

MRC

Fund for Automation & Green Technology

Industry Interactive Session 2021



Presentation by

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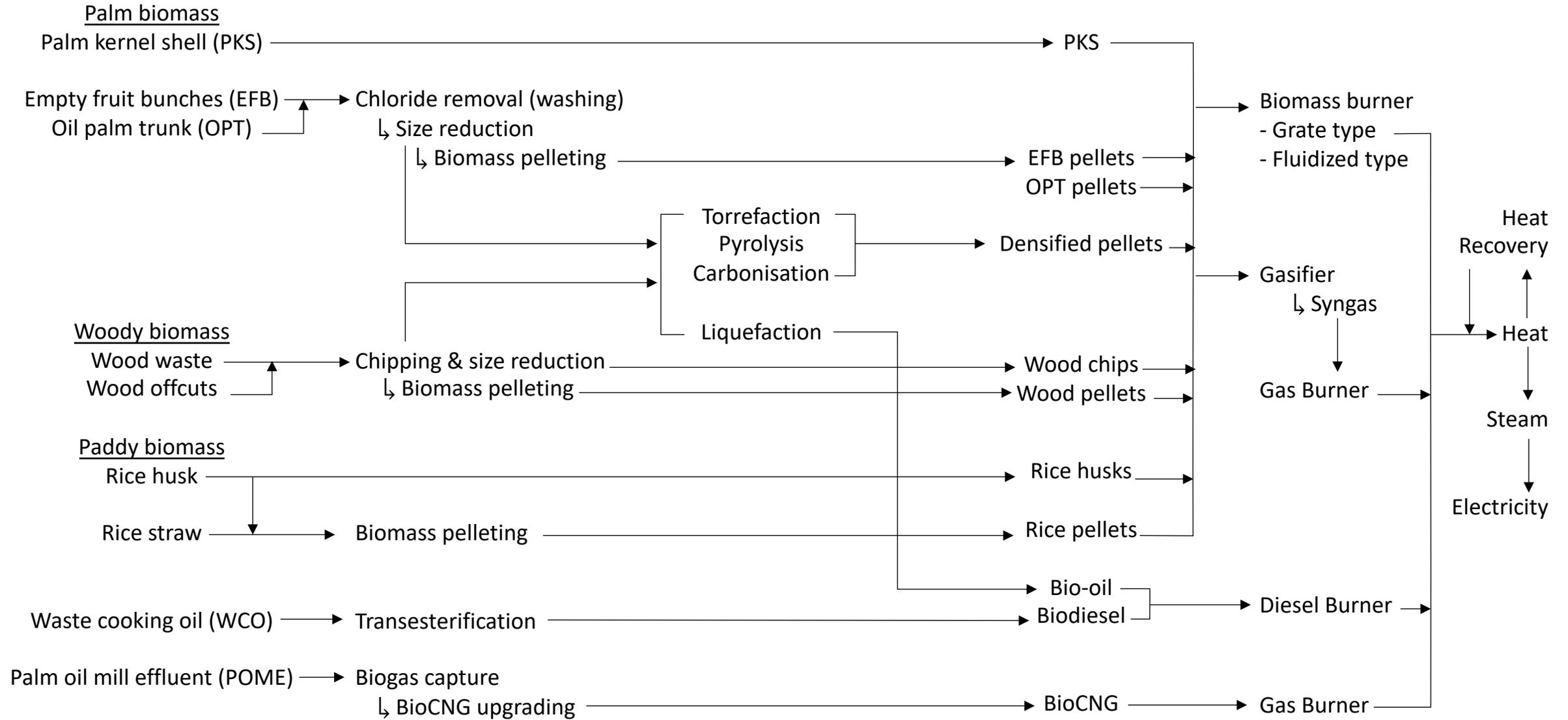
Revisiting the Prospect of Biomass as Sustainable Energy Source in Malaysia

PRESENTATION CONTENT

- The New Normal
- Sources of Biomass
- Type of Biomass Fuels
- Combustion Technologies
- Key Concerns for Attention

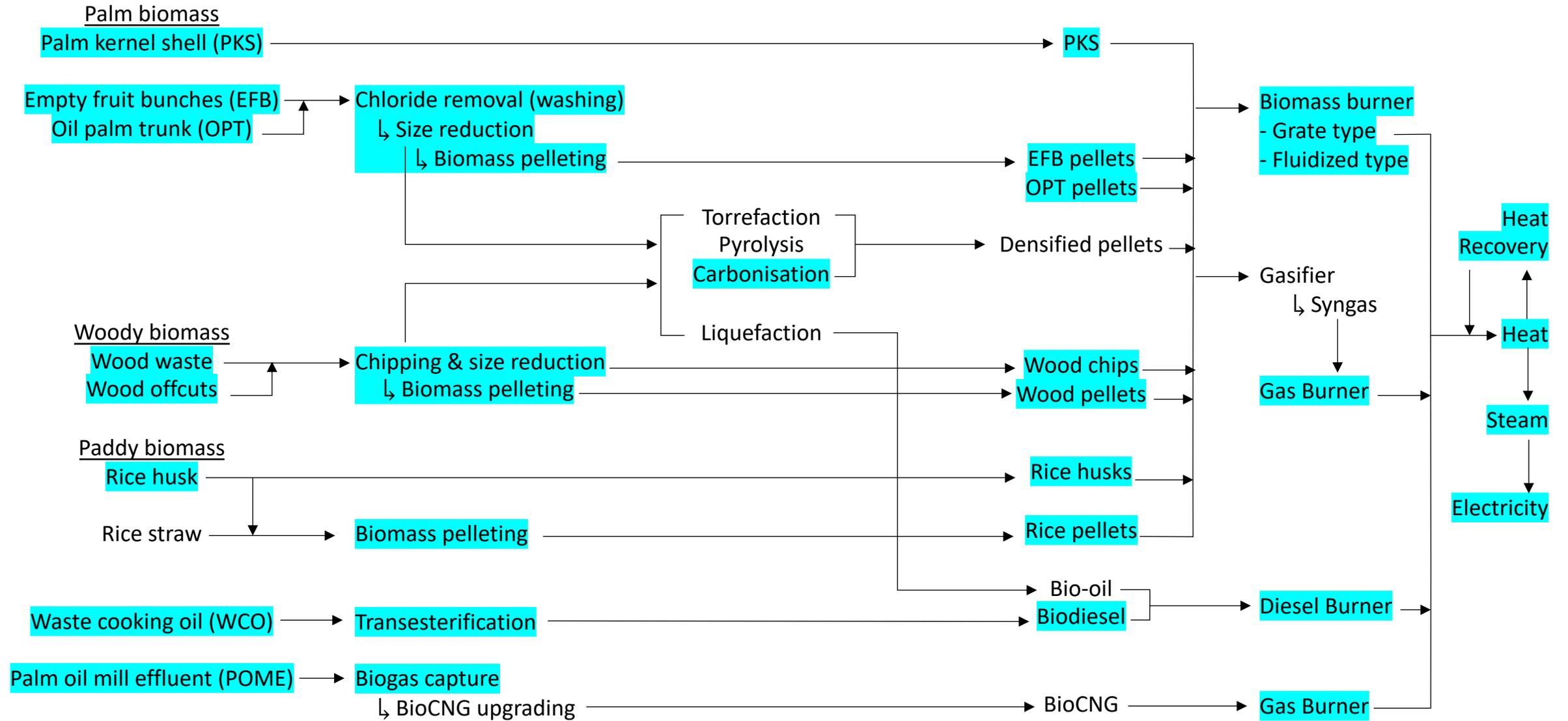


*Technology readiness (in Malaysia) Commercial Pilot R&D



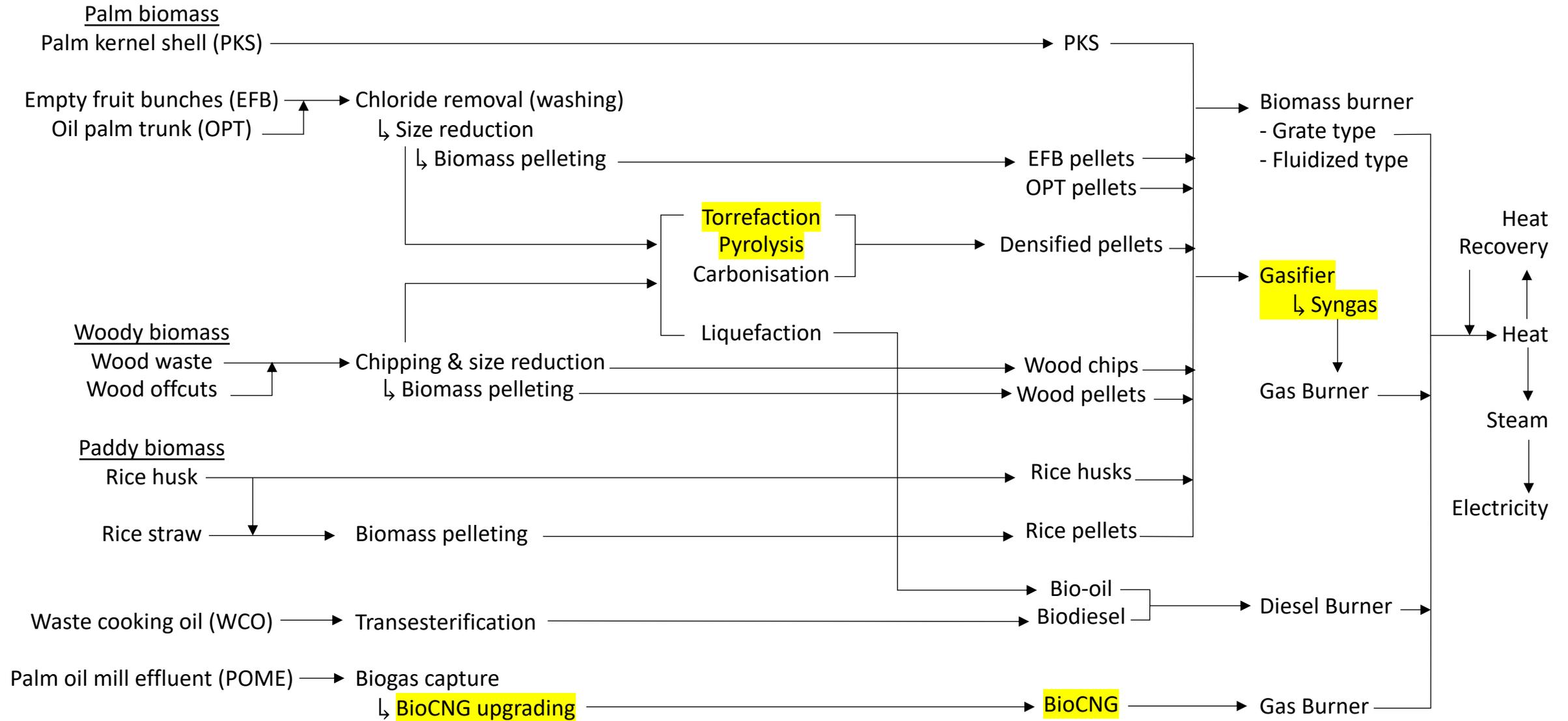


*Technology readiness (in Malaysia) **Commercial** Pilot R&D



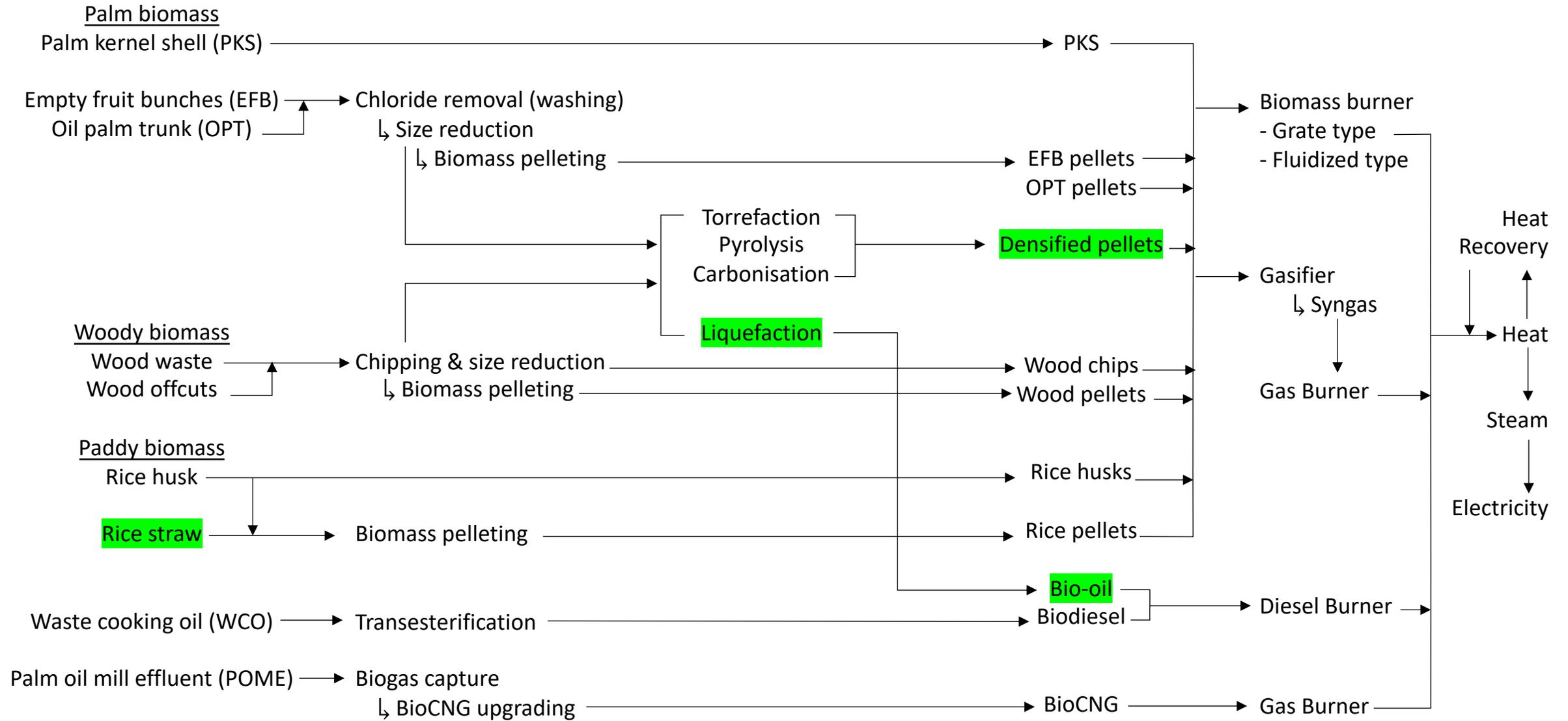


*Technology readiness (in Malaysia) Commercial **Pilot** R&D



Sources of Biomass	Biofuel Conversion Technologies	Types of Biofuel	Combustion Technologies
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*Technology readiness (in Malaysia) Commercial Pilot **R&D**



THE NEW NORMAL

- Post-COVID Recovery
- Sustainability Agenda
- Carbon Tax
- 'Green' Barriers
- Sustainable Funding

12MP: Malaysia committed to becoming carbon-neutral nation by 2050, says PM

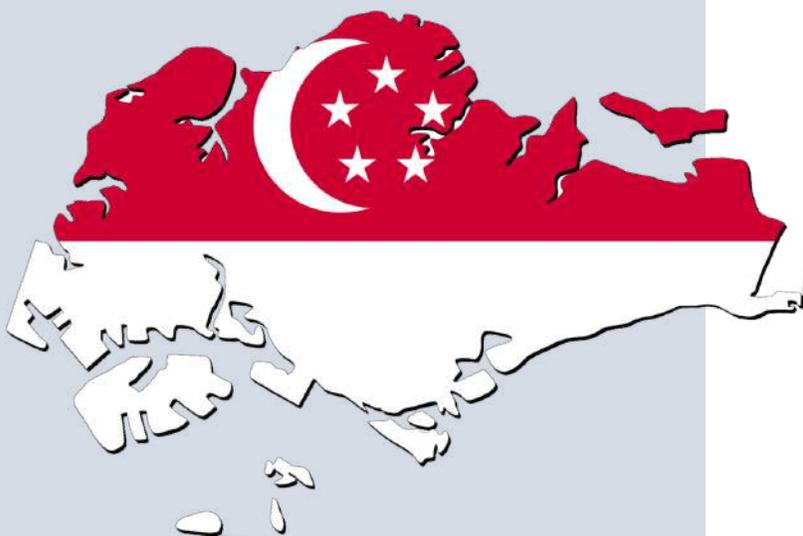
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*'Economic instruments such as carbon pricing and **carbon tax** will be introduced as Malaysia remains committed to its target of becoming a carbon-neutral nation by 2050'*

MALAYSIA'S 2015 PLEDGE

*Cut emissions intensity of GDP by 45%
by 2030 against 2005 baseline*



SINGAPORE CARBON PRICING ACT

- Singapore is the first country in the Southeast Asian region to implement carbon tax in 2019
- For the period of 2019-2023, the carbon tax is set at a rate of SGD5 per tCO₂e
- Any industrial facility that emits direct GHG >2,000 tCO₂e annually shall register as a reportable facility and submit an Emissions Report annually
- Any industrial facility that emits direct GHG emissions > 25,000 tCO₂e annually will be required to be registered as a taxable facility and to submit a Monitoring Plan and an Emissions Report annually
- For example, a facility emitting 25,000 tCO₂e annually will need to pay carbon tax of SGD125,000 or RM375,000 every year. There are also other expenses such as engaging consultant to undertake annual GHG assessment & reporting

EU's carbon border tax will affect Malaysian exporters

PETALING JAYA: The European Union's Carbon Border Adjustment Mechanism (CBAM), which the EU proposes to implement by the end of 2025, is expected to affect Malaysia even though it is confined to its member countries, due to its link to the global supply chain as Europe is Malaysia's fifth largest trading partner, accounting for 7.4% of its total trade.

The CBAM seeks to equalise the price of carbon between local products and imports and is aimed at addressing carbon leakage in which companies shift production or switch the source of goods from places with strict emissions regulation to less regulated markets and countries.





CIMB Group Holdings Bhd announced at its Sustainability Investor Day that the Group has committed to a series of strengthened sustainability commitments, including mobilising ***RM30 billion towards sustainable finance*** as part of its continued ambition to be an ASEAN sustainability leader by 2024. Guided by its Green, Social, Sustainable Impact Products and Services ("GSSIPS") framework, this higher sustainability finance target includes wholesale and commercial financing, bonds and intermediation, wealth products, and products that enable financial inclusion such as affordable home financing and other products catered to the B40 group.

ESG Investing: The remarkable rise of sustainable investments | The Edge Markets

Sustainable investing started 15 years ago as means of mitigating risk. However, it really took off about a decade ago, partly driven by the calamity that was the 2008 global financial crisis.

Improved disclosure requirements on environmental, social and governance (ESG) risks were seen as integral to improving transparency and rebuilding the banking and financial systems. Today, this has become one of the hottest topics in the global asset management industry.

Sustainable investing is considered an umbrella term for investments that seek both adequate financial returns as well as a long-term positive impact on the community and environment.



SOURCES OF BIOMASS

- Palm-Based Biomass
- Paddy-Based Biomass
- Wood-based Biomass
- Agricultural Waste
- City Landscape Waste

OIL PALM TREE BIOMASS



PADDY BIOMASS

Rice Husk Pellets



Rice Husk



Rice Straw Pellets



Rice Straw

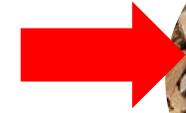
WOOD BIOMASS



Wood Timber



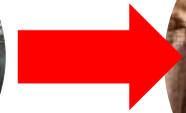
Wood Offcuts



Wood Chips



Sawdust



Wood Pellets

AGRICULTURAL WASTE

Kenaf Waste



LANDSCAPING WASTE

Local City & Town Councils



FURNITURE INDUSTRY WASTE



**BE AWARE OF MANY
CHEMICALS IN THE
WOOD MATERIALS!!!**

WASTE COOKING OIL BIODIESEL



TYPES OF BIOMASS FUELS

- Raw Solid Biomass Fuels
- Processed Solid Biomass Fuels
- Liquid Biomass Fuels
- Gas Biomass Fuels

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Compressed Pellets



Densified Pellets

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Biodiesel

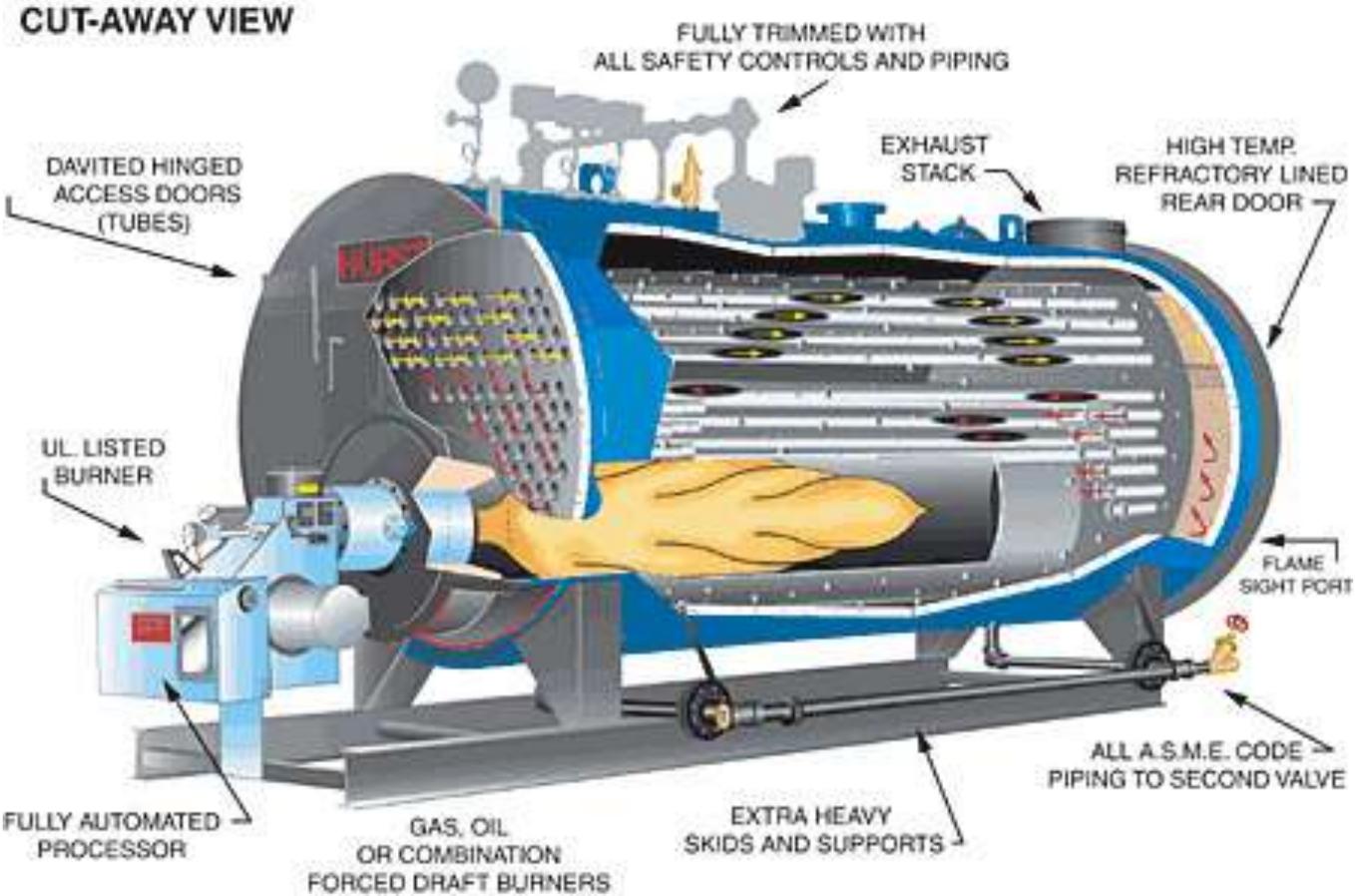


BioCNG

COMBUSTION TECHNOLOGIES

- Liquid Fuel & Gas Boiler
- Solid Fuel Boiler

LIQUID & GAS FUEL BOILER

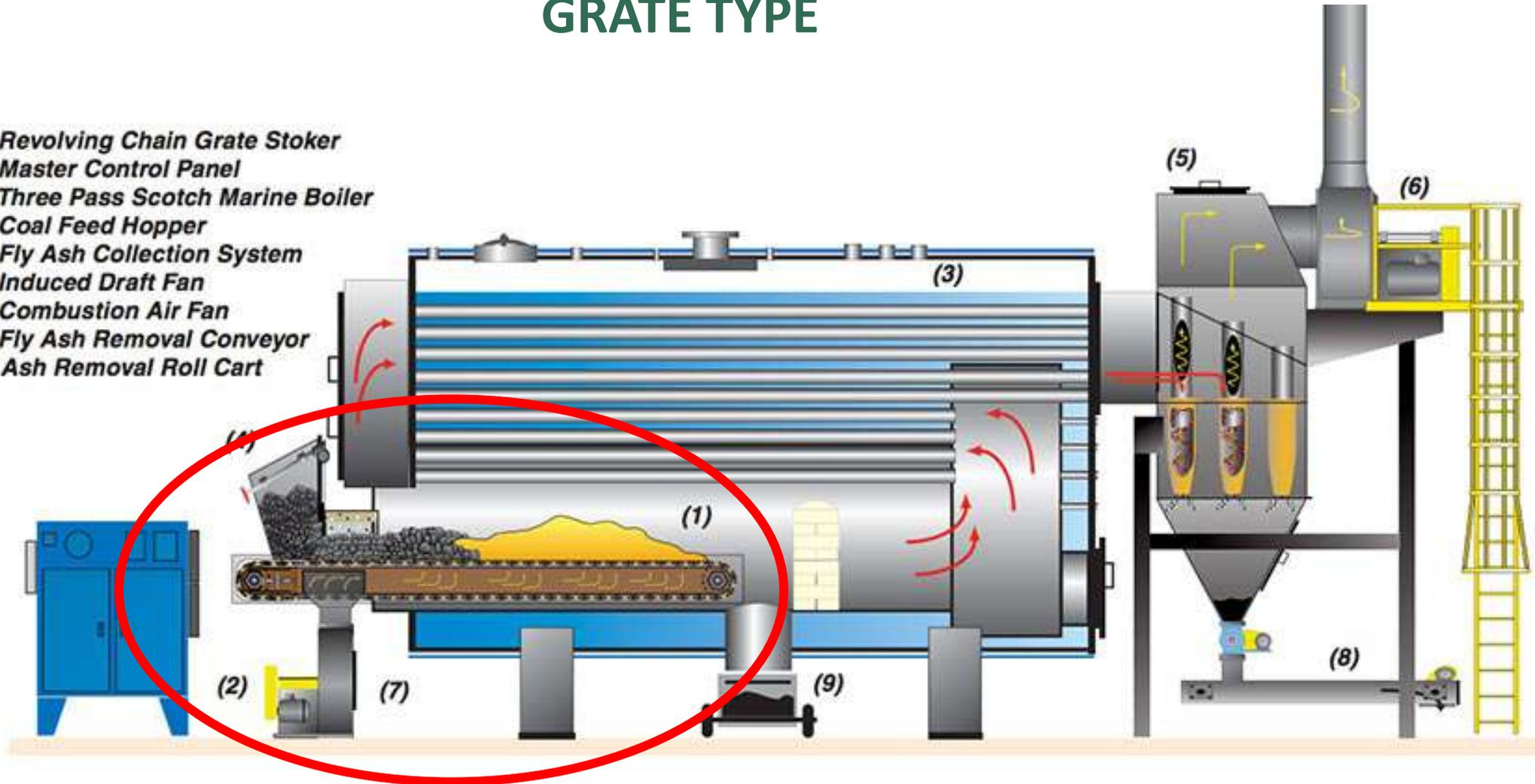


Liquid Fuel
(Diesel, Biodiesel) 

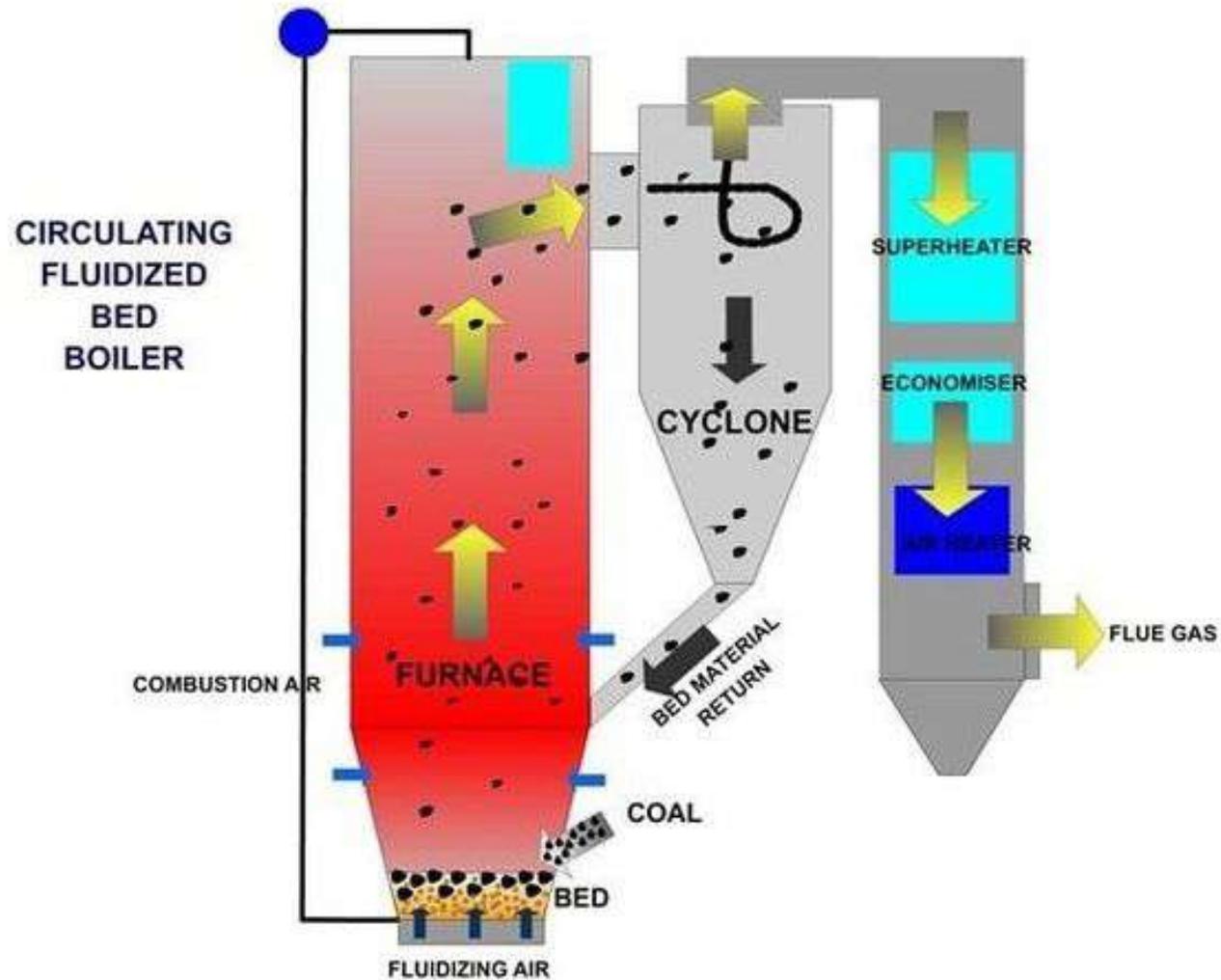
Gas Fuel
(LNG, BioCNG) 

SOLID FUEL BOILER GRATE TYPE

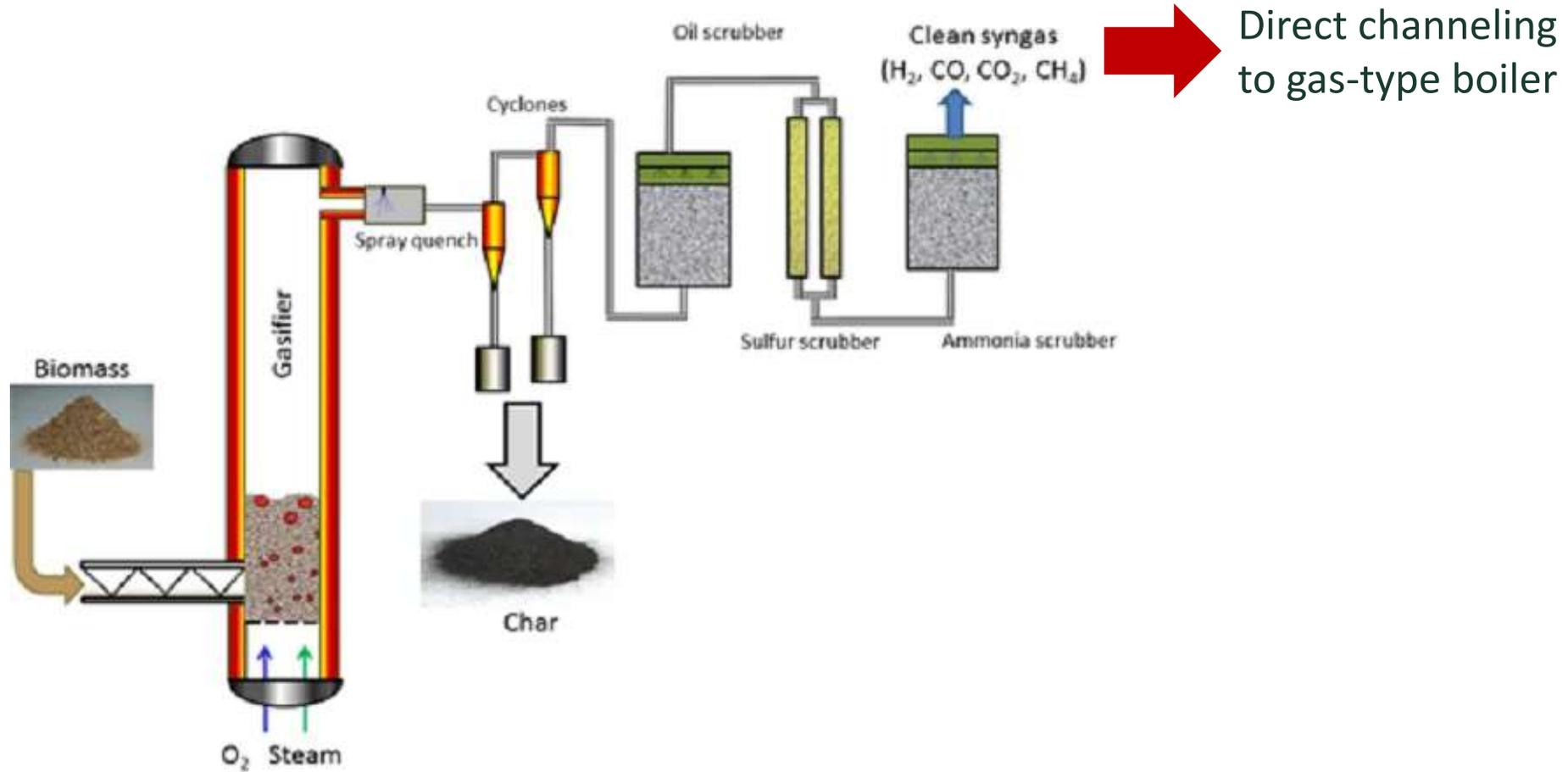
- (1) *Revolving Chain Grate Stoker*
- (2) *Master Control Panel*
- (3) *Three Pass Scotch Marine Boiler*
- (4) *Coal Feed Hopper*
- (5) *Fly Ash Collection System*
- (6) *Induced Draft Fan*
- (7) *Combustion Air Fan*
- (8) *Fly Ash Removal Conveyor*
- (9) *Ash Removal Roll Cart*



SOLID FUEL BOILER FLUIDIZED BED TYPE



SOLID FUEL BOILER GASIFIER TYPE



KEY CONCERNS FOR ATTENTION

- Factors on biofuel supply & pricing
- Multi-fuel capability
- Local authority approval
- Air pollution regulations by DOE
- Biomass storage fire safety
- Sustainable certification for biofuel

KEY WISH

Malaysian rubber industry can grow its '***soft competitive factors***' to become more resilient in the face of more challenging market environment & demand.

'Soft competitive factors' include leadership in R&D, human skills, innovation and most importantly ESG sustainability of the industry

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THANK YOU!