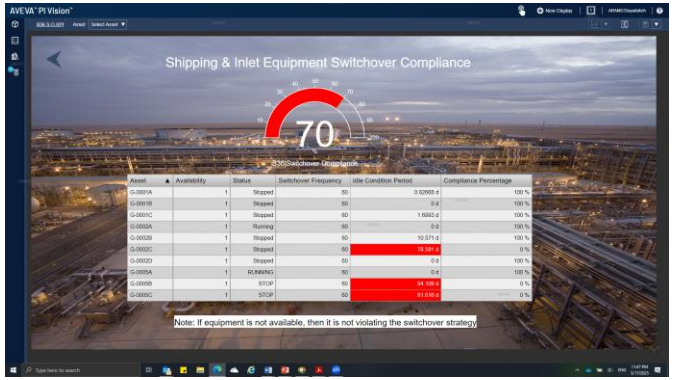
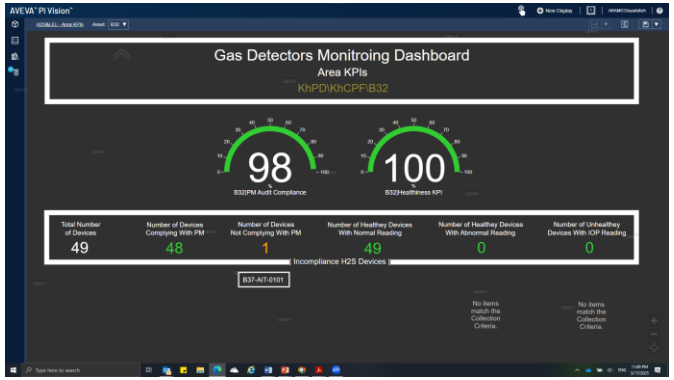
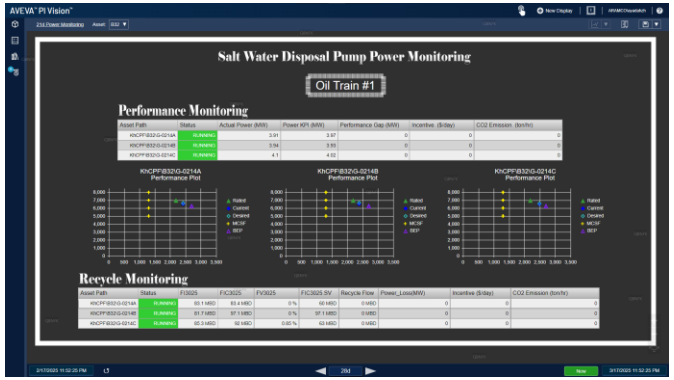


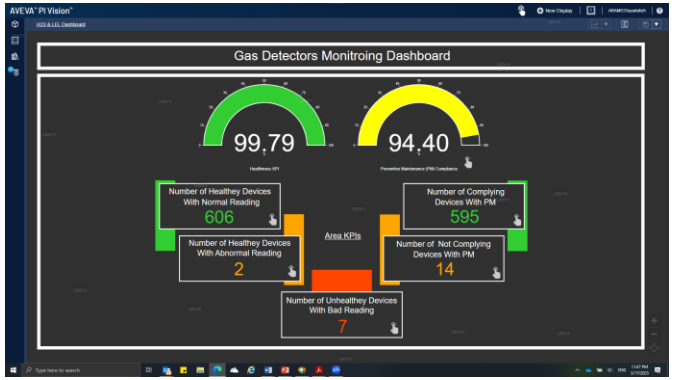
Integration with Broader Digitalization Initiatives

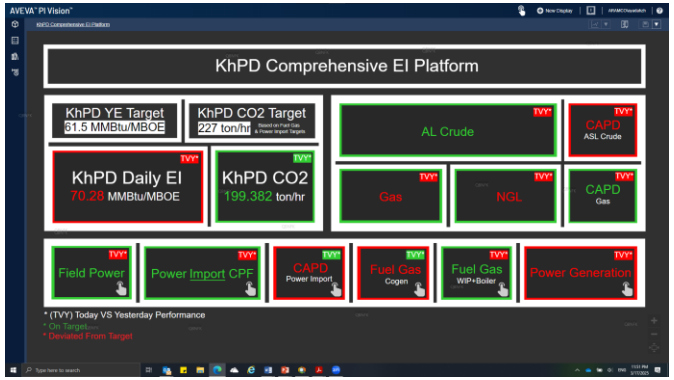












Results, Sustainability Impact & Future Directions

↓ 65%
Emissions Reduction

↓ 48%
Maintenance Cost Reduction

↓ 85%
Reactive Maintenance Reduction

↑ 23%
Increase in MTBF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