

FARABI  
PETROCHEMICALS



الفارابي  
للبتروكيماويات



2016

# SUSTAINABILITY REPORT

Farabi Petrochemicals Company



SUSTAINABILITY STEERING COMMITTEE



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## SUSTAINABILITY STEERING COMMITTEE CHAIRMAN'S MESSAGE

“Sustainability steering committee aims to build on and continue move Sustainability initiatives to the next level. Our Sustainable Development programs emphasize the importance of climate change, resource reduction & optimization through various levels of strategies and initiatives which embedded across the organization.

Despite the challenging plant & market conditions, we have continued progress on our sustainability targets. We aim balancing the needs of all our stakeholders, managing the environmental impacts of our activities, developing our people, encouraging innovation in processes and products, working in harmony with the communities in which we operate and encourage our customers, contractors and suppliers to do the same.

We work continuously to minimize energy input into all our processes, using a diverse range of energy sources optimization as practicable.

We have successfully implemented many initiatives in FY 2016 those are proud to share as Pump Impeller Trimming, Hot Oil Heater Convection Zone Cleaning, Fire Water Jockey Pump power saving, Compressor loader modification, LAB-2 Hot Oil Pump power savings, Lighting optimizations.

We have participated in many of the award shows in 2016 such as Marafiq Sustainability Award (MSA), GPCA Supply Chain Excellence Awards, Ta'atheer MENA Social Impact and CSR Award, Royal Commission Award for Best Environmental Performer. We have been awarded as Best Environmental Performer (2nd Place) as a recognition for our efforts in protecting the environment and its environmental achievements by the Royal Commission in June 2016 and also short-listed and nominated by “MENA Social Impact and CSR Forum” for the Award category “Best CSR Integrated Business” across the MENA region.

These reflect FPC strong commitment to the environment through sustainable production and environmental conservations.

We have further strengthened our Sustainability governance, by allocating responsibilities on the individual level for better management and progress monitoring. Over the coming years, we will continue the process of aligning all our activities more closely to the principles of sustainable development and inculcate these principles into all our activities”



**Nader Saleh Al-Dakheel**  
Manufacturing  
General Manager

**“Our company is committed to sustainability. Working safely and ethically, we supply high-quality LAB products that make an important contribution improving living standards, to people's safety and well-being and to energy conservation.”**





# Operational Initiatives



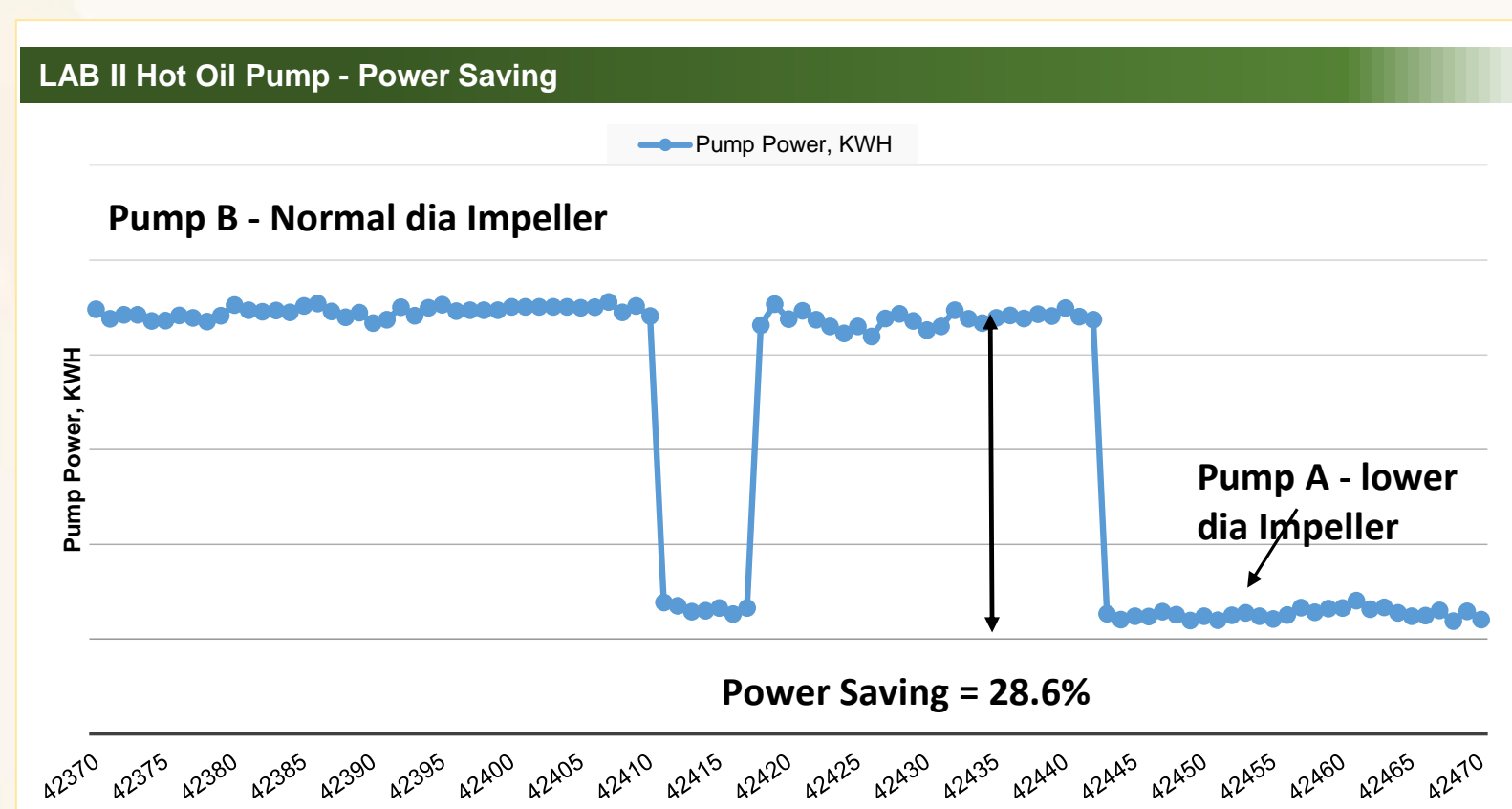


## LAB II HOT OIL PUMP POWER SAVING

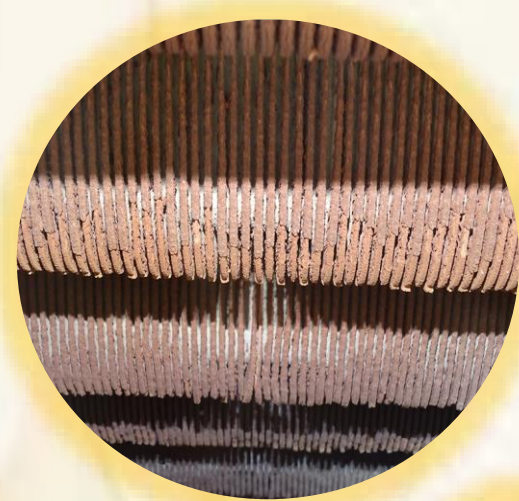
As a part of “Sustainability” initiatives drive, a detail technical study was carried out for all HT drives across all units for identifying potential areas of power reduction. LAB II unit hot oil circulating pump (701-P02) was identified as a big opportunity to save power by trimming the pump impeller while still meeting the plant requirement.

The pump impeller was trimmed to lowest possible diameter through MOC process and resulted into power saving by 29%.

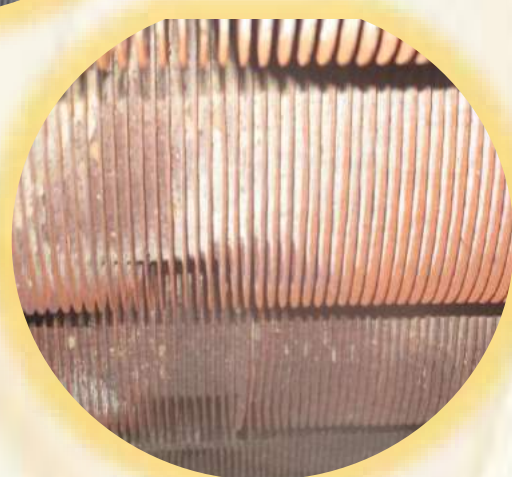
**“LAB II unit hot oil circulating pumps (701-P02 A/B) impeller was trimmed and resulted into power saving up to 29%.”**



## HOH CONVECTION ZONE CLEANING



**Before**

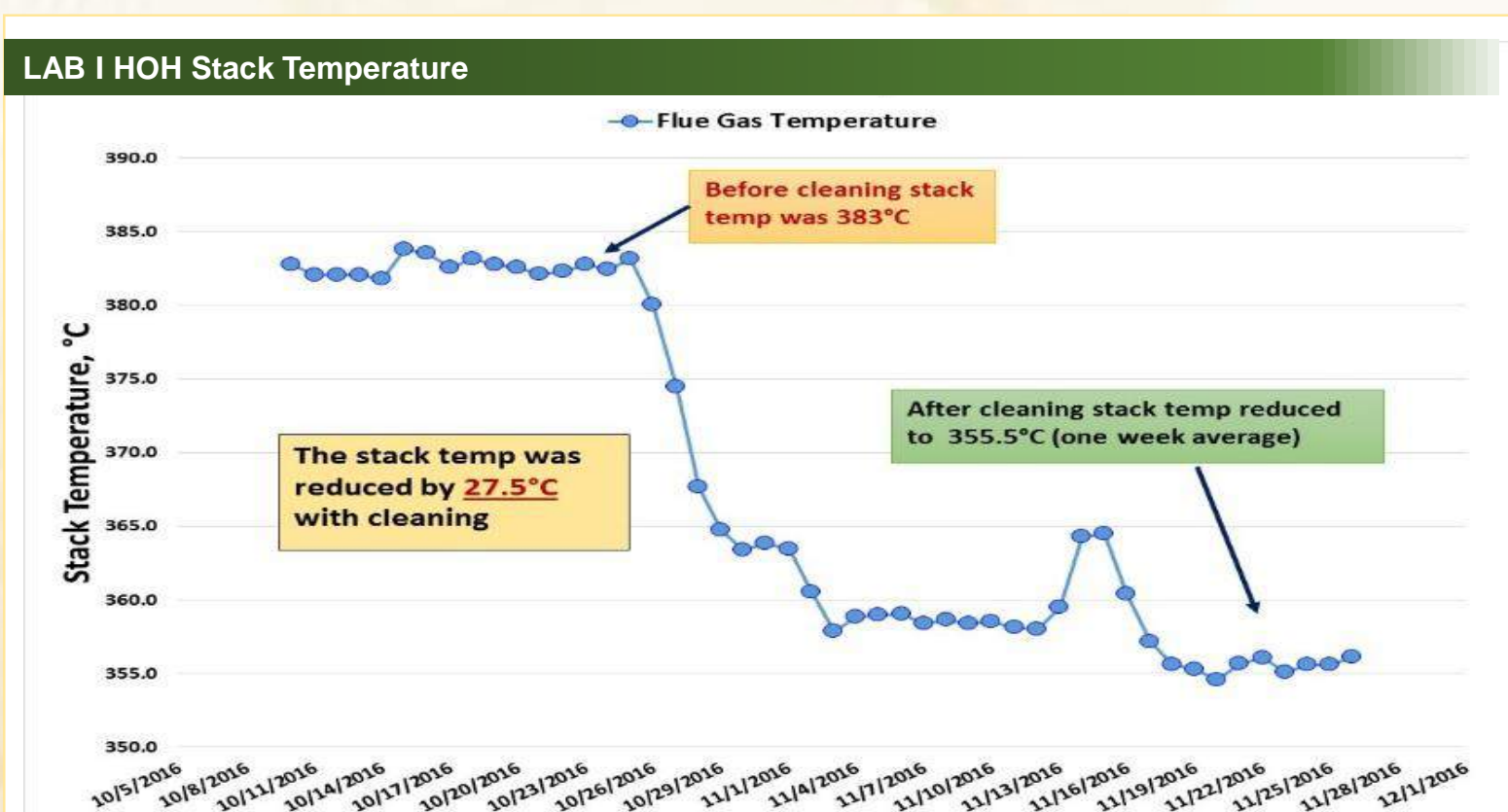


**After**

**“The online heater cleaning has improved heater efficiency by 1.4%.”**

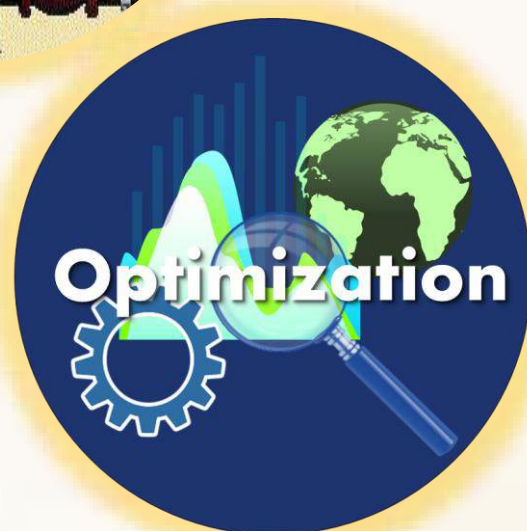
LAB I Hot oil heater (700-H-01) flue gas temperature leaving convection section i.e. stack temperature has been gradually increased from 340°C to 385°C over a period of 10 years due to fouling in convection section and it has reduced convection section heat duty.

The convection section was “Online” cleaned the stack temperature has been reduced by 27.5°C from 383°C to 355.5°C. This has increased heater efficiency by 1.4%.





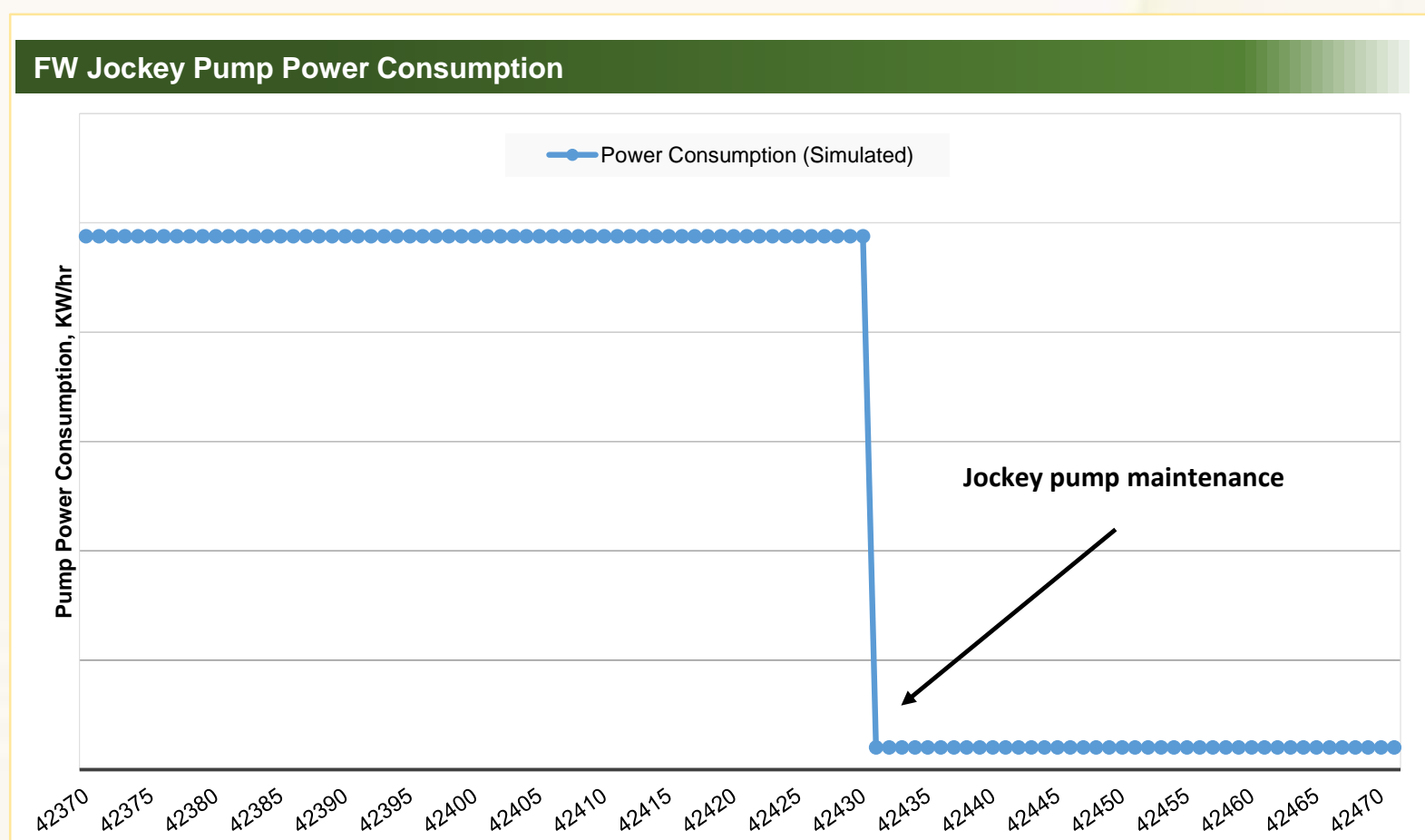
**“The optimization of fire water jockey pump operation has led to reduction in power consumption by 96%.”**



## FIRE WATER JOCKEY PUMP POWER SAVING

The fire water Jockey Pump was running 24 hours to maintain the FW header pressure as the maintenance spillback of jockey pump was kept open.

The maintenance spillback of pump was closed and now the pump is running less than one hr from 24 hours continuous operation. The idea has led to reduction in power consumption by 96%.

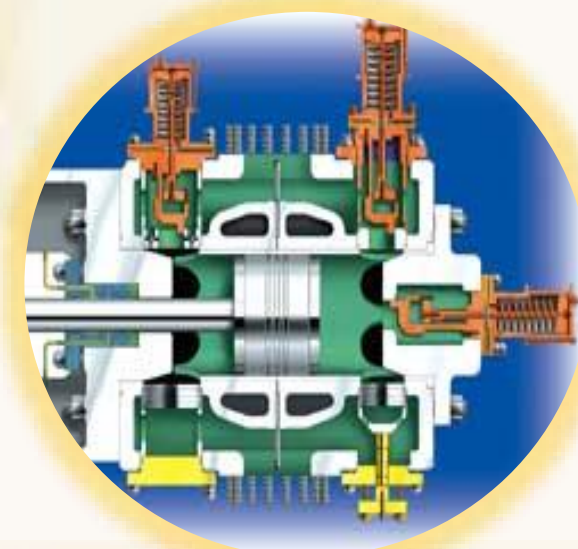
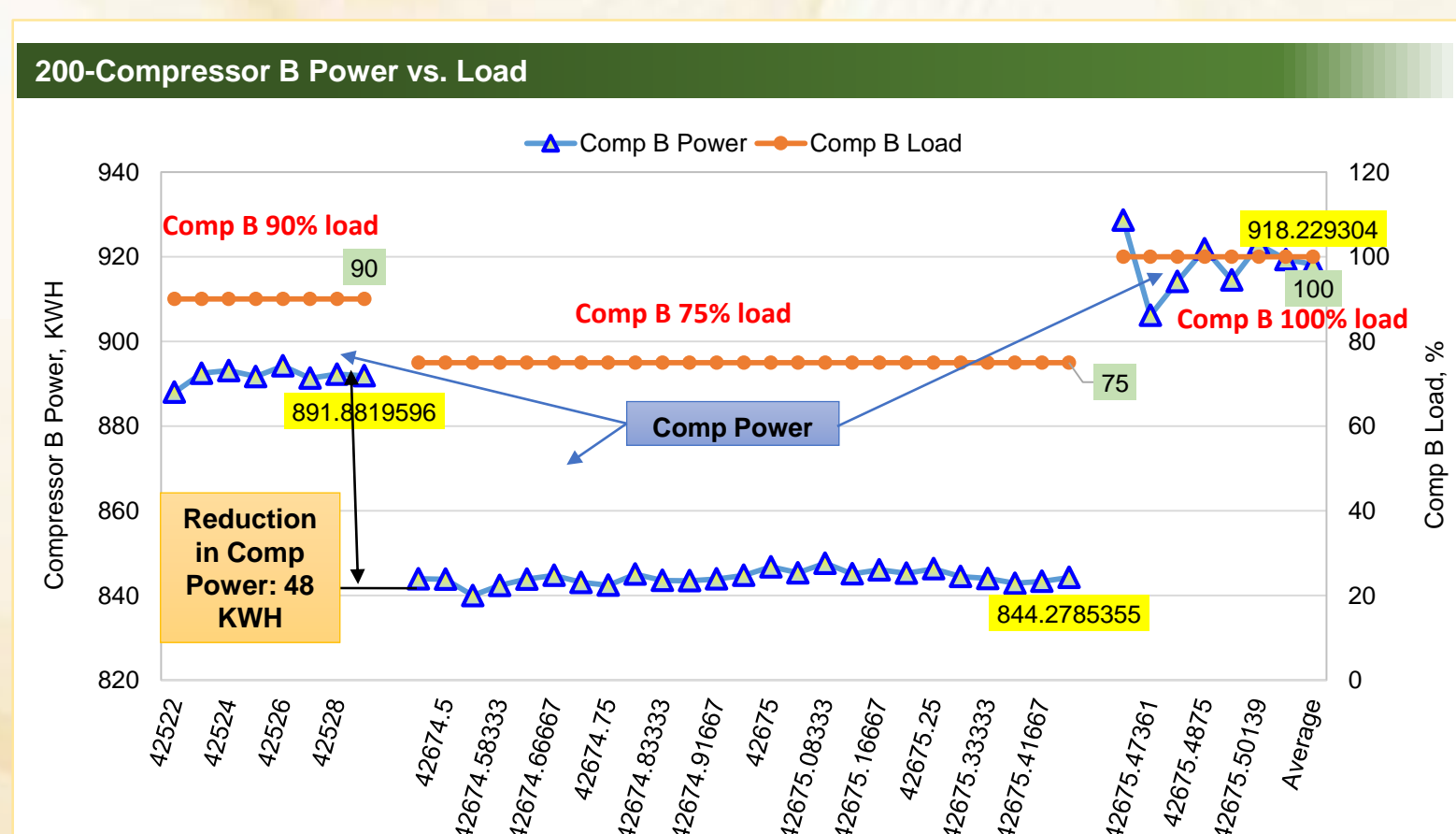


## UNIONFINING COMPRESSOR LOADER MODIFICATION

The Unionfining compressor (200-C-01A/B) 3rd and 4th stage spill backs are operating at 50% - 60% load due to less process requirement. Also, compressor load can only be reduced to either 50 or 90%.

A detail study was carried out to save power and compressor clearance pocket was modified from existing 10% to 25% through MOC process. This has resulted into power saving of 9.5%.

**“The compressor loader modification has resulted into power saving of 9.5%.”**

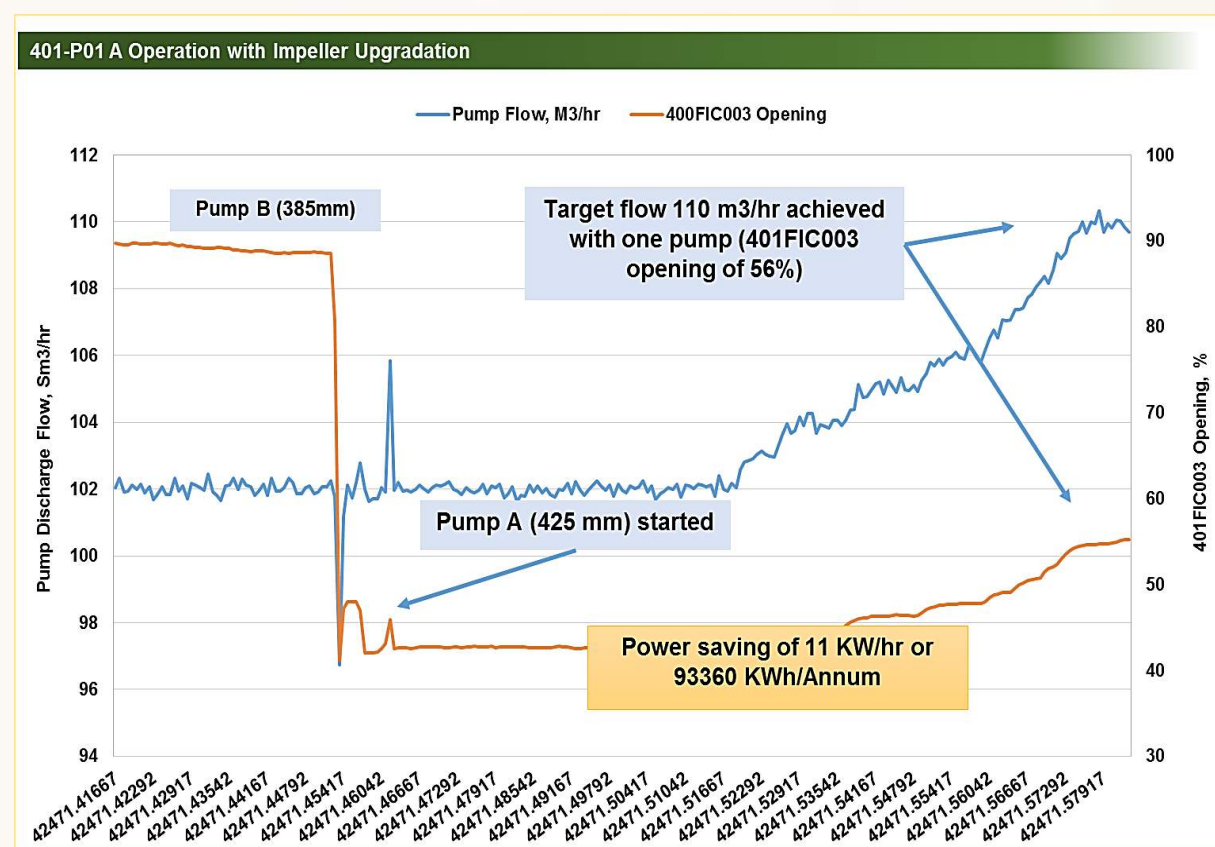




## LAB II PACOL CHARGE PUMP IMPELLER RESIZING

In LAB II, to meet the flow requirement, two Pacol charge pumps were running continuously. Detail study was carried out to upgrade the pump impeller and meet the plant requirement without changing existing pump motor.

Based on study, Pump impeller was upgraded from 405 mm to 425 mm and now one pump is successfully delivered required flow. This has resolved reliability issue of double running pump as well as there is reduction in power consumption by 22%.



## LIGHTING OPTIMIZATION AND INITIATIVES

Optimization of lighting is also part of FPC sustainability. Following initiatives are carried out or under progress:

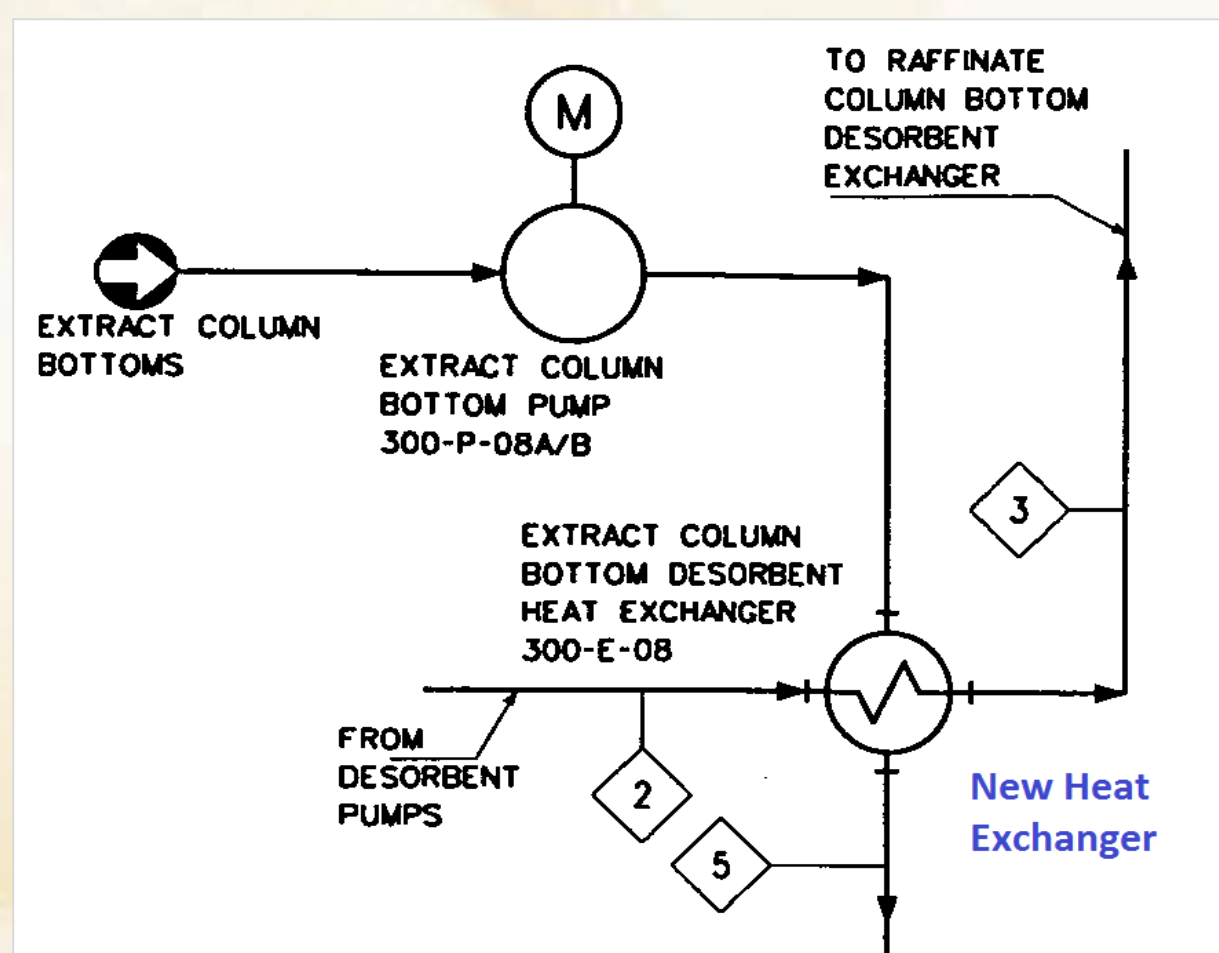
- All HPSV street lights will be replaced with LED street lights. Four no's of LED lights are installed. Balance replacement to be start from 2017. Expected Reduction in power consumption is 50%.
- All building office tube lights will be replaced with LED tube lights. Expected Reduction in power consumption is 50%.
- Engineering building corridor lighting was optimized (reduction of 50% lighting).



## PINCH SCHEME: NPN SPLITTER FEED PREHEATING WITH RAFFINATE COLUMN BOTTOM

As a part of production enhancement, NPN splitter is installed. The feed to NPN column needs to be preheated to 125°C. Normally such heat duty is provided by hot oil.

To save energy, detail pinch analysis was carried out and Raffinate column bottom stream is identified which will be cooled from 131°C to 120°C by preheating NPN splitter feed from 95°C to 125°C. The heat exchanged by new pinch heat exchanger is 0.43 MMKcal/hr.

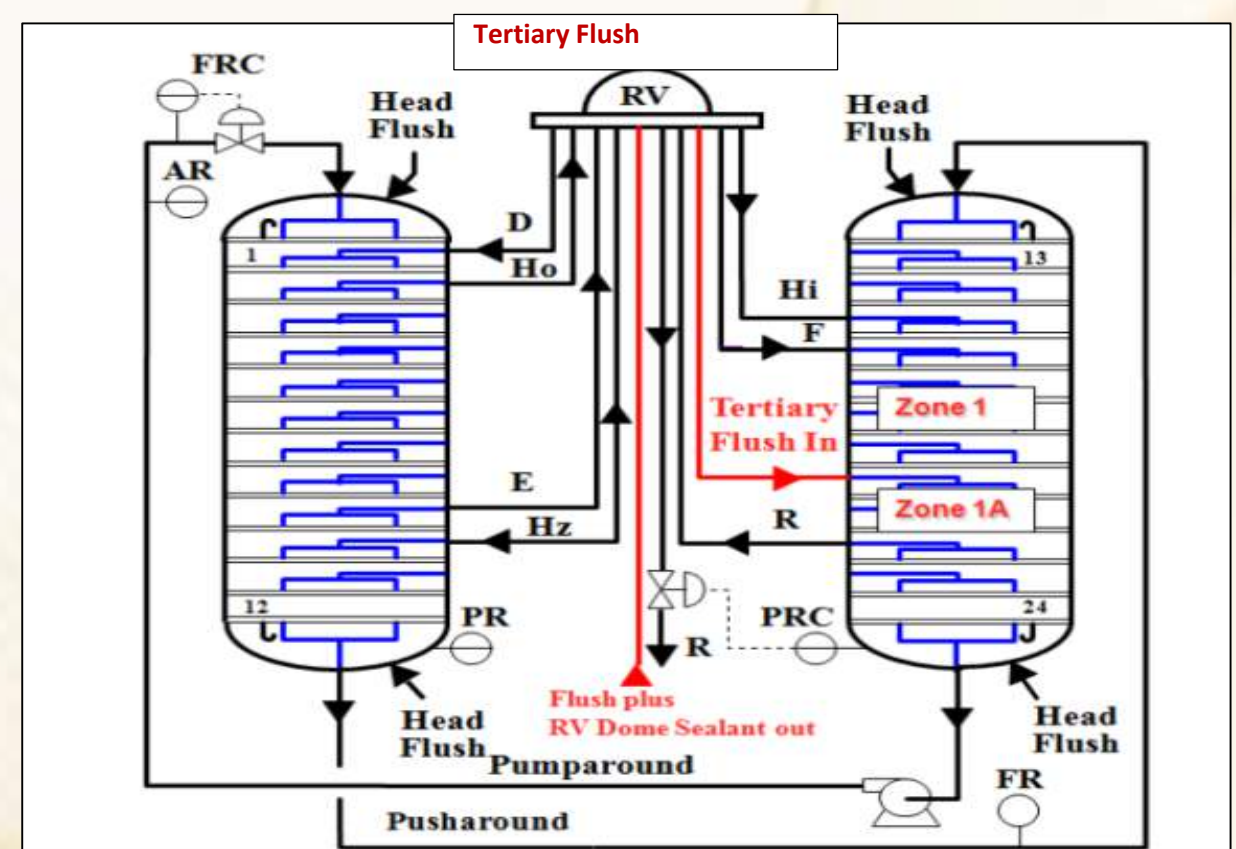
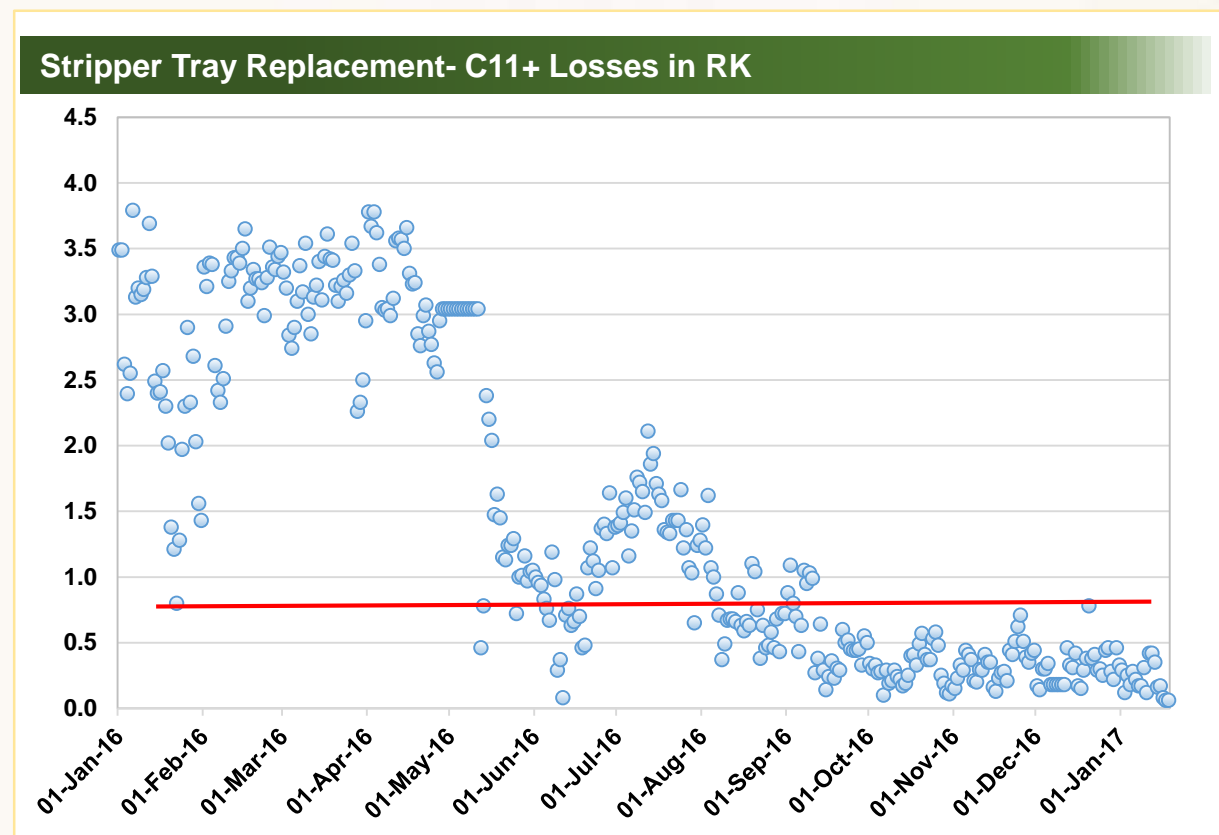




## PRODUCTION INITIATIVES (SPLITTER MODIFICATION, TERTIARY FLUSH, C10)

The goal of sustainability is, not only, to reduce utility consumption but also increase production which will ultimately reduce the specific utility consumption per ton of product. Hence following production improvement project has contributed to achieve sustainability targets.

1. Prefrac Stripper revamp: The C11+ losses in return kerosene was > 3% due to high throughput operation than design. Stripper tray (#16 to #65) was replaced with high capacity trays and C11+ losses in RK was reduced to < 0.5%. This has increased NPN production by 5%.
2. NPN splitter: NPN splitter project is to increase the C10-C13 Paraffin production by reducing the C11+ loss in Return kerosene and to produce C10 Paraffin as a by-product. The total production is increased by 4%.
3. Tertiary Flush: Tertiary flush works by allowing the pore volume in the MOLEX adsorbent chambers to be used for the recovery of additional n-paraffin. This has increased NPN production by 1-1.25%.



## FPC SUSTAINABILITY INITIATIVES @ 2017





## Social Commitments and Initiatives





## Waste Free Environment (WFE) – Beach Cleaning Campaign:

Waste Free Environment (WFE) is a global event and an important environmental campaign launched by the Gulf Petrochemicals and Chemicals Association (GPCA). WFE promotes recycling and encourages a more responsible attitude toward litter disposal and the need for the community to respond to environmental issues. Everyone should be following the 3R's: Reuse-Reduce-Recycle!

During the annual Waste Free Environment week, which takes place in February 2016, responsible and enthusiastic organizations and people from across the world join hands for cleaning up their local environment.



In observance of **Waste Free Environment** as part of the GPCA Initiative, 40 volunteers from Farabi Petrochemical Company had took their time off to help clean the environment on February 11, 2016 at Jubail Corniche. The team collected a total of 54 consolidated bags of waste compared to 22 bags collected from last year cleanup activity.



## Promote Green Environment (Tree Plantation)

On the occasion of World Environment Day, Farabi is celebrating by planting trees each year in order to promote green environment and spread the message to all stakeholders about our active participation and care.

SHE Awareness Committee (SHEAC) together with Sustainability Steering Committee (SSC) and FPC volunteers ventured on a Tree Planting Activity on June 05, 2016 in Jubail City in observance of World Environment Day. Farabi team planted total of 50 seedlings in an effort to raise awareness and take positive environmental action to protect for the environment. This activity has been an annual endeavor of FPC showing our commitment & care to environment.





## World Earth Day

Farabi Petrochemical Company (FPC) is committed to the responsible care requirements, sustainable development and continuous improvement for better environment. Sustainability Steering Committee (SSC) and SHE Awareness Committee (SHEAC) encourage every employee to embrace this commitment by participating and getting involve with activities that help to protect our environment and community at large.

•**Plantation:** Trees and plants help to absorb the carbon dioxide in Earth's atmosphere. Make this a part of your family activity by getting your kids participate!

•**Save water:** Simple things like turning off the water while brushing your teeth makes a HUGE difference for the planet. Doing this, helps you save up to 25 gallons of water each month!

•**Save electricity:** Whether at home or at the office, turn off the lights when you leave a room. Unplugging devices after you use saves a lot of energy through the day.

•**Don't waste food:** Plan your meals so that you don't cook more than you will eat. Store your leftovers and use them up at your next meal. If you do have an overrun of food, such as after a party, share it with friends.





## People/Children Reach-Out

In line with company's commitment towards social responsibility, FPC launched a campaign "Towards a Safe Home" in partnership with SWCC-Jubail, Civil Defense and Jubail Governorate for three days from May 30, 2016 to June 01, 2016.

During this campaign, a cultural and educational exhibition for families was conducted in which hazardous substances at home and ways to protect the house from them and ways to deal with fires and hazardous materials and first aid were presented.

There was a considerable public reaction to this campaign which exceeded two thousand visitors, mostly families. The campaign also gained a great coverage by Al-Jubail Newspaper and some other media.



On the occasion of World Earth Day as part of the SSC and SHEAC Initiative, Farabi Petrochemical Company conducted sustainability awareness on protecting and helping preserve the environment to the students of Jubail High School at Jubail City on April 21, 2016.



# Global Participation and Reporting





## Carbon Disclosure Projects (CDP)

Farabi Petrochemicals Company (FPC) is participating in Carbon Disclosure Project (CDP) since 2010 as a part of CDP supply chain member of UNILEVER. We have shown our transparency through reporting at maximum and got the disclosure scores by touching ceiling of 2nd largest band of disclosure as compared to other company group. As a part of CDP format, we have been reported our governance structure, strategy of climate change and described what our initiatives are, how we set the objectives & targets, what are the possible ways for communication.



Farabi has furnished all required information in the CDP report that explains and talks about risk and opportunity assessment followed by consequences of climatic change. As per CDP report format requirement, “Emissions Accounting” is a key parameter for evaluating company’s performance especially about Green House Gas (GHG) accounting. GHG emission for Farabi operation has been accounted for Scope-1 (fuel Gas & fuel oil consumption & Company Owned vehicles mileage), Scope-2 (Purchased Electricity) and Scope-3 (Waste disposal, air business travels and wastewater discharge etc.).

### CDP 2016 Supply Chain Climate Change Score (ranked on an A to D - Scale)

The performance scores are expressed as bands (A, A-, B, B- C, C-, D, D-); with A being the highest level

Category Name	Performance Category Band (Farabi)	Supply Chain Average Category Band
Governance & Strategy	C	C -
Risk & Opportunity Management	C	D
Emission Management	C	E
Overall Scores	C	D

### CDP 2016 Supply Chain Water Score (ranked on an A to D - Scale)

The performance scores are expressed as bands (A, A-, B, B- C, C-, D, D-); with A being the highest level

Category Name	Performance Category Band (Farabi)	Supply Chain Average Category Band
Context	C	D
Governance & Strategy	B-	D
Risk Assessment	C	D
Risks & Response: Direct Operation	B	D
Risks & Response: Supply Chain	D	D
Overall Scores	B-	D



## American Cleaning Institute (ACI)

Farabi Petrochemicals Company (FPC) is a signatory and member Company for American Cleaning Institute (ACI) since 2013 and we have been committed to participate in their various programs including ACI annual metrics program.

As a part of ACI's Sustainability Metrics Project, Farabi Petrochemicals Company (FPC) tracked and reported the followings environmental sustainability metrics in 2016.



- Energy Use (electricity, steam, and fuel)
- Greenhouse Gas Emissions (CO2 equivalents)
- Water Uses
- Waste Generations

In addition to that we have been published our sustainability highlights and success story in ACI annual reports under sustainability showcase which is publically available in ACI web portal.

## Gulf Petrochemicals and Chemical Associations (GPCA)



As signatory and full member of GPCA, Farabi is committed to comply all GPCA requirements such as: annual performance metrics report, annual sustainability reports, GPCA survey on GHG accounting and in addition to that implementation of the Responsible Care codes and practices.

We are committed to the implementation of Responsible Care as broadly as possible within our esteemed company and met all conditions of RC/GPCA logo usage criteria requirements.

We are actively participating and contributing to achieve the Vision of GPCA which is a proactive approach to understanding Environment, Health Safety and Security (EHSS) issues in the region by introducing a common set of performance metrics for all member companies. We are also actively participated and volunteered for their social commitments initiatives, for instance: Waste Free Environment (WFE) campaign.



## Sustainability Award Participations

We have been participated many of the award show such as: Marafiq Sustainability Award (MSA), GPCA Supply Chain Excellence Awards 2016, Ta'atheer MENA Social Impact and CSR Award, Royal Commission Award for Best Environmental Performer.

We have been short-listed by "MENA Social Impact and CSR Forum" and nominated for the Award category "Best CSR Integrated Business".

Find the link below for details: <http://www.taatheer.com/Taatheer-Awards/Awards-Shortlist/>:

### Best CSR Integrated Business

AES Jordan  
Qatar Solar Technologies  
SEDCO Holding Group  
Clyde & Co  
Al Tamimi & Company  
Aster DM healthcare  
Microsoft Gulf

**Farabi Petrochemicals Company**

تأثير  
Ta'atheer

## Royal Commission Basic Industries Best Environmental Performer

Farabi Petrochemical Company was awarded as 2015 Best Environmental Performer (2nd Place) as a recognition for its efforts in protecting environment and its environmental achievements in 2015. This was announced by the Royal Commission in Jubail during its' annual celebration of the World Environment Day which was held in Jubail on 5th of June 2016.



This award reflects FPC strong commitment to environment through sustainable production and environmental conservation.



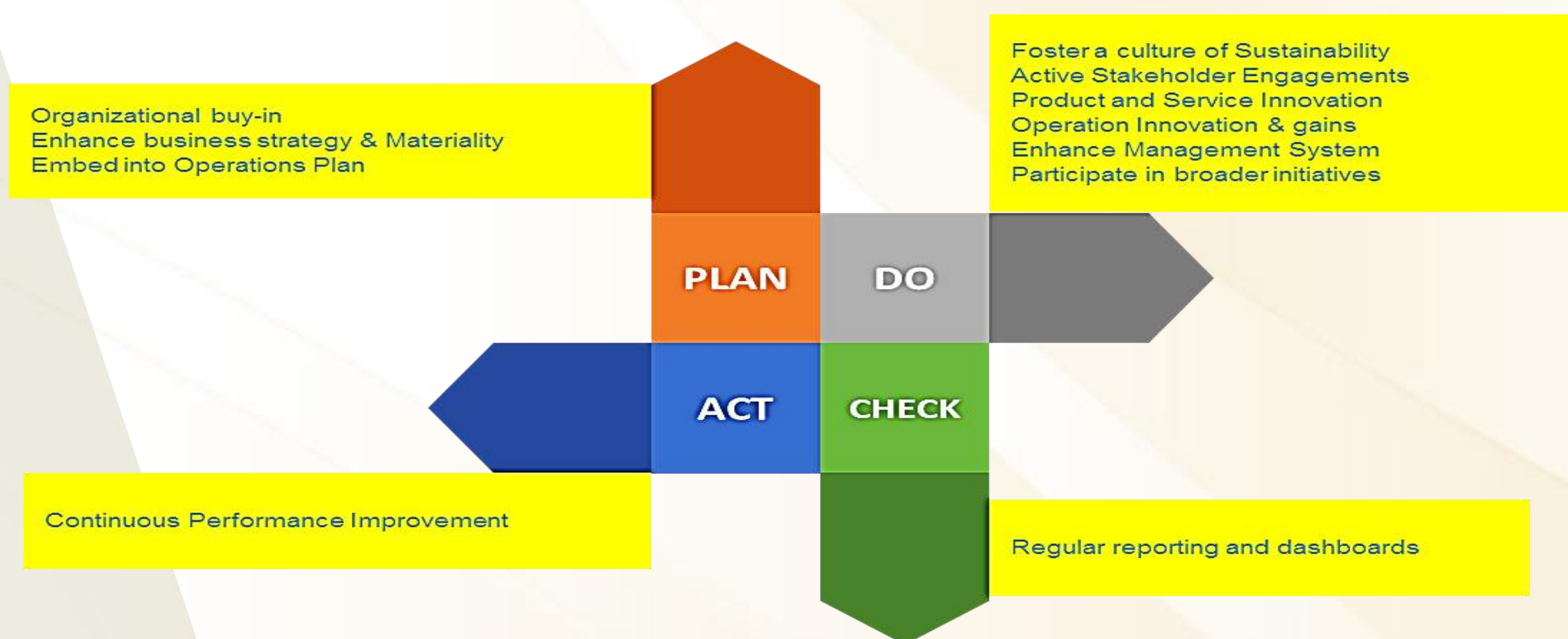


# Sustainability Management System Stewardship





# Sustainability Management Systems Stewardship

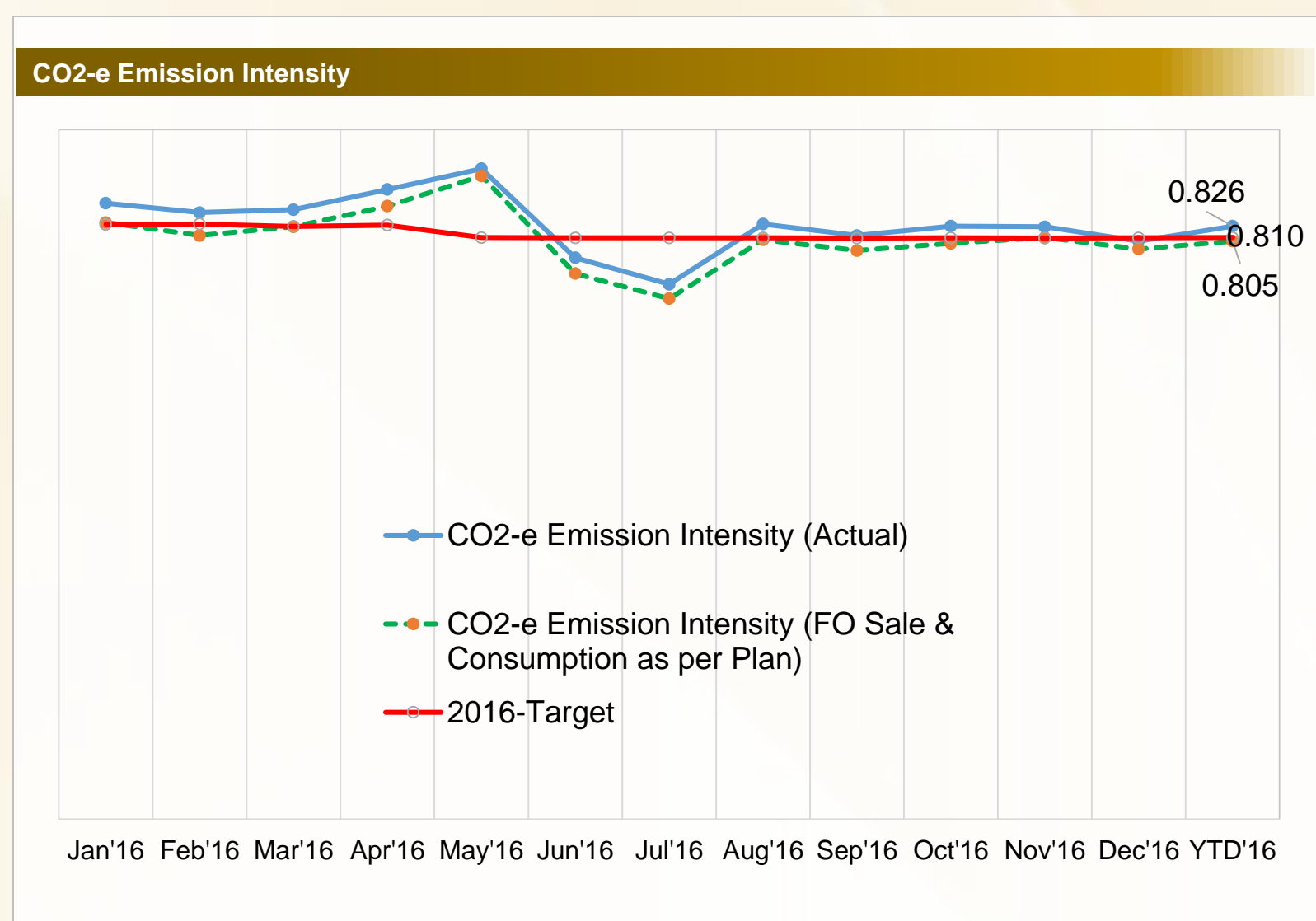


Our Sustainability Committee directly manages all sustainability initiatives. The committee established in 2013, consists of members representing the different functions of the organization's value chain. The sustainability committee is chaired by the Sustainability Chairman, who also serves as one of the management committee members. The role of the Sustainability chairman is to drive internal and external sustainability improvements.

The team acts as a resource to support and promote the company's commitments in lined with policies and strategies towards sustainable development.



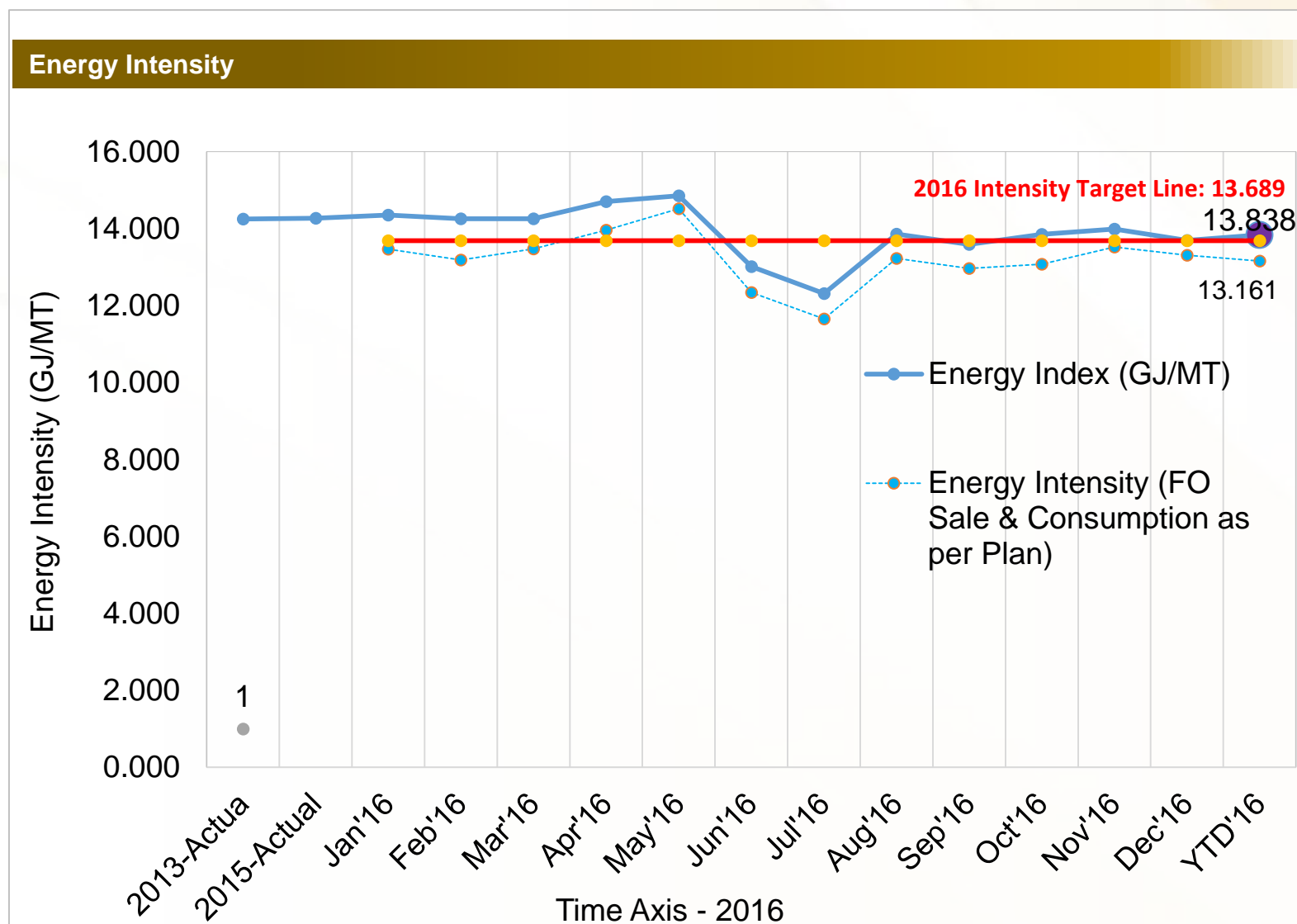
**“3.28% reduction of CO2-eq emission intensity from previous year (2015). However, 3.50% reduction of CO2-eq emission intensity achieved for YTD'16 from the base year.”**



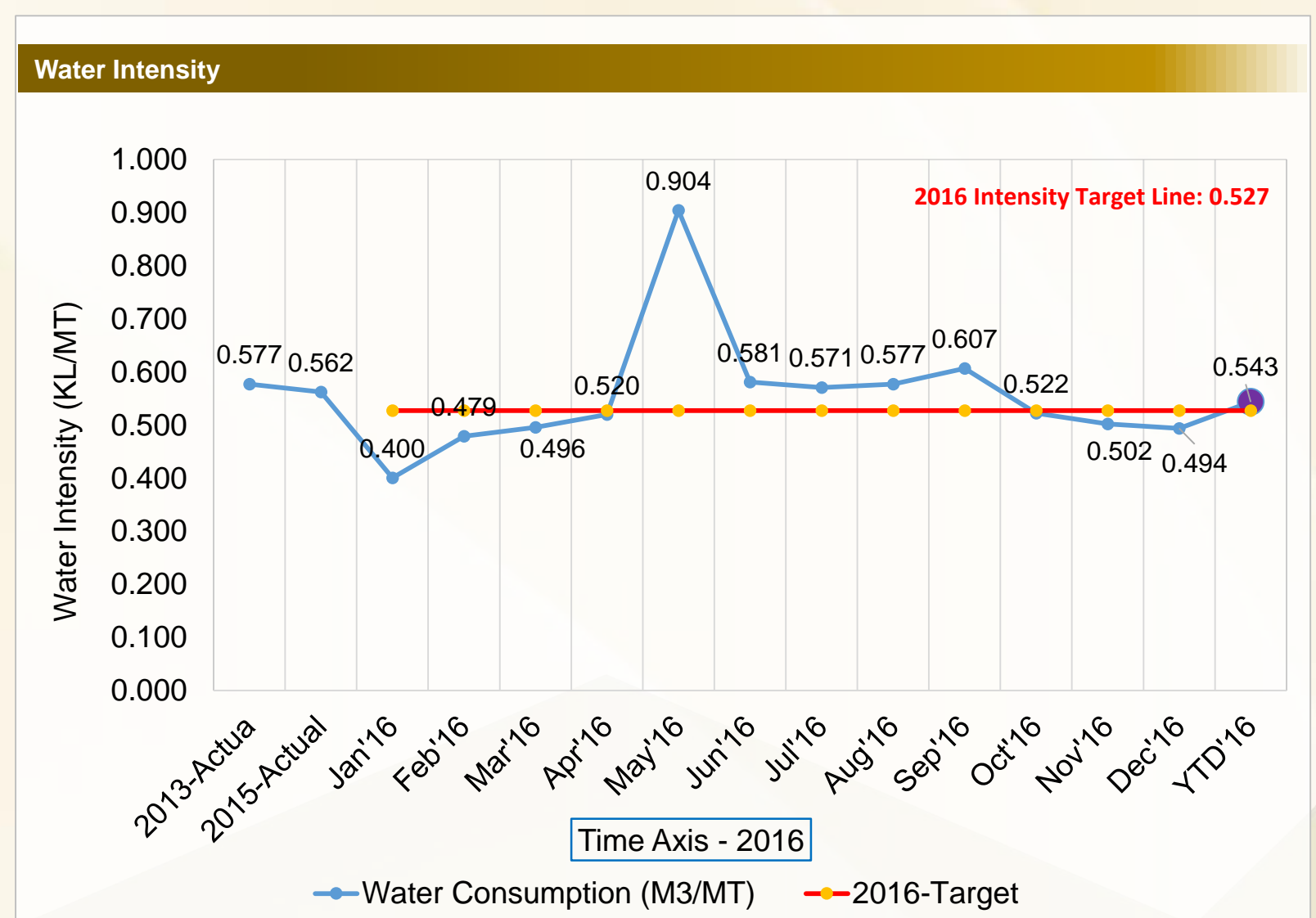




**“3.05% reduction of Energy intensity from previous year (2015). However, 2.89% reduction of Energy intensity achieved for YTD’16 from the base year.”**

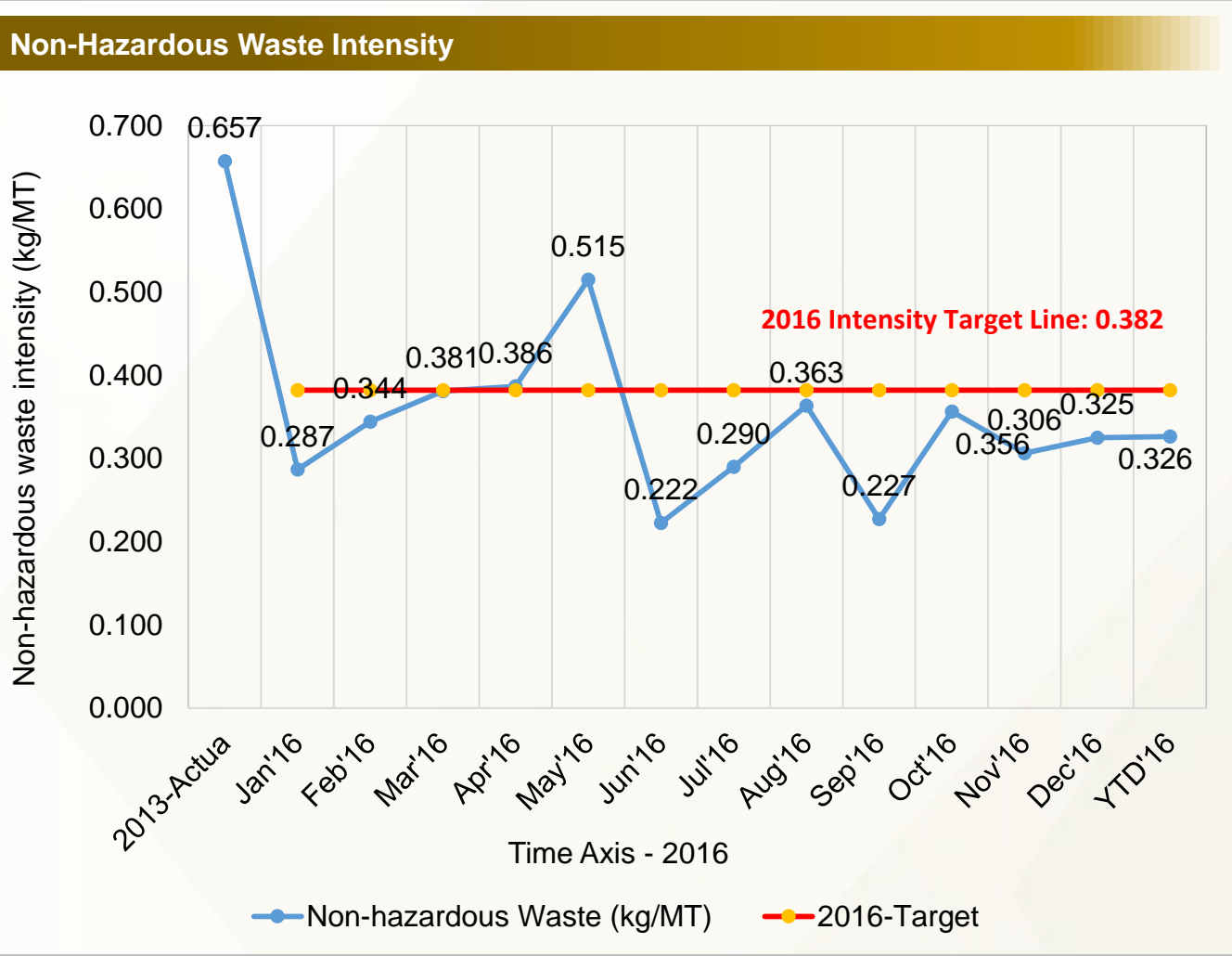
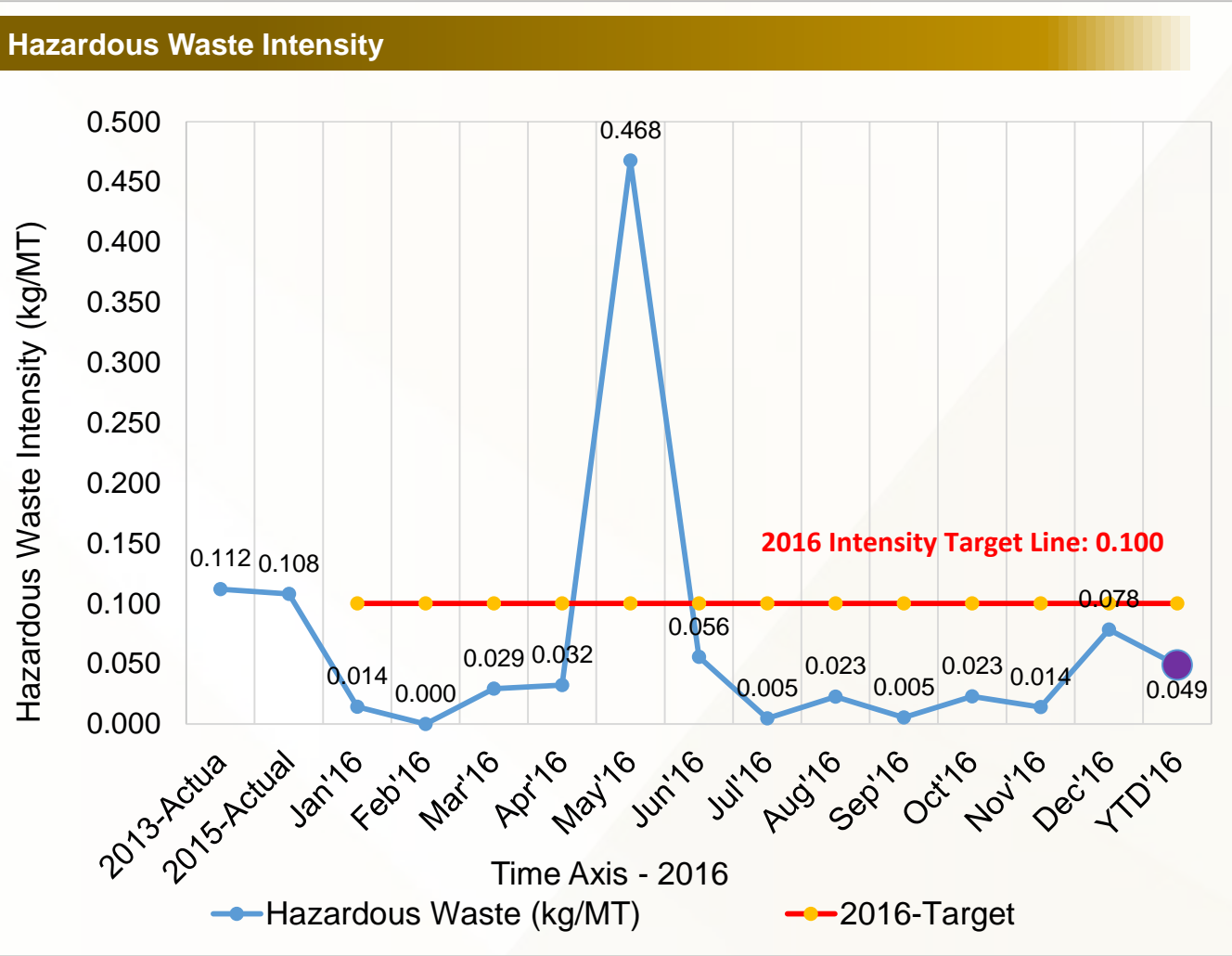


**“3.32% reduction of Water Consumption intensity from previous year (2015). However, 5.83% reduction of Water Consumption intensity achieved for YTD’16 from the base year.”**





“54.78% reduction of Hazardous Waste intensity from previous year (2015). However, 56.04% reduction of Hazardous Waste intensity and 50.34% of Municipal Waste Intensity achieved for YTD’16 from the base year.”



As a part of FIMS we have developed 3 processes under sustainability function (PL.03) and all of them have been approved and deployed across the targeted employees and now available active in Q-Pulse. The name of those processes as below:

- PL.03.01 (Sustainability Development)
- PL.03.02 (Stakeholder Engagement)
- PL.03.03 (Sustainability Reporting)

We have a long term sustainability strategy to achieve the sustainability goals of 20% reduction of CO2-eq. emission intensity in 10 years by 2023; so far we have achieved 3.5% intensity reduction from the base line of 2013. We have implemented all initiatives what we planned for year 2016, for instance those are:

- HO Heater Pump Impeller Trimming (LAB-2)
- Loader Modifications
- Split Feed to enhance production
- Tertiary Flush to enhance production
- C10 Production
- Lighting Optimization & Fixture change
- Optimization of FW Jockey Pump Operation
- HOH Convection Zone Cleaning
- Promote Green Environment (> 50 Trees plantation)
- People Reach Out (> 1000 People)
- Stakeholder Engagement (GRI Aspects)
- Participate in global reporting (CDP, GRI, ACI, GPCA)
- Beach Cleaning (WFE)
- Sustainability Award (GRI/RC/Gov. Eq.)
- Scope-3 Emissions enlargement





## SUSTAINABILITY STEERING COMMITTEE TEAM

**NADER SALEH  
AL-DAKHEEL**

**SSC CHAIRMAN**



**MOHAMMED ATHER  
RAZA**

**SSC COORDINATOR**



**MANISH  
KHANDELWAL**

**SSC MEMBER**



**HUSSAIN  
AL-MUHAIMMED**

**SSC MEMBER**



**KHALID HUSSAIN  
AL-ABBAS**

**SSC MEMBER**



**JAGDISH  
BHAVANI**

**SSC MEMBER**



**MOHAMMED  
AL-GHARAWI**

**SSC MEMBER**







## Farabi Petrochemicals Company

P.O. Box 11763,  
Jubail Industrial City 31961  
Kingdom of Saudi Arabia

Tel: +966 13 356 5000  
Fax: +966 13 356 5005/6

[www.farabipc.com](http://www.farabipc.com)



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