

National Key Economic Area (NKEA) Palm Oil Updates

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NKEA Palm Oil consists of 8 Entry Point Projects (EPPs), spanning across the entire industry's value chain..

EPPs

True North...

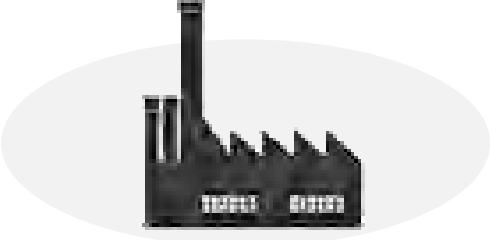
Upstream Plantation



- 1 Accelerating Replanting & New Planting of Palm Oil
- 2 Improving Fresh Fruit Bunch Yield
- 3 Improving Workers' Productivity

Focuses on productivity improvement to mitigate constraints in land and labour

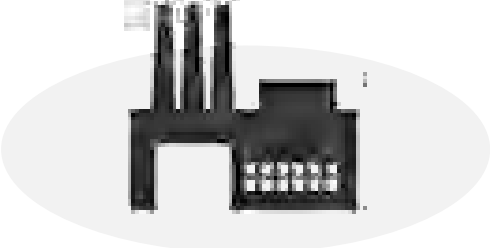
Midstream Processes



- 4 Increasing Oil Extraction Rate (OER)
- 5 Developing Biogas Facilities at Palm Oil Mills

Focuses on new opportunities as well as milling optimization

Downstream Processes



- 6 Focusing on high value oleo derivatives
- 7 Commercializing first and second-generation bio-fuels
- 8 Expediting growth in food and health-based downstream segments

Focuses on new ventures/high-value palm-based products, shifting reliance from upstream towards downstream

EPP 1: Accelerating Replanting & New Planting of Palm Oil

Rationale

Approximately 365,000 ha of oil palm plantations with trees **over 25 years, with lower yields**

Actions

EPP 1 aims at replanting **100% of the backlog over 3 years* starting 2011**

EPP 1 aims to facilitate EPP 2 in achieving the targeted FFB yield of **26 MT/Ha/Yr**

Crop and livestock integration is recently introduced in 2016 to support income

How?

A replanting/new planting grant is provided – **RM7,500 for P. Malaysia; RM9,000 for Sabah & Sarawak**

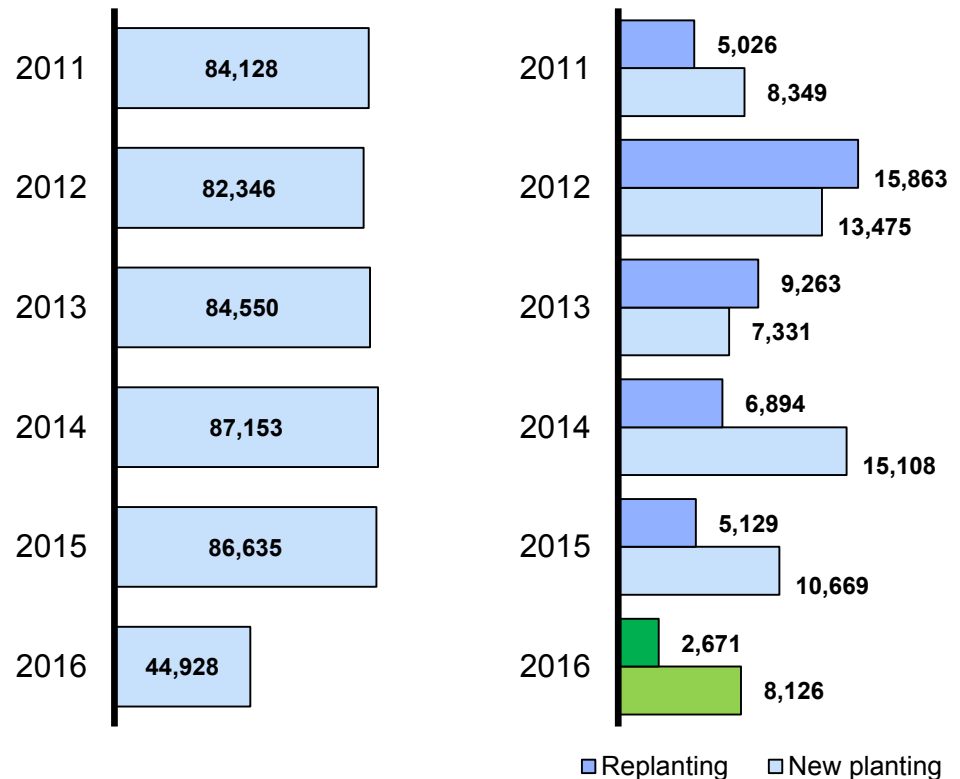
Grant is only given to individual smallholders. A **subsistence allowance of RM500/month** is also provided for qualified applicants

Achievements

Over **469,740 ha** cleared to-date (2011 – Aug 2016) by private plantations, organized smallholders and independent smallholders

Replanting (by plantations and organized smallholders), 2011 – YTD
ha

Replanting/New planting (by MPOB), 2011 – YTD
ha

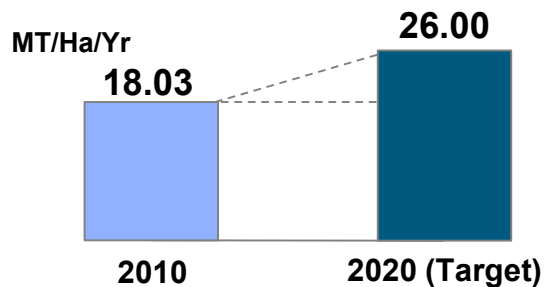


*backlog includes backlog by private plantations, which is not eligible for the replanting grant by government

* As of Sept 2016

EPP 2: Increasing FFB Yield

Rationale



Actions

Leveraging MPOB's extension officers (TUNAS), to teach and guide smallholders on **adoption of Best Practices**

Forming smallholders cooperatives, providing economies of scale to uplift smallholders' productivity

Deploying SureSawit Kit, reducing non-tenera contamination at nurseries nationwide

How?

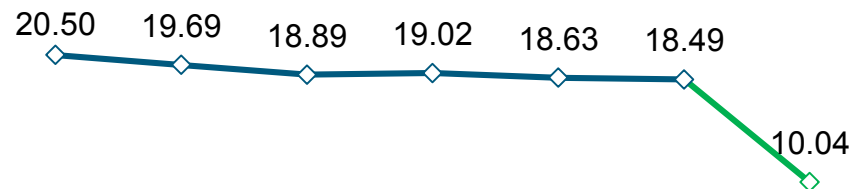
TUNAS officers guide smallholders on day-to-day functions of cooperative

MPOB to audit and ensure compliance of plantation to either one of the best practices (MSPO & COGAP)

MPOB to audit and ensure compliance of plantation to either one of the best practices (MSPO & COGAP)

Achievements

FFB Yield Trend
MT/ha



2010 2011 2012 2013 2014 2015 2016
* As of Aug 2016

Main reasons affecting the FFB yield performance would be:

- Aged palms (more than 25 years)
- Manpower issue
- Climatic factor (high rainfall, high yield) – 1 yr time lag

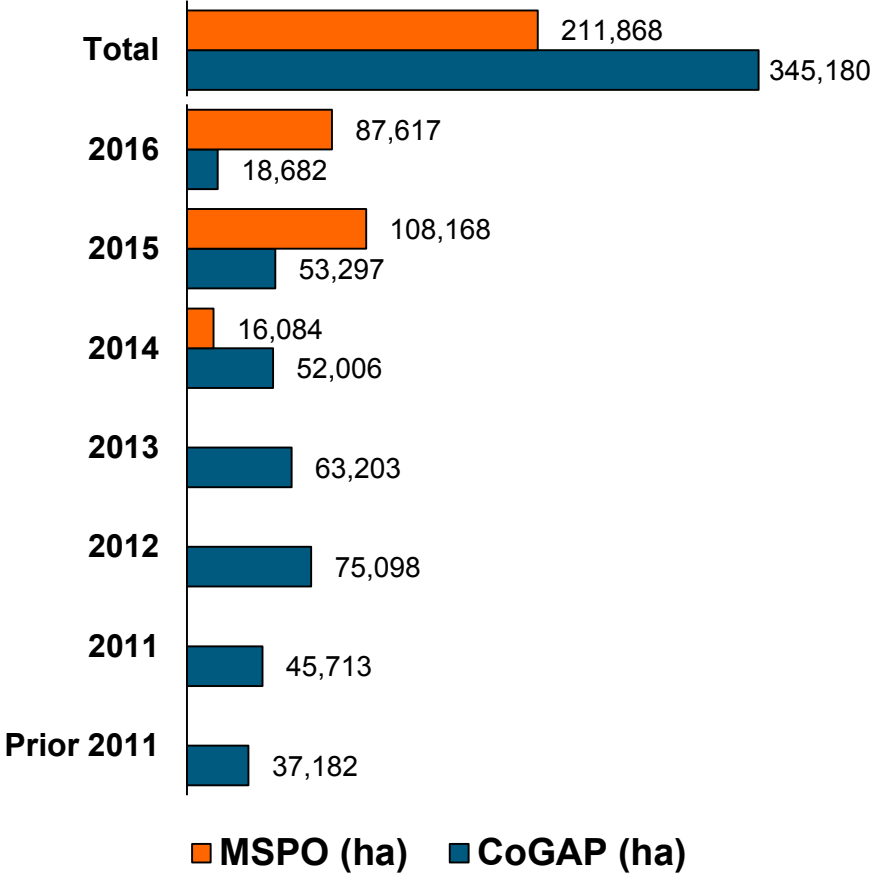
Way forward

- Ramp up coops operations
- Address aged palm problem at plantations owned by state agencies
- Accelerate mechanisation in PO sector

EPP 2: Increasing FFB Yield

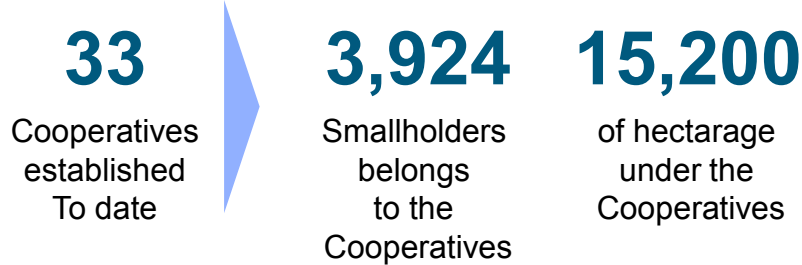
Achievements

Certifications
ha



MPOB will continue to drive certification efforts for plantation and smallholders segments

Cooperatives
Unit

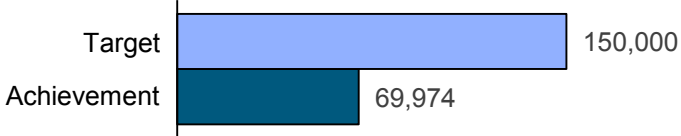


On average smallholders membership is 119 members and 460 ha per cooperatives

SureSawit Kit
Samples



The test kits allows us to determine the tenera, dura and pisifera fruit form of a seedling, nursery palm or field planted palm hence improving yield in long run

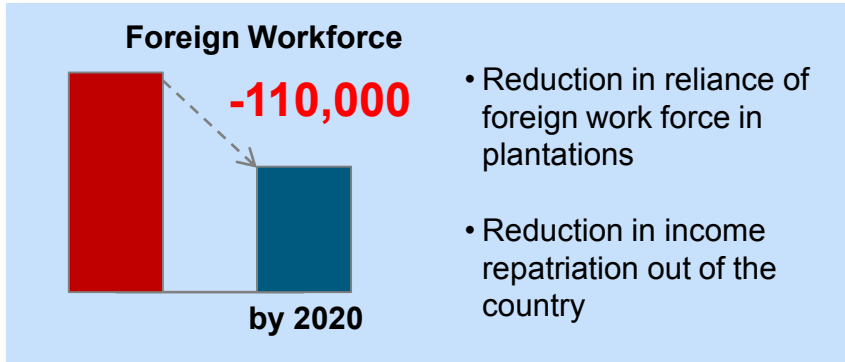


* As of Sept 2016

46.65%
Achievement to date

EPP 3: Improving Workers' Productivity

Rationale



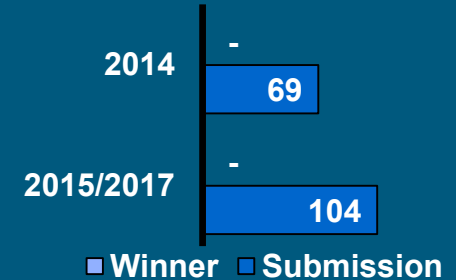
OPIMIS (Oil Palm Industry Mechanisation Incentive Scheme)

- Provides grant to reduce the price of the machineries in order to encourage estates and smallholders to own machineries especially for FFB harvesting and evacuation activities.
- This is aimed at increasing workers productivity and improving the land to labour ratio or to lessen dependency on foreign workers.
- RM4.5 million has been allocated for 2016-2020.



ICOPM (International Competition on Oil Palm Mechanisation)

The ICOPM has garnered increased interest as indicated by the increase of total submissions.



Note: 2015/2017 competition is ongoing

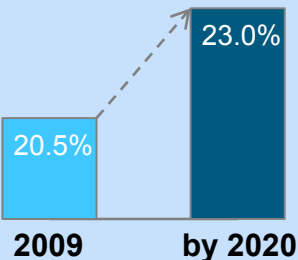
MICPO (Mechanisation & Innovation Committee in Palm Oil)

- MICPO to:
 - Source for innovating mechanisation projects locally and internationally
 - Run pilot tests for commercially viable products
 - Channel endorsed products into the commercialisation pipeline
- Approved projects to be given funds contributed by both the government and private sector

EPP 4: Increasing the Oil Extraction Rate (OER)

Rationale

Oil Extraction Rate



- Poorer OER performance by smallholders & Independent millers
- Inconsistency quality of FFB being processed

Actions

To achieve improvement in OER by implementing strict quality control parameters at the mills

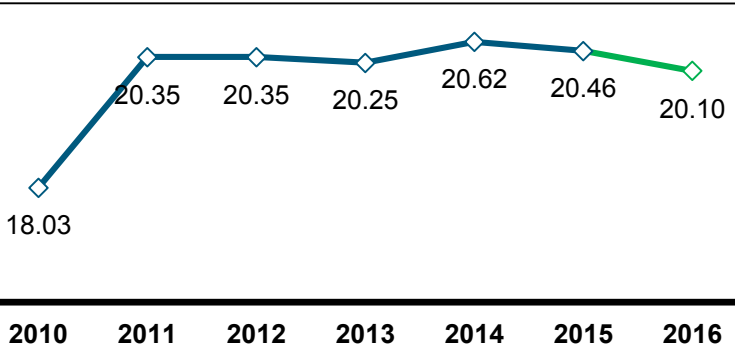
How?

MPOB to rank mills by OER performance; Enforcement officers will be placed at low performing mills to monitor the FFB acceptance process

MPOB to audit and track the compliance of mills to best practices standards – CoPM and MSPO etc

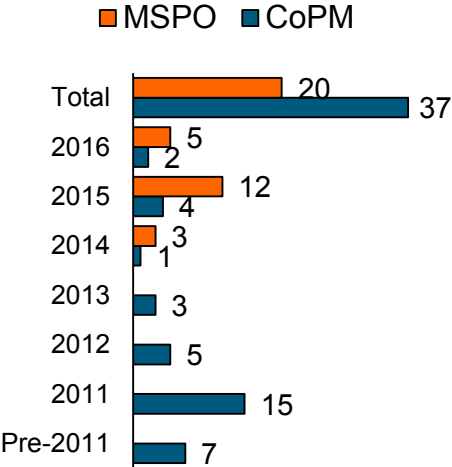
Achievements

National OER %



* As of Sept 2016

No. of mills certified Unit



➤ MPOB enforcing zero tolerance of unripe FFB via officers placement at low OER mills

EPP 5: Biogas Development

Rationale



- Trapping of Methane Gas from Palm Oil Mill Effluent (POME)
- To provide alternative energy source for mills

Actions

All mills to be equip with either a biogas plant or methane trapping/avoidance facilities by 2020

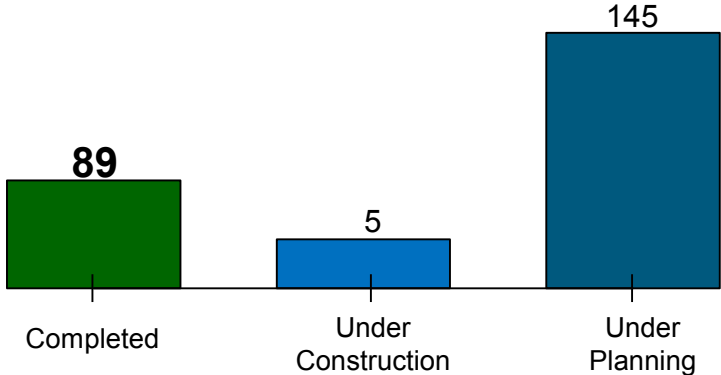
How?

MPOB to run surveys on mills to track development of biogas facilities at mills

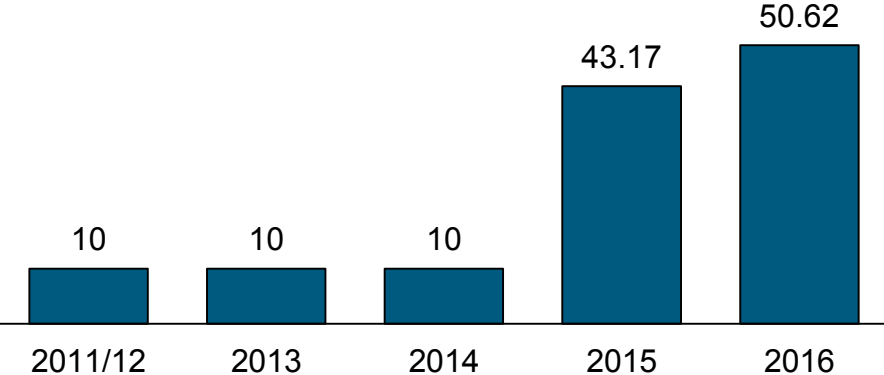
MPOB to facilitate the process of connecting private – owned biogas plants to the national grid

Achievements

Biogas Development Progress (As of Sept 2016)
Units



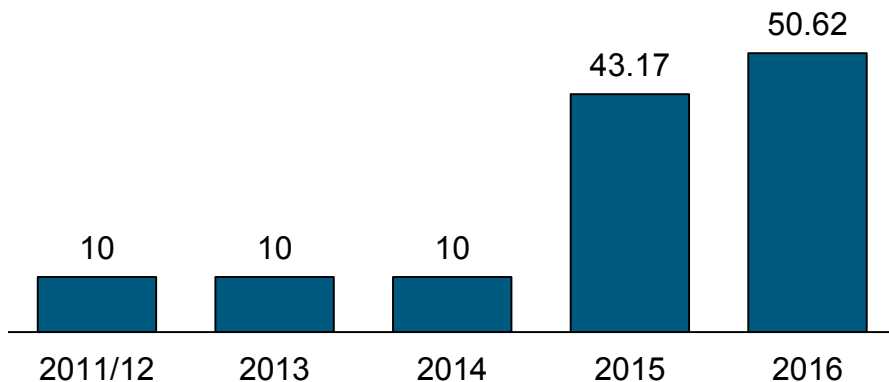
Connection under FiT
MW Quota allocated



EPP 5: Biogas Development

Achievements

Connection under FiT
MW Quota allocated by SEDA



Basic FiT Rates	RM/kWh
up to and including 4MW	0.3184
above 4MW and up to and including 10MW	0.2985
above 10MW and up to and including 30MW	0.2786
Bonus Rates	
efficiency of above 40%	+0.0199
use of local technology	+0.0500
use of landfill, sewage gas or agricultural waste	+0.0786

Bonus rate use of landfill, sewage gas or agricultural waste was added for biogas starting 2015

Bio-CNG Project at FELDA Sg Tenggi Mill



FELDA
Sg Tenggi



Oriental
Metal
Industries

- Govt provide grant to deliver pilot project to produce 80,000 m³/year of Bio-CNG for nearby industry uses
- CNG uptake by Oriental Metal Industries for alloy wheel manufacturing
- This unlocks the potential of PO mills that unable to connects to FIT

Biogas Mapping: Pre-PSS Exercise by MPOB

- Spearheaded by MPOB, all palm oil mills in Peninsular being identified for their biogas usage potential
- Joint exercise with TNB
- To date 8 palm oil mills have been identified and selected for Pre-PSS study
- Another 89 mills were underway for identification

EPP 6: Focus on High Value Oleo Derivatives and Bio-Based chemicals

Rationale



- Reduce reliance of the industry towards the plantation sector
- Create more high-value products; serves as buffer to the upstream industries

Actions

Malaysia to have 84 high-value oleo chemical plants in operations by 2020

How?

A facilitation grant is provided to private players to help spur investment in high-value oleochemical businesses

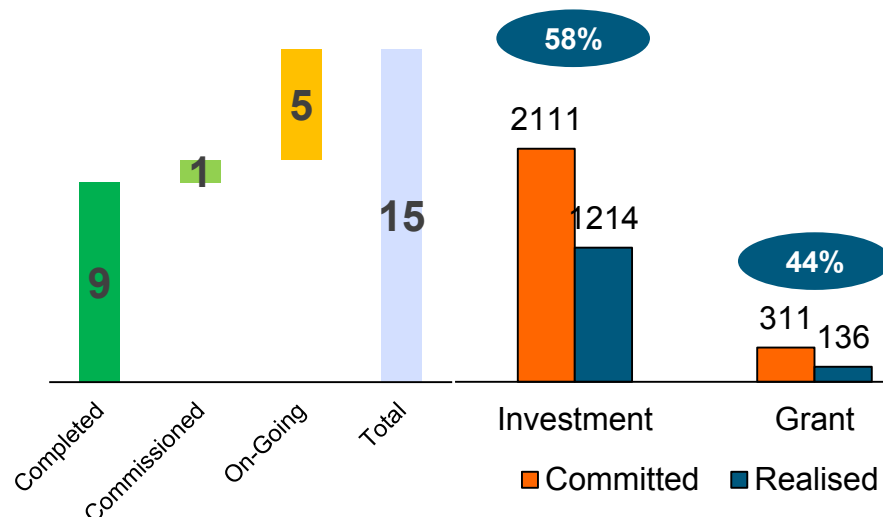
Supported Products List:

1. Glycerol Derivatives
2. Surfactants
3. Bio-polyol
4. Bio-lubricants
5. Agrochemicals
6. Bio-based chemicals (e.g. olefins, diacids, etc)

Achievements

EPP 6 Project status
Units

EPP 6 Investment and Grant
Status To Date
RM (mil)



High value oleo derivatives is growing at a CAGR of 9% in the oleo chemicals segment in 2015

Way forward

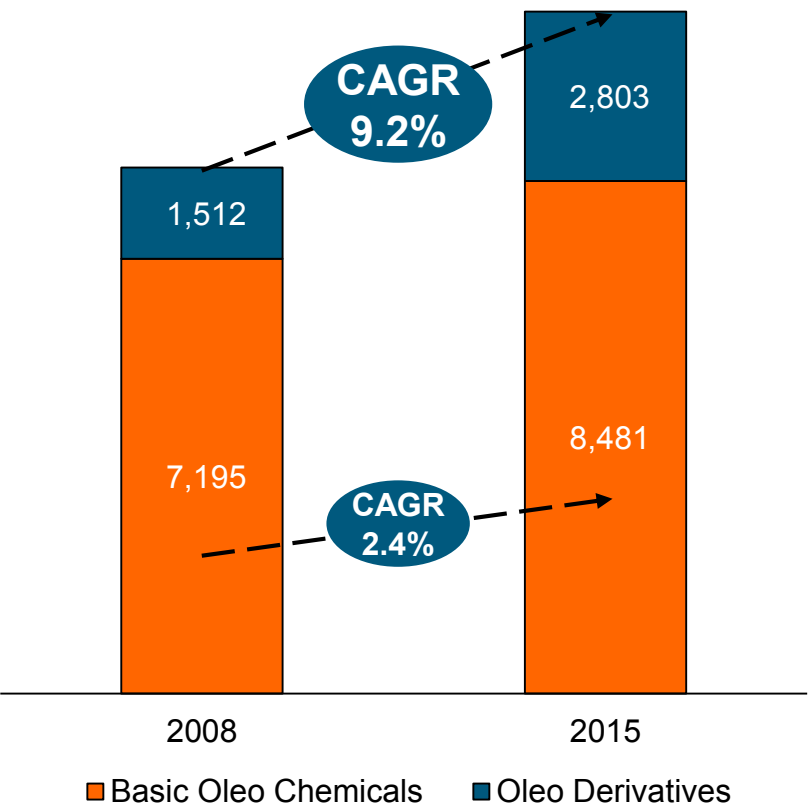
In RMKe-11, a sum of RM100mil has been allocated to EPP 6 to assist companies in going further downstream

EPP 6: High value oleo derivatives is growing in the oleo chemicals segment

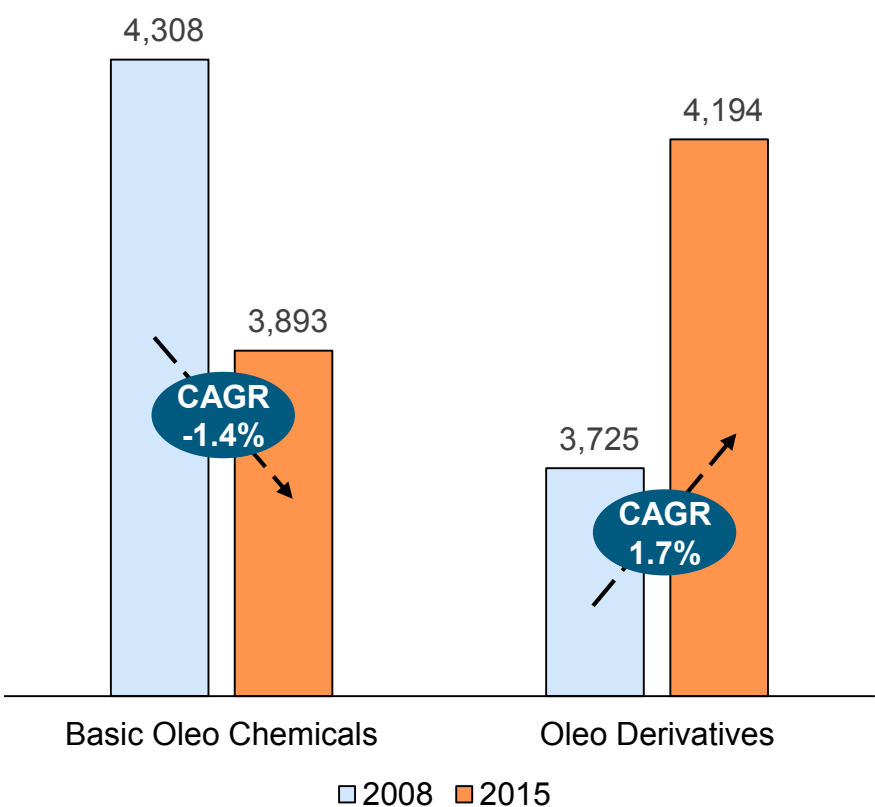
Oleo derivatives are growing at faster pace...

and gives better revenue per unit

Oleochemical Export Revenue 2008-2015
(RM mil)



Average Export Revenue per MT 2008-2015
(RM/MT)



EPP 8: Expediting Growth in Food and Health-Based Segment

Rationale



- Part & parcel of the Palm Oil downstream industry
- Growth in the sector assists in shifting focus towards the downstream industry

Actions

Increase the palm oil sector's involvement in producing key components which goes into food and health care segment products

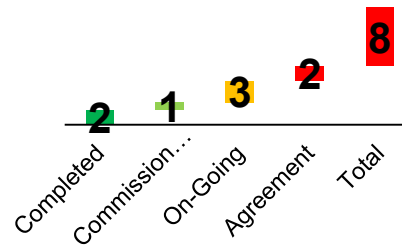
How?

A facilitation grant provided to private players to spur investment in the production of palm based food and health segment products

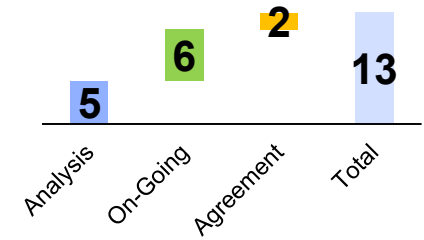
Government to provide research grants to final phase clinical trials related to palm-based phytonutrients

Achievements

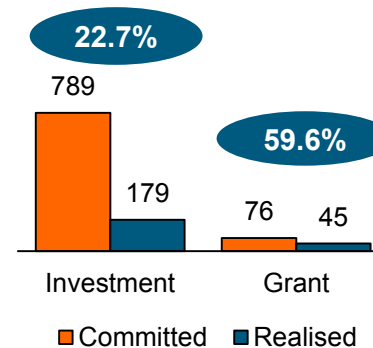
EPP 8 Project status
Commercialization



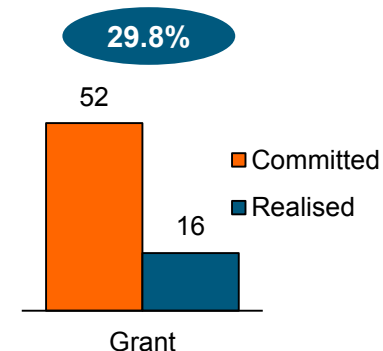
EPP 8 Project status
Clinical trials



EPP 8 Investment and Grant
Status To Date
RM (mil) - Commercialization



EPP 8 Grant Status To Date
RM (mil) - Clinical trials



Way forward

In RMKe-11, a sum of RM100mil has been allocated to large commercialisation, RM50mil to SME-scale commercialisation, and RM30mil for clinical trials

Intensive communication plan executed for EPP 6 & 8 to date

1 Newspaper articles



- The Star – 6 out of 7 articles published
- BH – 5 out of 7 articles published
- Sin Chew - 6 out of 7 articles published

2 Radio



- BFM and 98.8 FM radio ads – done
- BFM Radio interview - done

3 MPOB Website

NKEA Grants to Promote Oleoderivatives and Food & Health Products (EPP* 6 & 8)

*Entry Point Project, Palm Oil National Key Economic Area

RM280mil worth Downstream Grants available under 11th Malaysian Plan

National Transformation Programme - NKEA Palm Oil

EPP 6
 Palm oil derivatives

EPP 8
 Food & Health products
 Clinical Research

Malaysia-based

Who is Eligible

SMEs
 Sales Turnover: RM0.3m - RM500m

MNCs/ Large Companies
 Sales turnover: >RM50m

- Guidelines and forms are now available on MPOB's website

4 Others



RM280mil worth Downstream Grants available under 11th Malaysian Plan

National Transformation Programme - NKEA Palm Oil

EPP 6
 Palm oil derivatives

EPP 8
 Food & Health products
 Clinical Research

Malaysia-based

Who is Eligible

SMEs
 Sales Turnover: RM0.3m - RM500m

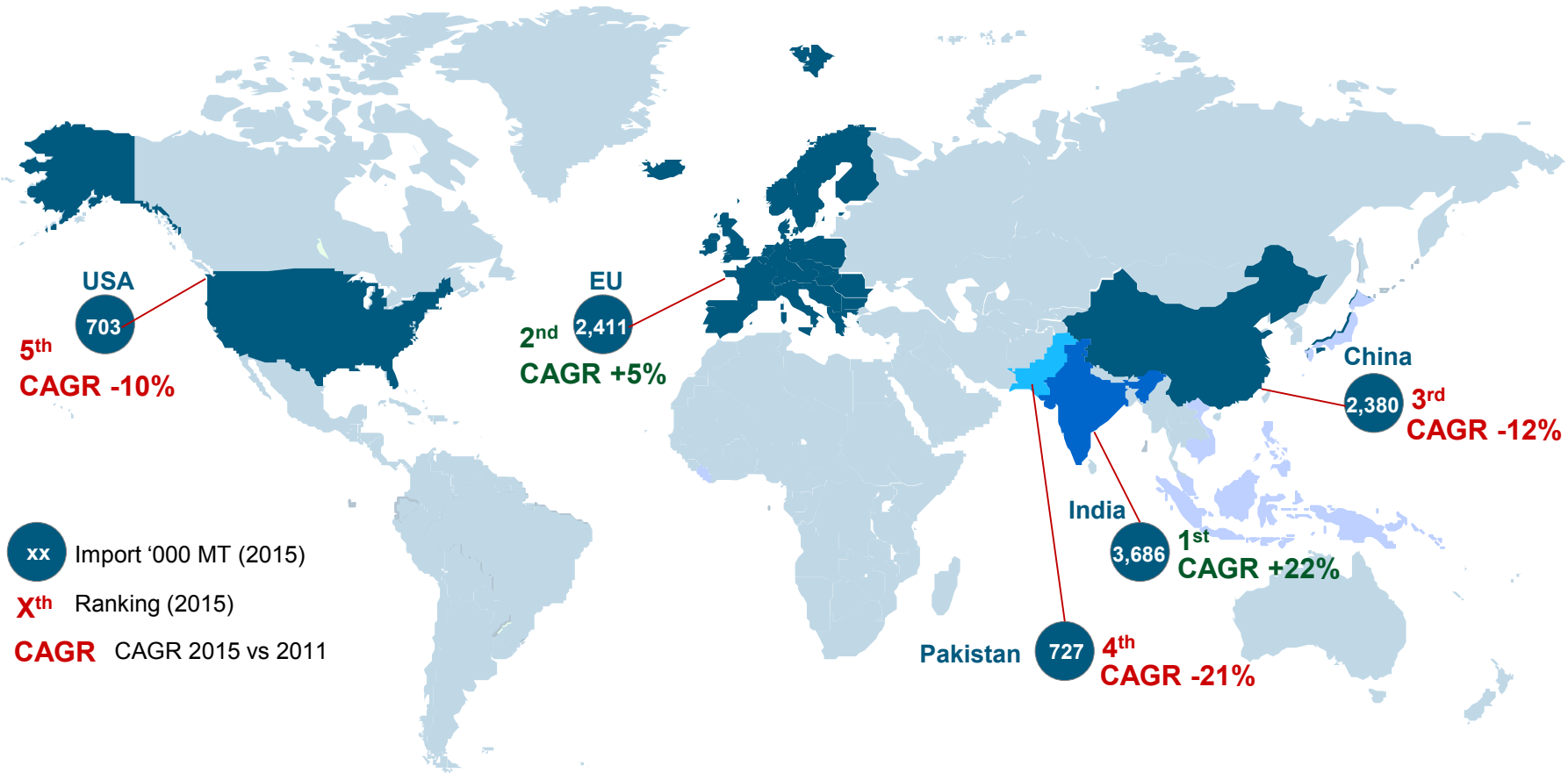
MNCs/ Large Companies
 Sales turnover: >RM50m

- Magazines
- SME Bank
- YBM's visit

Way forward – expanding markets via value chain integration

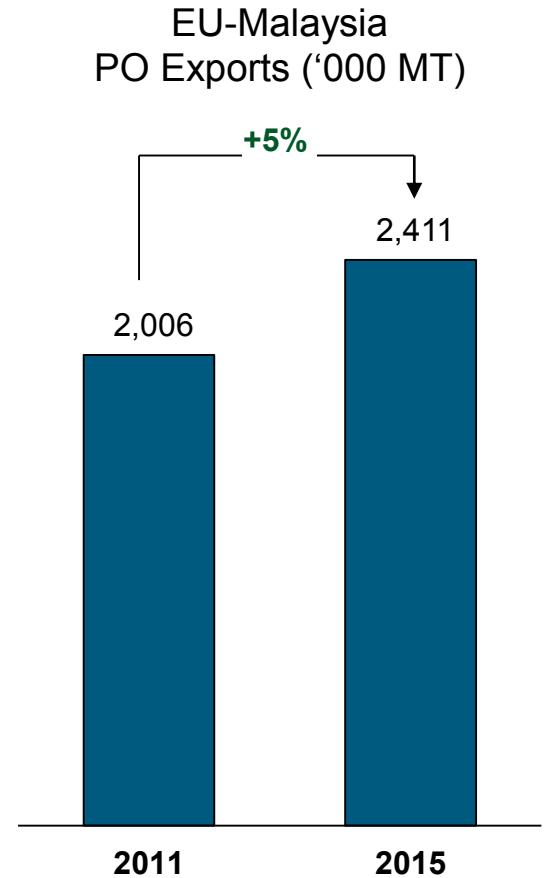
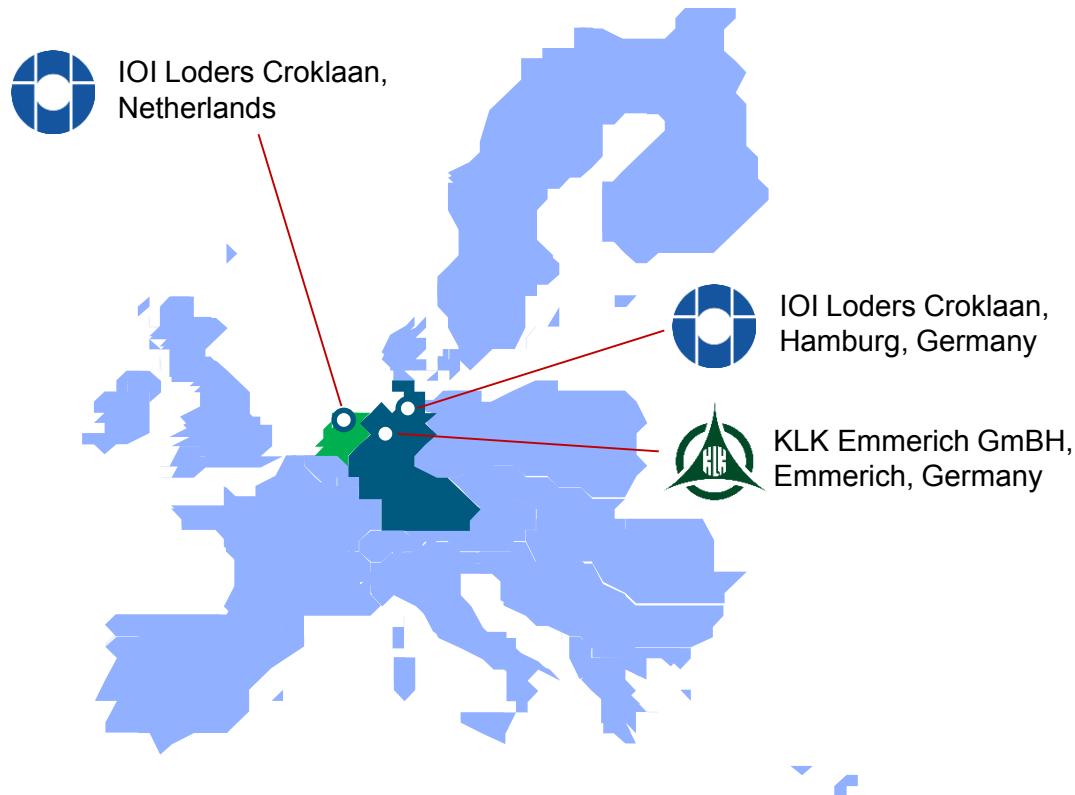
Given challenging world markets, palm oil players should consider further integration in the value chain in our export markets...

Top 5 Malaysian Palm Oil Markets



- CPO export volume fell to 17 mil MT from 18 mil MT between 2011 – 2015
- 3 out of 5 top markets in 2015 recorded negative growth in imports

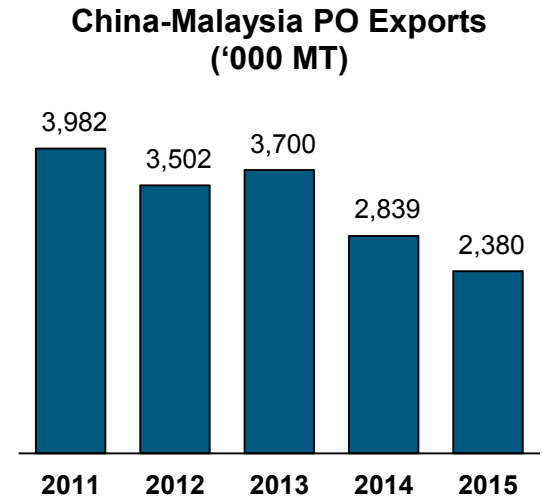
Malaysian palm oil industry is well integrated in established market such as the EU...



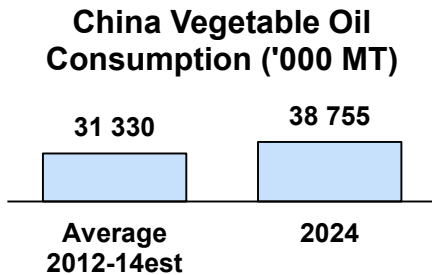
Downstream integration strategy in EU pays off as export increasing, despite competition

Similar strategy should be pursued and expanded in high growth markets...

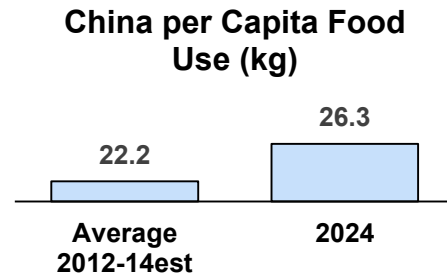
While export to China on decline...



Market potential continues to expand in future...



Growth +1.73%



Growth +1.37%

Downstream integration in China market should be further continued to arrest export decline

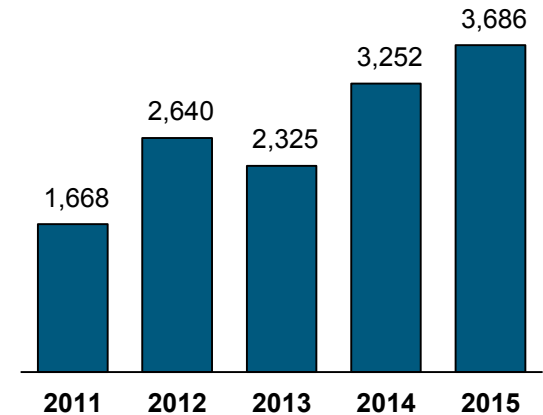
India export has recorded strong growth but there is still room for more value addition...

Tariff regime remains a challenge



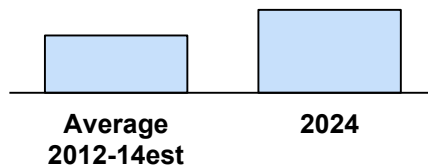
- *Tariff regime favoring lower value import*
- *PPO tariff much higher than CPO (15% vs 7.5%)*

India-Malaysia PO Exports ('000 MT)



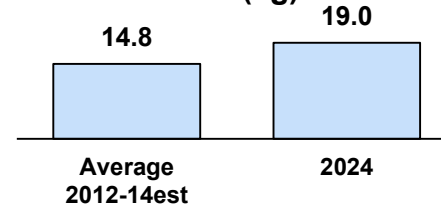
Market potential continues to expand in future...

India Vegetable Oil Consumption ('000 MT)



Growth
+1.73%

India per Capita Food Use (kg)



Growth
+1.37%

We should explore how to increase PPO export and other higher value components, on top of maintaining CPO market share

Way forward: explore new path to secure palm oil markets oversea

MBA is exploring to secure biodiesel and palm oil markets in India via MoU with APEDB



- ❑ MBA through its member companies and interested joint venture partners in India intends to invest in palm biodiesel related projects in Andhra Pradesh
- ❑ APEDB or Andhra Pradesh Economic Development Board will facilitate to provide necessary assistance for MBA member companies' entry to the market in India



Opportunity: India would require 6.75 billion liters of biodiesel by 2022 – but current installed capacity still far off from the intended target

India Seeks to Expand Biofuels Market to \$7.5 Billion by 2022

by Anindya Upadhyay, Debit Chakraborty
 JournalistDebit

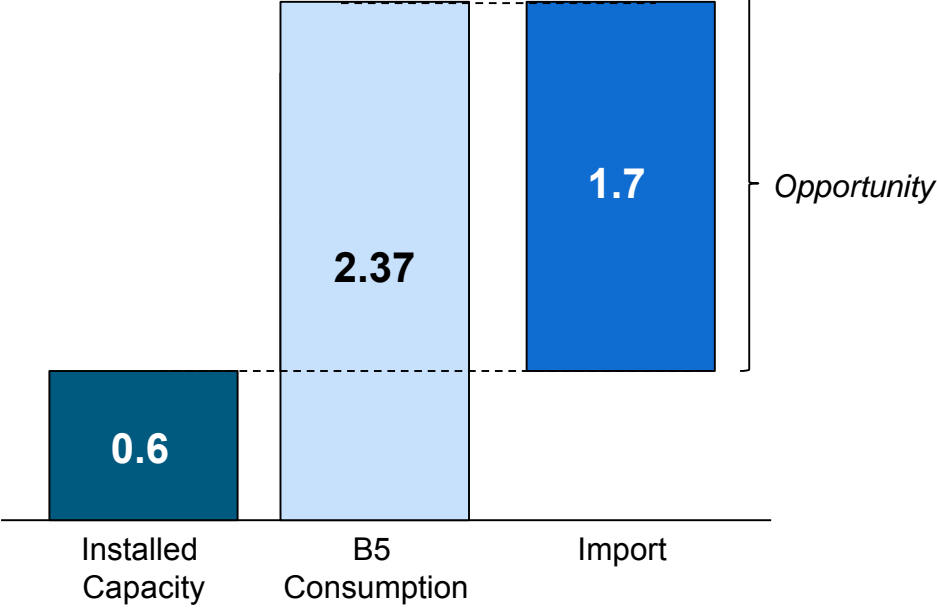
Blending five percent of biodiesel with regular diesel and 10 percent ethanol with gasoline could boost the market to 500 billion rupees (\$7.5 billion) by 2022, from about 65 billion rupees now, Oil Minister Dharmendra Pradhan said Wednesday. **India would require 6.75 billion liters of biodiesel** and 4.5 billion liters of ethanol for blending over the six years, he said.

Source:

<http://www.bloomberg.com/news/articles/2016-08-10/india-seeks-to-expand-biofuels-market-to-7-5-billion-by-2022>

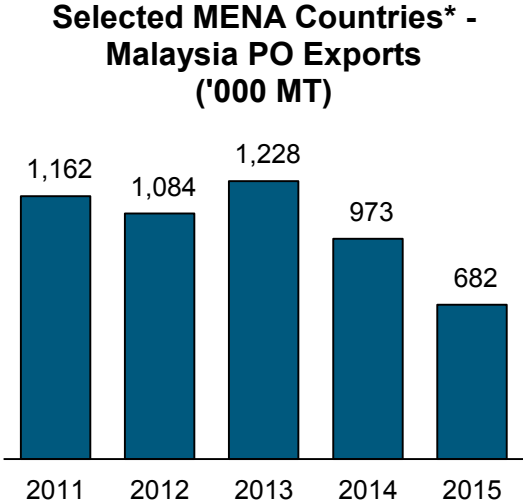
- Why does India needs to expand its biofuel market?
- a. Currently, India imports about 80 percent of its crude requirement
 - b. Aiming to reduce by 10 percentage points by 2022
 - c. State-run fuel retailers Indian Oil Corp., Bharat Petroleum Corp. and Hindustan Petroleum Corp - investing 90 billion rupees to develop infrastructure for biofuels

Hypothetical B5 Market in India (mil MT)

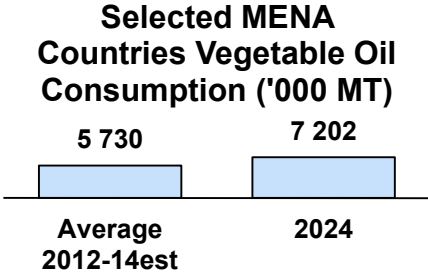


Growing market in MENA countries should not be overlooked...

Export falling in MENA countries recent years...



Market potential continues to expand in future...



Growth
1.58 -
2.58%

2015 – 2024 Forecast	Per Capita Food Use (kg)	Growth (%)
NORTH AFRICA	22.2	0.67
Iran	24.0	1.82
Saudi Arabia	18.4	0.18

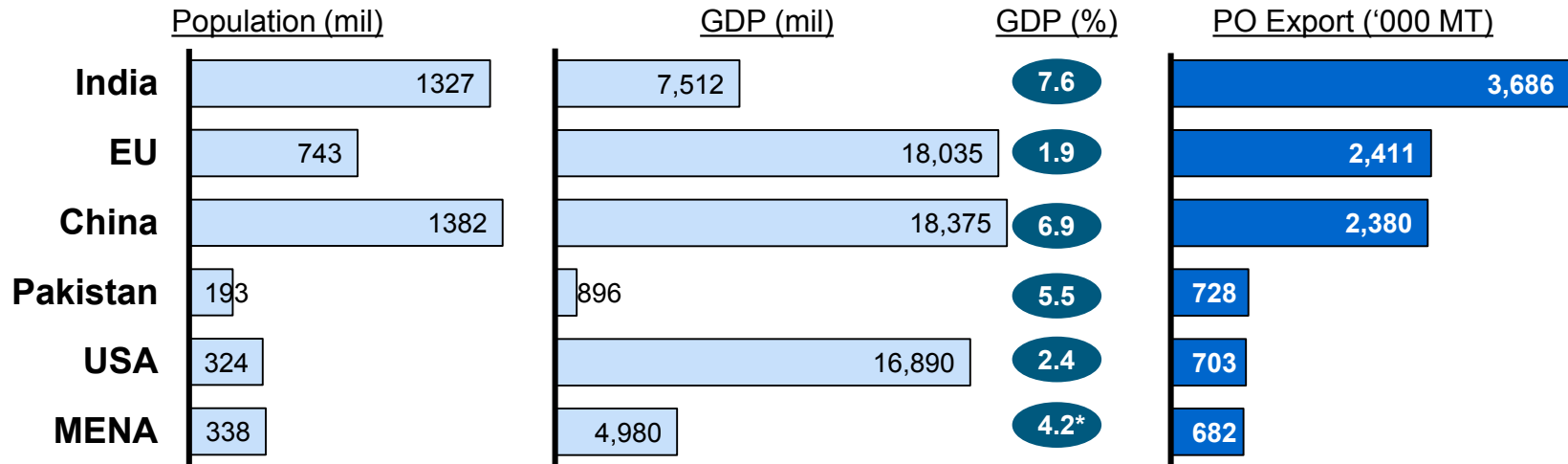
Investment opportunities in stable area such as Gulf countries can be explored

Source: MPOB, OECD-FAO Agricultural Outlook 2015

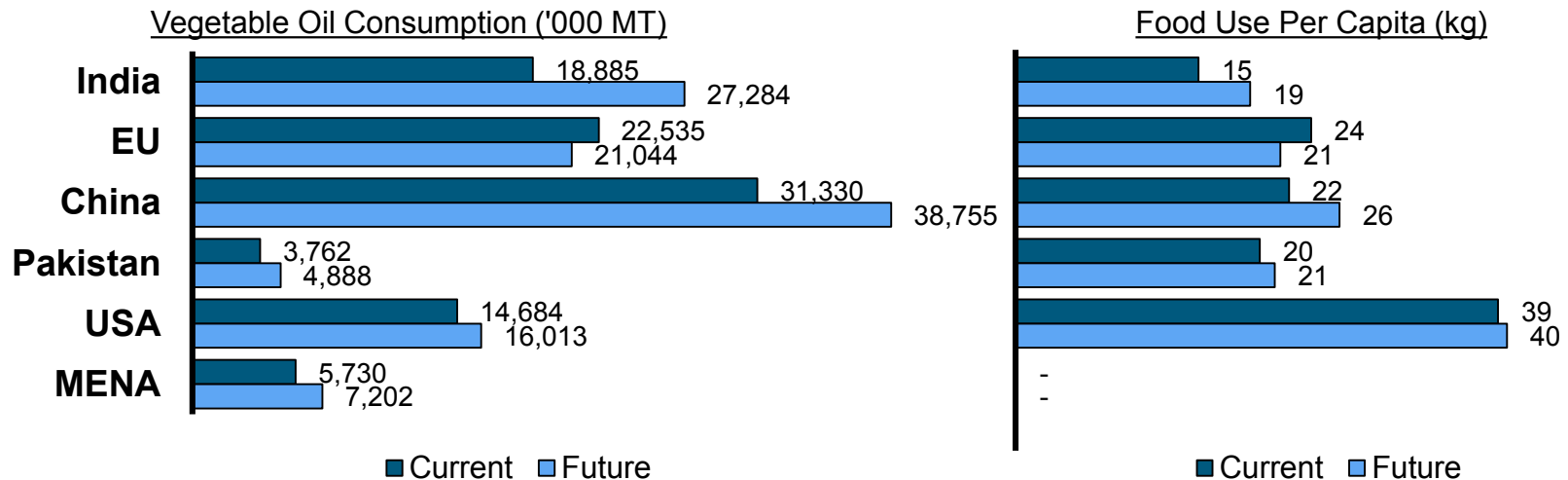
*Selected MENA Countries: Iran, Saudi Arabia, Egypt, Algeria, Morocco, Tunisia, Sudan, and Libya

Summary – Key Markets

Current Prospect



Future Prospect





**ECONOMIC
TRANSFORMATION
PROGRAMME**

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