



SAMALAJU, SARAWAK, MALAYSIA

# D8 DAP PLANT



# INTRODUCTION



## NAFAS IN MALAYSIAN FERTILIZER INDUSTRY



- The reputable major suppliers of fertilizer to the Malaysia.
- The fertilizers that supplied by NAFAS, mainly straight and compound fertilizers to the farmers of paddy cultivation areas.
- Fulfil Malaysian government aspirations on the National Food Security Policy
- Fertilizers are imported, manufactured, transported and distributed through the widely scattered organized branches of state and area farmers organization (PPN and PPK)
- Deliver 450,000MT annually through distribution networks located in every 14 states and 276 districts in Peninsular and East Malaysia.



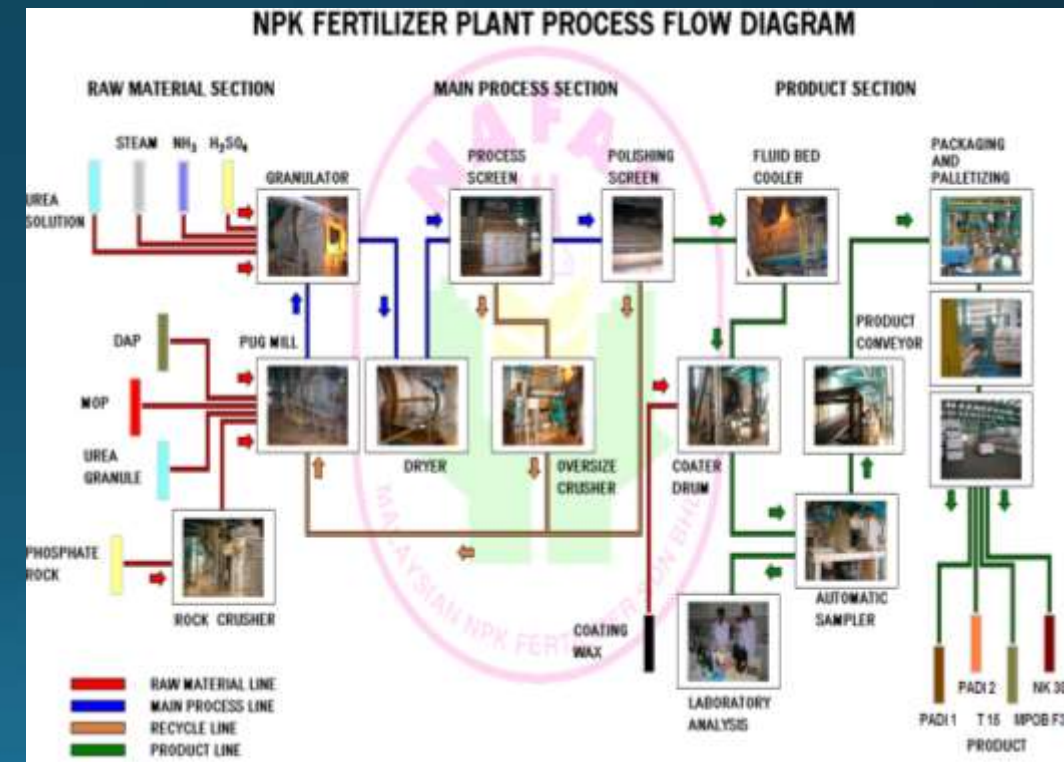


# BACKGROUND



## NAFAS GROUP BUSINESSES

- 827,000 farmers registered under the shelter of NAFAS throughout Malaysia.
- 10 subsidiary companies that manoeuvre NAFAS commercial businesses in agriculture, for the Malaysian Government, MOA.
- Malaysian NPK Fertilizers Sdn. Bhd. (MNFSB), an NPK compound plant under the collaboration with Malaysian Petroleum Nasional (PETRONAS) is one of the subsidiaries functioned as the manufacturer for ordinary and premium NPK compound fertilizers
- Located at Gurun, Kedah, produced the capacity approximately 250,000 metric tones (MT) annually.







# BACKGROUND



- Experience and skilful manpower, both technically and economically,
- NAFAS is certainly capable to manage and govern this new D8 project





## D8 DAP PLANT PROPOSAL AND APPROVAL BY MALAYSIAN MINISTER OF MOA



- The proposal presented by Malaysia during the 3<sup>rd</sup> Ad Hoc Meeting To Consider The Formation Of D-8 Fertilizer Association (D-8 FA), 9<sup>th</sup> October 2014, Kuala Lumpur, Malaysia.
- Full report and a resolution on the essence of the meeting has been submitted to the Malaysian MOA.
- Under the resolution dated 06 November 2014 (Our Ref: NBKSB/D2-6(14).14), The Minister of Malaysian Minister of MOA has in principle, approved the construction of the D8 DAP Plant proposal project under the collaboration of D8FA to be proceeded ahead.

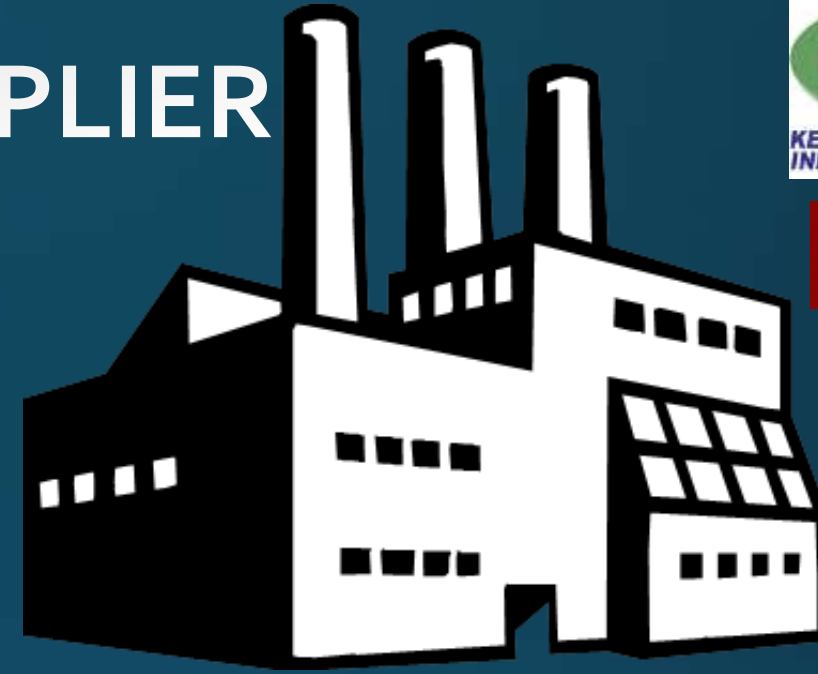




# THE SUPPLIER



- Integrated Phosphate Complex plant with an annual production capacity of some 500,000 MT of halal phosphate for food and animal feed grade.
- The supplier's plant will be the first Integrated Phosphate Complex in Southeast Asia (SEA).
- Worth RM 1.04 billion (USD 330mil) investment on 142 ha land size in Sarawak, Malaysia.



## Raw Materials supply direct from Phosphate Integrated Complex

- USD 330.0 Millions
- 500,000MT Food & Feed Grade Phosphate
- 900,000MT Coke for Ammonia





# THE D8 DAP PLANT



- NAFAS has established a reputable business relationship with this supplier.
- Joint venture import Sulphuric Acid in Peninsular Malaysia.
- The supplier concentrate on the production 500,000MT of phosphate for food and animal feed.
- NAFAS under its collaboration with D8 Fertilizer Association (D8FA), focus on the production of 250,000MT DAP and certain tonnage of NPK compound.

## D8 DAP Plant

- USD 78.0 Millions
- 200,000MT DAP
- 50,000MT NPK



# THE STRATEGIC ALLIANCE



- Other than Phosphoric Acid, the source of Ammonia will be supplied by the supplier through the coal by-product of processed 900,000 MT of coke.
- It has been discussed and negotiated that in order to produce 250,000 MT of DAP, source of raw materials for Phosphoric Acid is 116,250 MT and Ammonia is 69,687 MT.
- The supplier is capable of producing it as by-product for NAFAS proposed D8 DAP plant.

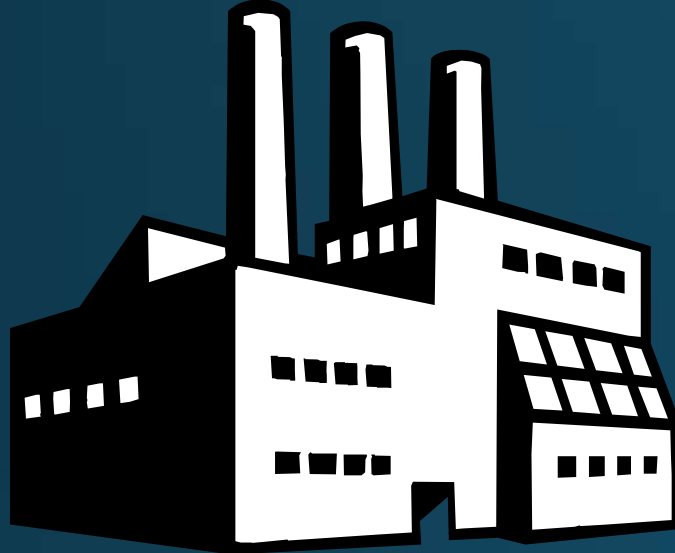


Phosphoric Acid	Technical Grade MKP	Technical Grade MAP/DAP	DiaCalcium Phosphate DCP/MDCP
 CPO Refining	 Liquid Fertiliser	 Liquid Fertiliser	 Fire proof Door
 Sugar Refining	 Soluble Compound Fertiliser	 Fire Extinguisher Dry Powder	 Toothpaste Manufacturing
 Detergent/ Soap Mfg	 Cleaning Agent For LCD, Wafer & Semi Con	 Metaphosphate For Food & Medical Industries	 Feedmill
 Food & Beverage	 Metal Polish, Rust Removal, Zinc Plating Industries	 Welding Rods Manufacturing	 Commercial Chicken & Aquatic Farming
 Latex Gloves Manufacturing			





# THE STRATEGIC ALLIANCE



## Raw Materials supply direct from Phosphate Integrated Complex

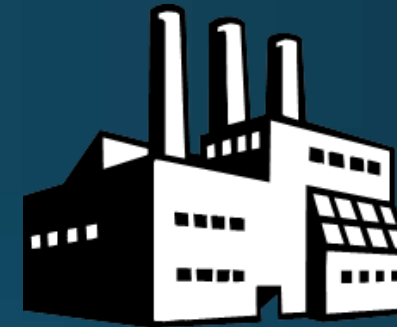
- USD 330.0 Millions
- 500,000MT Food & Feed Grade Phosphate
- 900,000MT Coke for Ammonia

- Imported
1. Muriate of Potash,  $K_2O$
  2. Kieserite,  $MgO$

From MPAS

1. Phosphoric Acid,  $P_2O_5$
2. Ammonia,  $NH_3$

Solid Granulation Process and Pipe Reactor (PR)



## D8 DAP Plant

- USD 78.0 Millions
- 200,000MT DAP
- 50,000MT NPK



# ESTIMATED BREAKDOWN OF FORMULATION



Formulation	Volume, MT
DAP 18 : 46	200,000
P1 (17.5 : 15.5 : 10)	27,000
P3 (17 : 3 : 25 : 2 MgO)	16,000
Others	7,000
Total Production (MT) per annum	250,000



# ESTIMATED CONSUMPTION



- 30,000MT DAP will be supplied to NAFAS plant, MNFSB
- 15,000MT DAP will be supplied for the consumption of Malaysian local market.
- 27,000MT P<sub>1</sub> & 16,000MT P<sub>3</sub>, total 43,000MT for NAFAS distribution to the farmers in East Malaysia (Sabah & Sarawak).
- Therefore, out of 250,000MT total production, 73,000MT will be uplifted by NAFAS, 15,000MT for Malaysian local market.
- Balance of 162,000MT is mainly for export to D8 countries and SEA region.







# ESTIMATED COST OF INVESTMENT



Project Cost	Cost, RM, (at forex rate, USD1 = RM3.1515)
Licence Fee	3,520,000
Project Management Consultant	3,670,000
Interest During Construction	11,611,000
Land and Site Preparation	18,424,000
DFS, BEDP, EIA	3,369,000
EPCC	205,143,000
Total Cost, RM (USD)	RM 245,736,000 (USD78,000,000)



# PROPOSED SHAREHOLDERS



D-8 Countries Shareholder	Distribution of Share (%)
1. Malaysia	51 % (USD39,780,000)  49 % (USD38,220,000) [Inclusive Sarawak State Government]
2. Bangladesh	
3. Egypt	
4. Indonesia	
5. Iran	
6. Nigeria	
7. Pakistan	
8. Turkey	
Total Estimated Investment USD78,000,000	



# PROPOSED DIRECTORSHIP



D8 Countries Shareholder	No. of Director
1. Malaysia	3
2. Bangladesh	1
3. Egypt	1
4. Indonesia	1
5. Iran	1
6. Nigeria	1
7. Pakistan	1
8. Turkey	1
Total of Directors	10





# THE LOCATION



- Strategic location 2 km away from port
- Fertilizers will be transported by conveyor belt to the port
- Source of raw materials; phosphoric acid and ammonia direct from the neighbouring integrated phosphate complex
- FOB basis; with no import and no additional vessel and operational charges, neither CFR nor CPT,
- The economical energy power supplies from 2,400 megawatts (MW) bakun hydroelectric dam,
- The economical land price for multiple industrial purposes,
- The extensive deep draught port facilities that can handle dry bulk, liquids and general cargo,
- Complete infrastructure comprising roads, water, emergency, health, education services, telecommunications, fire, police and residential, together with the wastewater substructure
- And the moderate size plant design at reasonably investment cost, are indeed probably the best offer that the D8 member countries should not declined.



# STRATEGIC EXPORT LOCATION



Access for export to Southeast Asia (SEA),  
Asia Pacific and South Asia;

- i. Thailand
- ii. Cambodia
- iii. Vietnam
- iv. Myanmar
- v. Indonesia
- vi. Filipina
- vii. South Korea
- viii. Japan
- ix. China
- x. India
- xi. Pakistan and
- xii. Bangladesh,



# PROJECT COST OF INVESTMENT



PROJECT ACTIVITY	COST, USD
DFS, BEDP AND EIA	3 369 000
PMC	3 367 000
LAND AND SITE PREPARATION	18 424 000
LICENSE FI	3 520 000
EPCC	205 143 000
INTEREST DURING CONSTRUCTION	11 611 000
TOTAL	78 000 000





# PROJECT INTERNAL RATE OF RETURN (IRR)



Capital  
Structure

Equity : Loan  
= 30% : 70%

Payback

5 Years

Project  
Cost

RM 78  
Million

IRR

11.50%



# PROJECT INTERNAL RATE OF RETURN (IRR)



Capital  
Structure

Equity : Loan  
= 50% : 50%

Payback

5 Years

Project  
Cost

USD 78  
Million

IRR

7.26%



# PROJECT EXECUTION

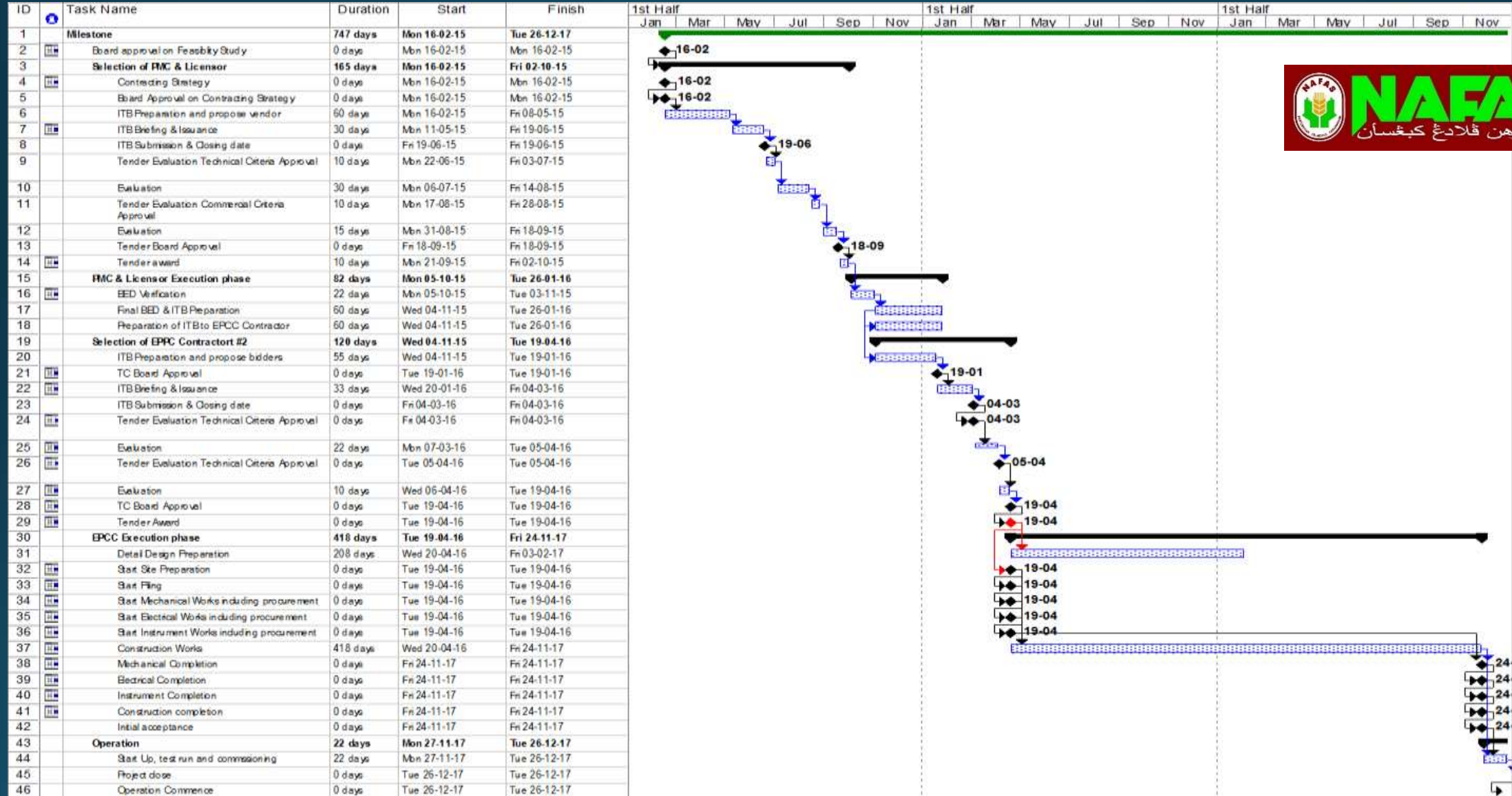


PROJECT STAGES
SHAREHOLDERS APPROVAL
PMC SELECTION
PROJECT PROPOSAL
PROJECT PROPOSAL EVALUATION
SELECTION OF EPC CONTRACTOR
PROJECT FUNDING
CONSTRUCTION AND COMMISIONNING
PROJECT COMPLETION





# PROJECT EXECUTION





# CONCLUSION



- The moderate size plant design at reasonably investment cost, are indeed probably the best offer that the D8 member countries should not declined.
- The D8 DAP Plant must be considered as an opportunity for the joint venture among D8 member countries to be materialized.
- The D8 DAP Plant project under the collaboration of D8 member countries should be materialized being the first project under D8 working group of fertilizer and D8FA.



## CONCLUSION



- Malaysia believe the proposal on the D8 DAP Plant will be the first interpretation to the initiative on the D8 intention to develop joint investment programs in the field of fertilizer by encouraging and supporting investors from private sector.
- This proposal also parallel to Malaysia intention earlier in Abuja, Nigeria on the significance on locating the D8FA headquarters in Kuala Lumpur.