

# Let's REGENERATE

Investor Forum 2023

VISION I STRATEGY I CAPITAL ALLOCATION OF BANGCHAK GROUP

**Bangchak Corporation Plc** 

December 12, 2023



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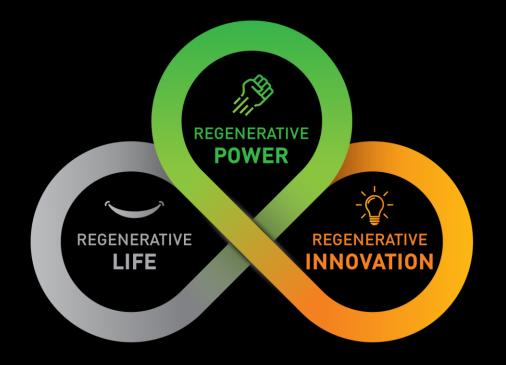
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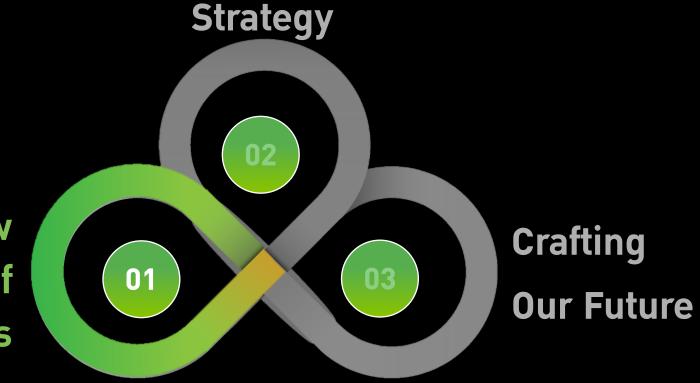
# GREENOVATE REGENERATE สมดุลธรรมชาติ สรรค์พลัมไม่สิ้นสุด



# Agenda



# **Bangchak Group**



Industry Overview
& Future Directions of Regenerative Fuels

# **Energy Consumption**



World Primary Energy
Consumption per day

Exajoules (10<sup>18</sup>)
EJ
(632 EJ per Year)

~350,000 Rounds

or  $\sim 37,000$  Rounds



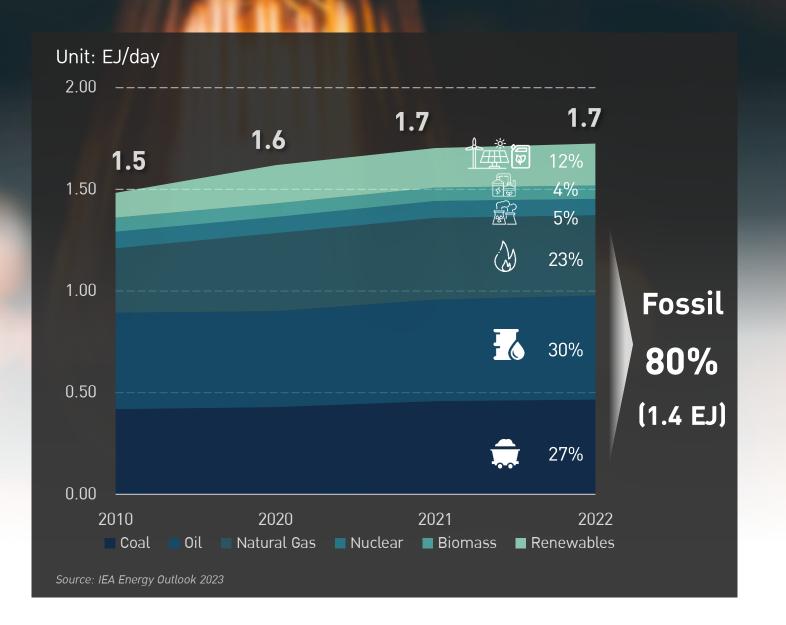


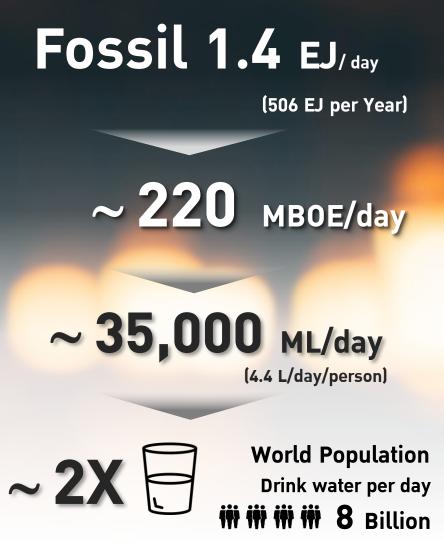
of Airbus A320 travels around the earth

from Earth to the Moon

# World's Energy Consumption



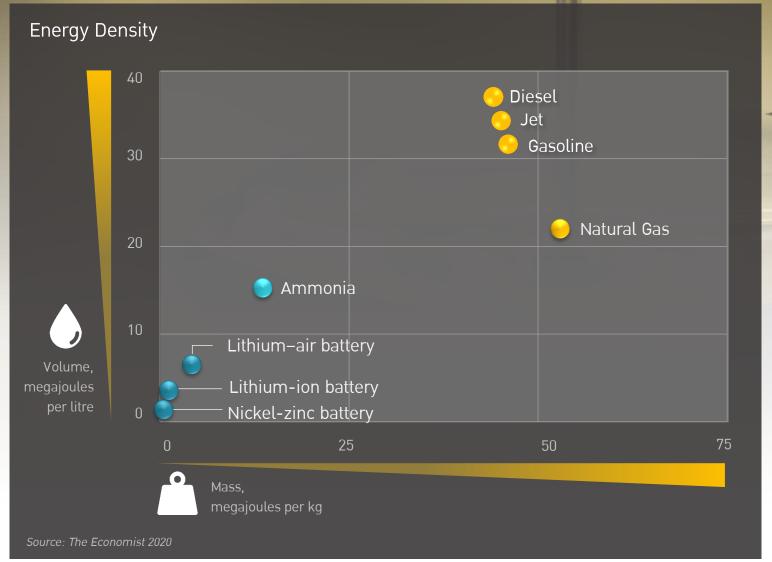




Note: 2 litres per person per day

# Liquid Fuels - High Energy Density and Mobility







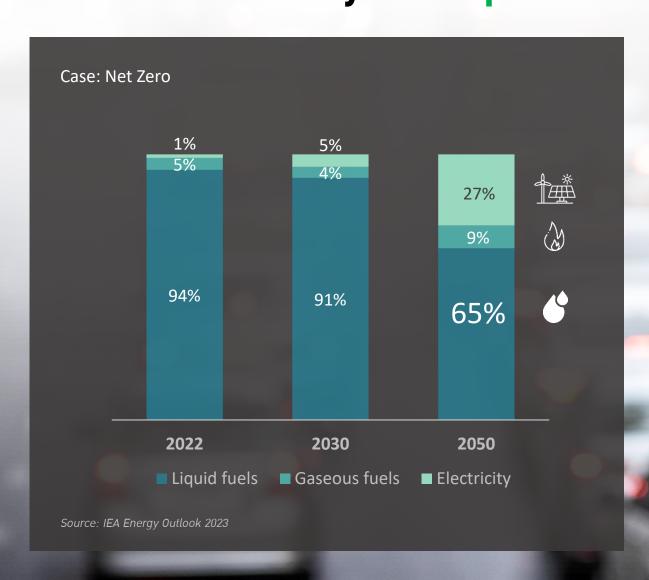
Energy Efficiency >20X

Note: Battery 454 kg, 595 km
Battery tesla model Y 771kg, 532 km

to Battery

# Energy Consumption in the Transportation Sector Dangchak **Continues to Rely on Liquid Fuels**



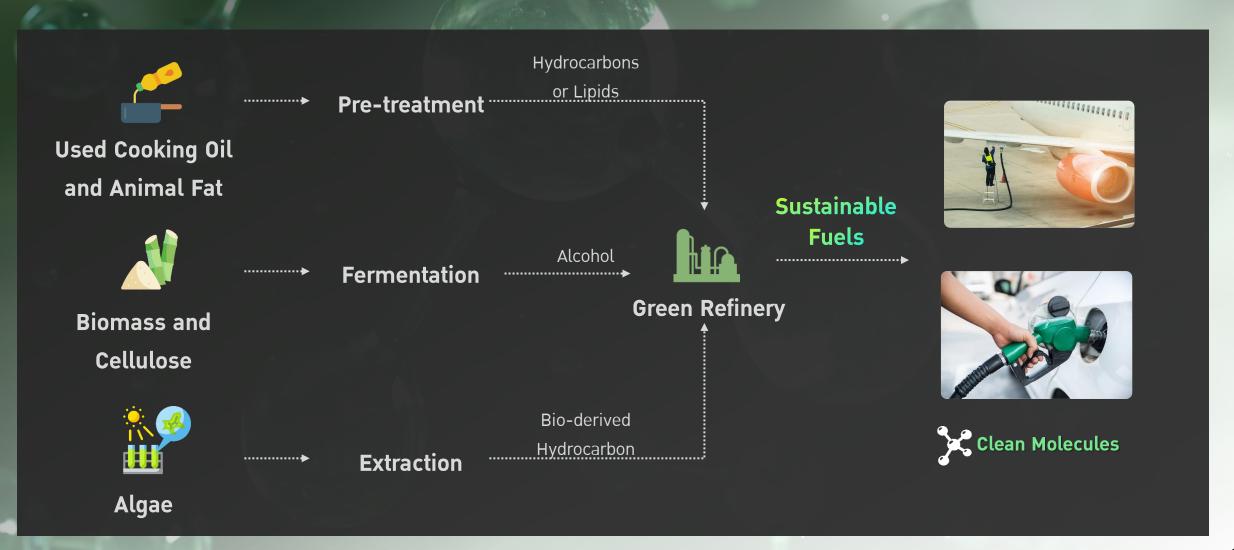




# **Sustainable Regenerative Fuels**



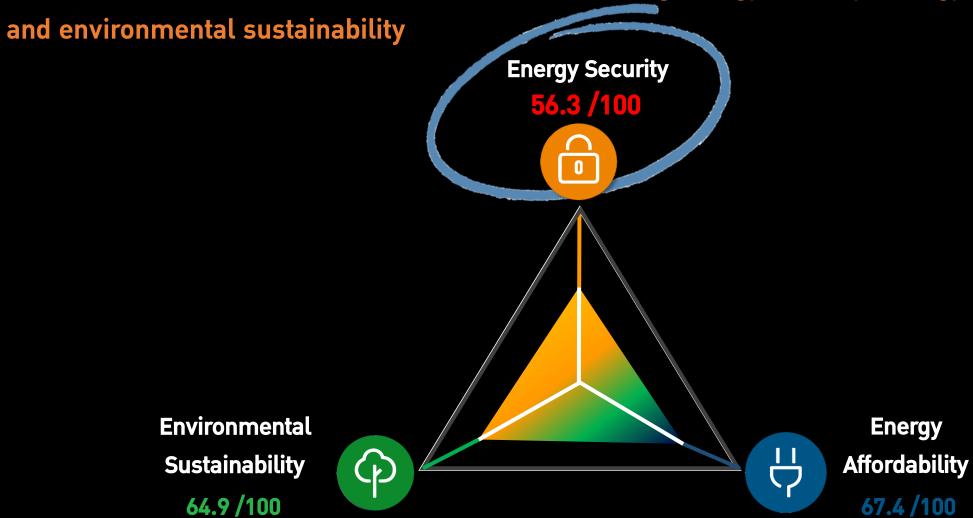
are expected to play an important role in the transportation sectors



# **Energy Trilemma - Thailand**



Thailand has consistently been working towards achieving a balance among energy security, energy affordability



Source: World Energy Council

## **Best in Class in ESG**



# ESG International Rating



Sustainability Award
Silver Class 2022

S&P Global

MSCI ESG Rating 2022 of "AA" for 5 Consecutive Years

# ESG Thailand Rating

- SET ESG Rating 2023 of "AAA" in the Resources Group
- 5-star CGR rating of "Excellent" from the Thai Institute of
  - Directors (IOD)
- Certified by CAC







# Guaranteed by International & National Recognition

- Asia's Best CEO and Best Investor Relations Company:
- CEO of the Year 2023 in Greenovation Leadership:
- Best Investor Relations Award 2023:
- Sustainability Excellence:









#### Global Performance Excellence Award 2023 "WORLD CLASS"

The First Thai Organization from the Industrial Sector & The World's First and Only Refinery to receive this World Class Level Quality Award

#### TQA and TQC: Thailand Productivity Institute (FTPI) under the Ministry of Industry,

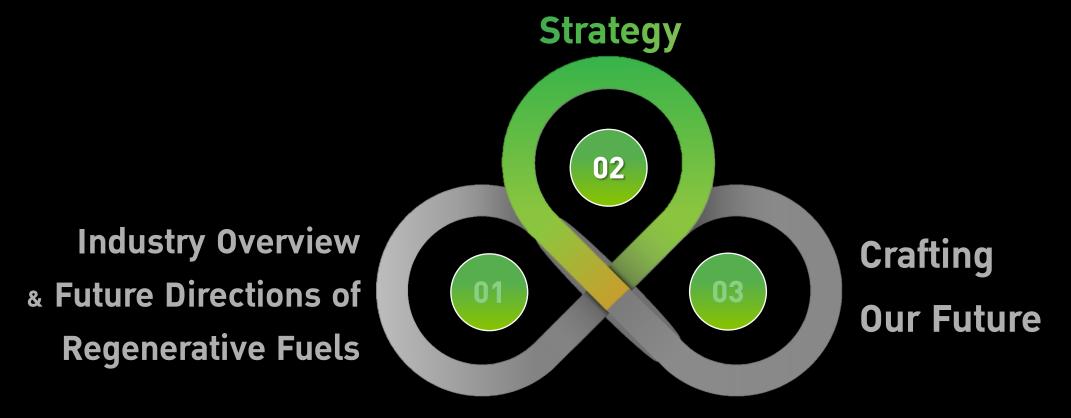
Bangchak as the only Recipient for the Refinery and Oil Trading and the Marketing Business Group

This was appraised based on efficiency improvement, energy reduction, new product & innovation development etc.

# Agenda



# **Bangchak Group**



# **Strong Aspiration for...**





# **Bangchak Business Portfolio**



### Registered Capital and Paid – up Capital 1,376,923,157 Baht





19.84% Vayupak Fund 1



14.27% Social Security Office



61.13% (As of 7 September 23)

#### Refinery & Oil Trading Business

**294** KBD of nameplate capacity

with 500,000 Tons of Paraxylene

**bsrc** Holds 76.34% **Sriracha Refinery** 

**Phra Khanong Refinery** 

**Marketing Business** 

Distribution channels through industrial & retail channels

> 2,203 Service Stations nationwide

#### **Clean Power Business**

- 4 power generation technologies in 7 countries over the world with **2,038 MW** in total
- Listed on SET since September 2016

#### **Bio-based Products**

- No.1 fully Integrated Biofuel Producer in Thailand with 1.85 ML/D in production capacity
- Listed on SET since March 2022

### bbgı

With 44.99% shares

bcpg

With 57.81% shares

#### **Natural Resources**

OKEA ASA

- Norway-based oil & gas company with production capacity of **22–25 KBD** in 2023
- Listed on Oslo Stock Exchange since June 2019

# **Strong Foundation for Value Creation**







Providing Energy
Security

- Synergy Realization
- Shareholder Return
- To Run Multi-Refineries
- Shared Services

In 2050



Financial Discipline

Strong financial management practices to ensure stability and growth

# With Platforms to Run Multi-Refineries



### Phra Khanong Refinery

• Complex refinery with capacity of 120 KBD

Producing high value specialty products

### **Sriracha Refinery**

• Complex refinery with capacity of 174 KBD

• Located near Laem Chabang deep sea port

## **SAF Products** bsaf

Bangchak Sustainable Green Fuel

The first and the only one SAF production in Thailand with capacity of 7 KBD



### **Trading Business**



BCP Trading, one of leading independent oil trader in Singapore

- Over 20 countries for trading network
- More than 100 counterparties worldwide
- Expanded into Biofuel trading

### **Refinery Optimization Synergy Enterprise**

rose

- Optimization and synergy services
- Commercial services

**Logistics Business** 

Bangkok Fuel Pipeline and Logistics Co., Ltd.

Phra Khanong

Refinery

- Logistic network of pipeline, terminal, trucks and vessels.
- Expansion of terminal hub and fuel transportation to cover all parts of Thailand

### From a Simple Refinery to

Two World-Class Complex Refineries

Bangchak Group employs a combination of Hydrocracking and Fluidized Catalytic Cracking (FCC) techniques in operating two refineries with a combined nameplate capacity of 294 KBD. This strategy aims to maximize Gross Refinery Margin (GRM) within our Group by providing a diverse product mix.

Our ongoing efforts focus on enhancing efficiency to reduce OPEX, implementing debottlenecking measures for increased crude run, and expanding the production of niche products such as unconverted oil, wax, and Sustainable Aviation Fuel (SAF) to position ourselves as a niche refinery.

**KBD** 

2023

**278 KBD** 

**Production Capacity** 

KBD

2022

**KBD** 

2017

2013

nameplate capacity of

The LARGEST refineries

in Thailand with a combined

# Bangchak Phra Khanong Refinery A World Class Refinery

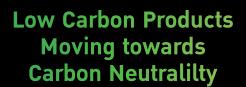


**Refinery Operation Excellent** 

**International Standard** Asset Management









CLASS



- ✓ Specific Professional Development Plan
  - ✓ Automation Simulation Training
    - ✓ Transforming AR/VR Training



Process Safety Management
At World Class Level







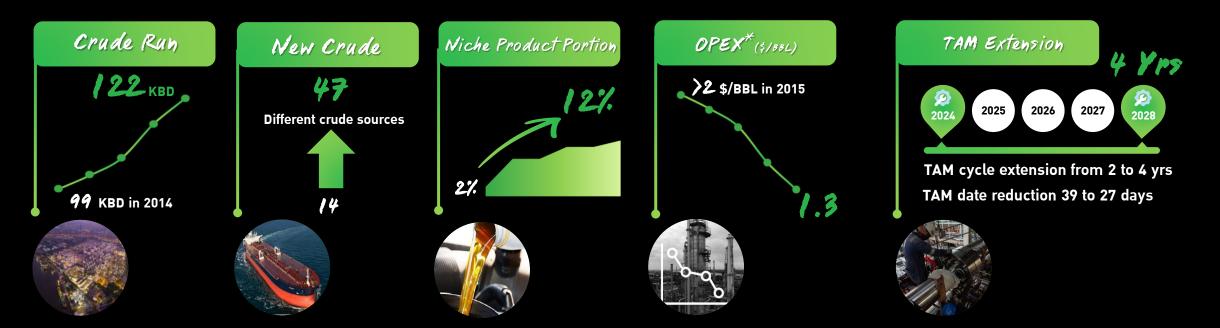
Community as Part of a Family

**Operational Improvement** 



# Strategy: Phra Khanong Refinery - A Legendary Establishment





### **Phra Khanong Refinery Growth**

- ✓ Operating Expense Improvement for Cost Reduction & Target Energy Intensity Index (EII) down to 88 from 97.5
- ✓ Sustain OPEX approx. \$1.3/BBL
- ✓ Turnaround Maintenance Cycle Extension
- ✓ TAM: APR-MAY24 & Target avg. crude run at 111KBD with Product Management Strategy
- ✓ On-going study: Carbon Capture and Storage Technology as a pilot project





# Strategy: Phra Khanong Refinery – A Bio Refinery



# Leadership in Sustainable Aviation Fuel (SAF)

### **Secured SAF Feedstocks** Used Cooking Oil Domestic (UCO)

Established a strategic partnership with Well-Known Food Brands together with "Fry to

Fly" & "1-Time Fry" campaigns with Ministry of Public Health to secure SAF feedstock

0.5-0.7 ML/D



**Current Partners** 



**Future Partners** 



ใม่ทอดซ้ำ

#### \*PFAD source



\*Palm Fatty Acid Distillate



**Biodiesel Plant** 

Palm Oil Refinery Plant



### 2024 SAF Construction





#### **UCO Pricing** SAF & UCO Prices (THB/L) 48.1 SAF UCO 22.8 2020 2021 Q1/23Q2/2303/23 Source: Company's Data

### 2025



#### **Production Capacity 7 KBD**



Commissioning Plan Targeted in Q1/2025

#### EU Aviation sets the share of SAF mandate:

under International Sustainability and Carbon Certification (ISCC EU Certificate)



2025

# **bfpl** Logistic Optimization

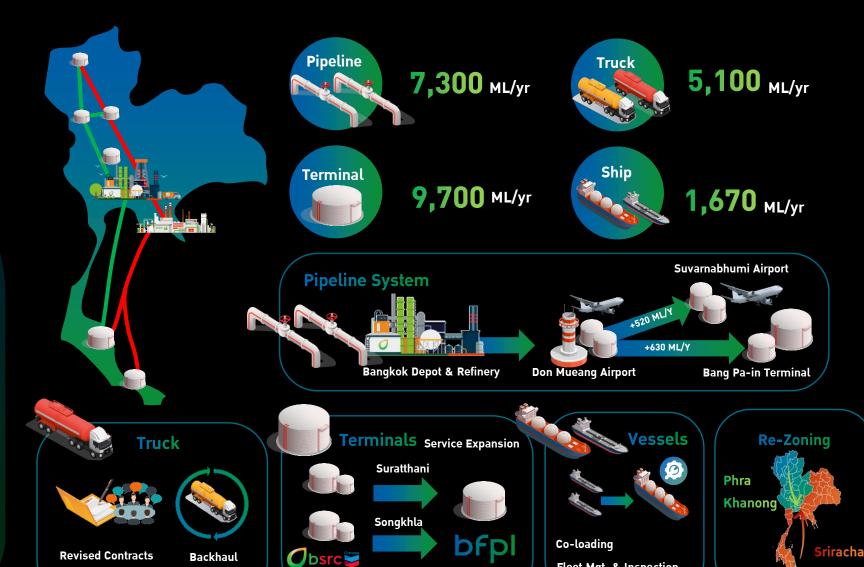




- Logistic network of pipeline, terminal, trucks and vessels
- Expansion of terminal hub and fuel transportation to cover all parts of **Thailand**
- Integrated Logistic Facility
- Improve Logistic Efficiency





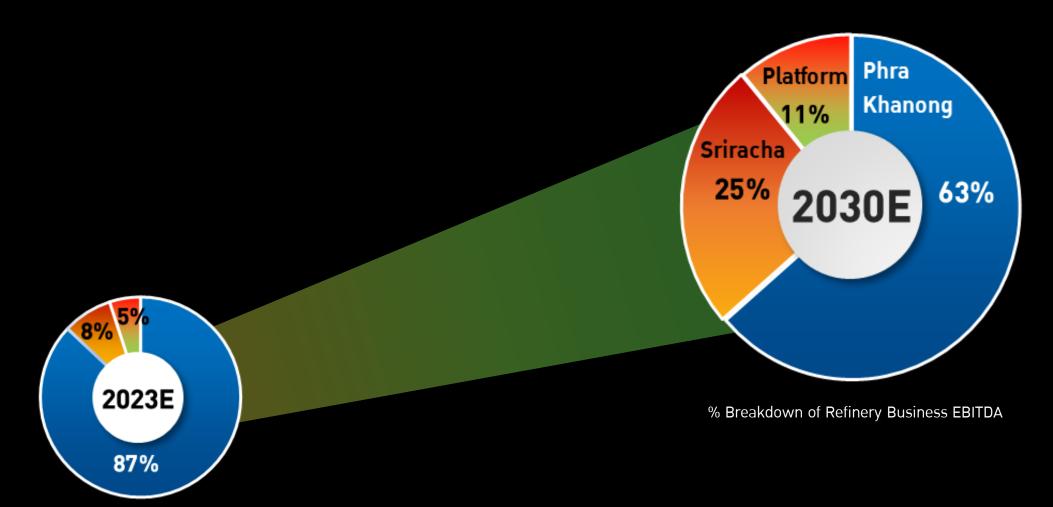


Fleet Mgt. & Inspection



# **Strategy:** 2 World-Class Refineries with Intensive Platform

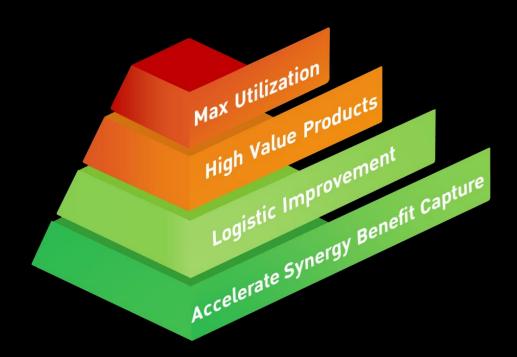








# Refinery & Logistics Focus



# Historical Crude Run & Actual GRM Performance



### **Sriracha Refinery Growth**

- ✓ Maximize run rate at **155 KBD in 2024** to 165 KBD in 2026
- ✓ Utilize GRM from new designed product yield
- ✓ Improve energy consumption & operating cost (OPEX)



# **Strategy: Sriracha Refinery**

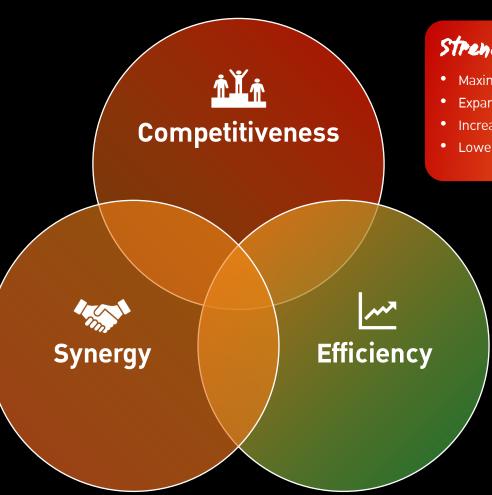


### - Operational & Efficiency Improvement



### Accelerate Synergy Capture

- New/Challenge Crude
- Crude Co-loading
- Logistics Rezoning
- Optimize Molecules



### Strengthen Refinery Profitability

- Maximize Capacity Utilization
- Expand Crude & Product Berth Capability
- Increase High Value Products
- Lower Raw Material Costs

### Improve Efficiency

- Increase Clean Products
- Base Energy Efficiency Improvement& Projects
- Sustain Safety, Health, Environment, Reliability Performance
- Improve Cost Efficiency
- Improve Work Process
- Centralize Resources



# **Greenovative Destination**



#### **Solar Roof at Service Stations**



### **EV Charger Expansion**



**2023E: 259 Stations & 2030E: 780 Stations** 



# **Strategy: Marketing Business**





### **Most Comprehensive Nationwide Network**



in 2030

Optimize return from existing networks
High Premium Product offerings Obsrc







Optimize locations offering across network

- Truck driver destination
- Diesel driver experience
- Unique design experience





Retail Market Share > 30% in 2030

# Commercial Market

### Focus segment

• Fleet card customer

Develop compelling offers







**HSD Product**(Increase Sales Volume)





JET Product

(Approach New Customers)



Target: 1<sup>st</sup> rank

in Diesel Sales Volume via service stations

Target: 2<sup>nd</sup> Rank

Market Share in Commercial Market



# **Strategy: Marketing Business**



# Retail Experience Business Growth

Inthanin Coffee expansion

GRFFN



#### ORGANIC ARABICA

SUPPORT COFFEE FARMER WHILE TAKING CARE THE FOREST



#### NO SINGLE USE PLASTIC UP

GET 5 BAHT OFF/DRINK



INTHANIN **NO STRAW** 



# **COFFEE GROUNDS**





**NOT JUST DRINKING COFFEE** 

**BUT DRINK RESPONSIBILITY** 

YOUR INTHANIN CUP FOR OUR WORLD

#GreenCoffeeShop





& Focusing on increasing spending per bill

### Expand non-oil offering Obsrc to BSRC's stations



#### **Amplify mart presence**









**Target: 50%** Mart Coverage Ex. COOP

### **Position for growth in Lubricant Market**

**Domestic Lubricant Market Share** 

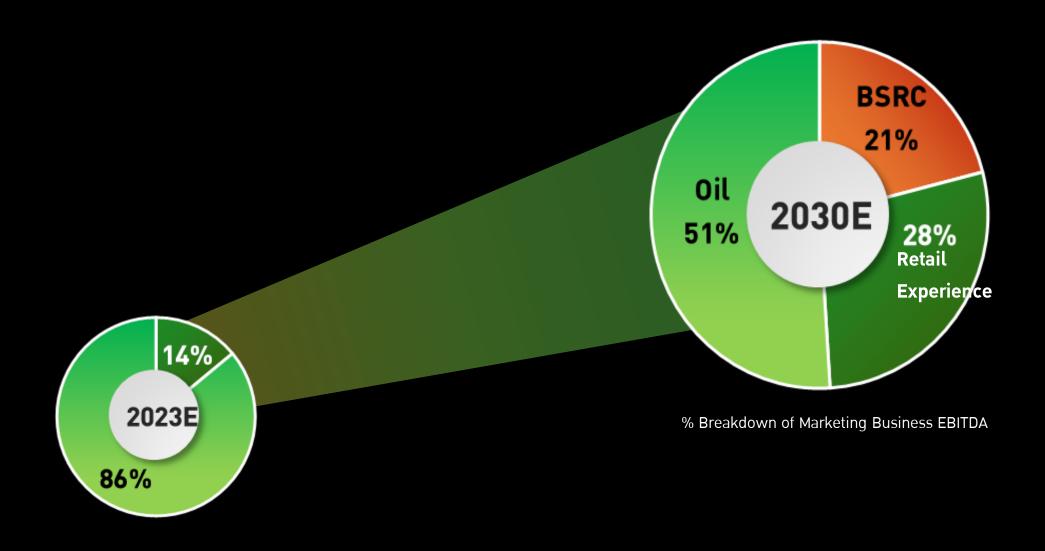
11.3% 9M/2023 9M/2022: 10.3%

Target: >50%

growth (from 2023 to 2030)





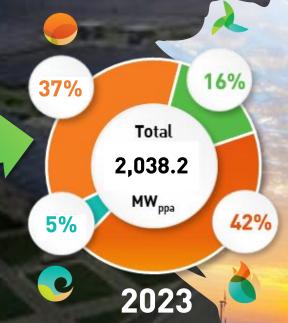


### From Thailand-Based Business to

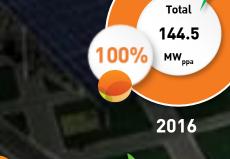
# 7 countries globally



Asia-Pacific's leading company in renewable energy with solar power, hydropower and wind power businesses. In 2023, BCPG expanded its energy business to the United States through investment in four combined-cycle gas turbine power plants.













**C** Hydropower



**Natural Gas** 

# 5

# **Strategy:** Clean Power Business



### Core (Power Generation)



Renewable





CCGT



T/L



- **✓** Well diversified portfolio
- ✓ Monetization
- ✓ Operational excellence



**Energy Output** 



LCE 6ktpa



Cell & Pack



ESS

**Battery Value Chain** 





BaaS

### **Peripheral**



**Smart Energy** 

- √ Value Chain Integration
- ✓ Business Expansion with Strategic Partnership
- ✓ Focus on grid-based ESS, Energy-as-a Service, energy trading platform and carbon business

### **Frontier**







**Energy-related Infrastructure** 



**Preparation for Transition** 

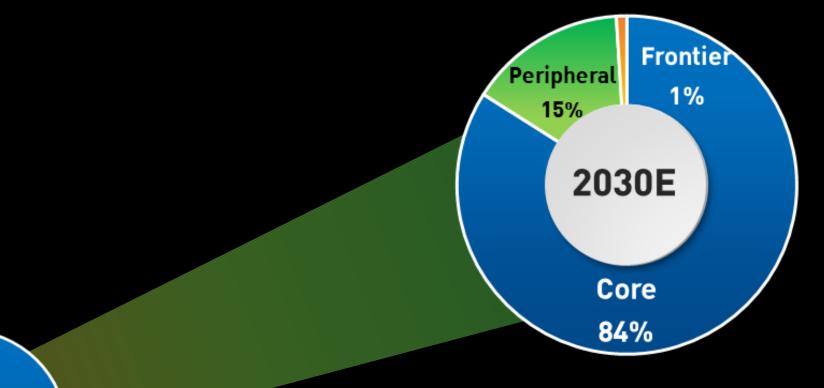
- ✓ Operational excellence
- ✓ Monetization
- ✓ Synergy with BCP



2023E

89%



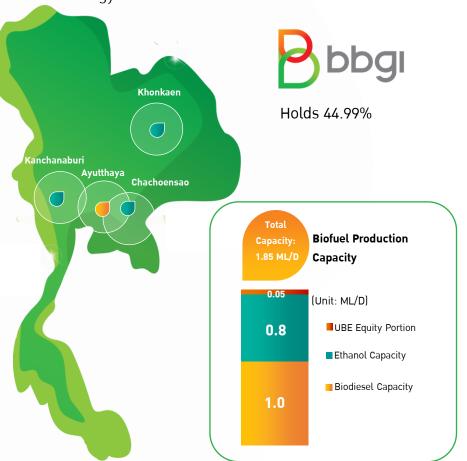


% Breakdown of Clean Power Business EBITDA

# Biotechnology Beyond Biopower

### No.1 Fully Integrated Biofuel Producer in Thailand,

aiming to become a leader in premium bio-based products and biotechnology business.









### **Core Business Growth**

- ✓ Sales volume to be increased from network expansion and maximize capacity utilization
- ✓ Strengthening and Expanding Operational Excellence
- ✓ Establishing Biofuel Platform
  - Adopt Multi-Feed Technology for Ethanol production
  - Green CO<sub>2</sub>: Utilization of pure CO<sub>2</sub>, a co-product in Ethanol production







### High Value Product (HVP) Manufacturing Growth

- ✓ Partnership with Bangchak in SAF project
- ✓ Partnership R&D and Networking for SynBio Technology
- ✓ Strategic JV with Fermbox Bio to establish the first CDMO Plant in Thailand and SEA
- ✓ Phase 1 with installed capacity of around 200,000 Liters (COD within 4Q2024)











### **CDMO Manufacturing Plan**



**0.2 ML**COD within 402024

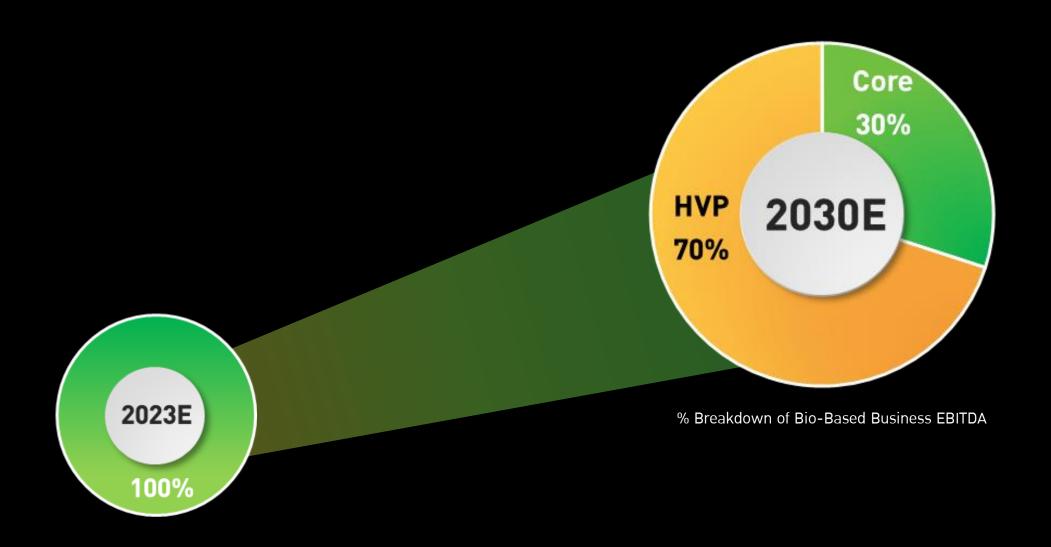


>1 ML





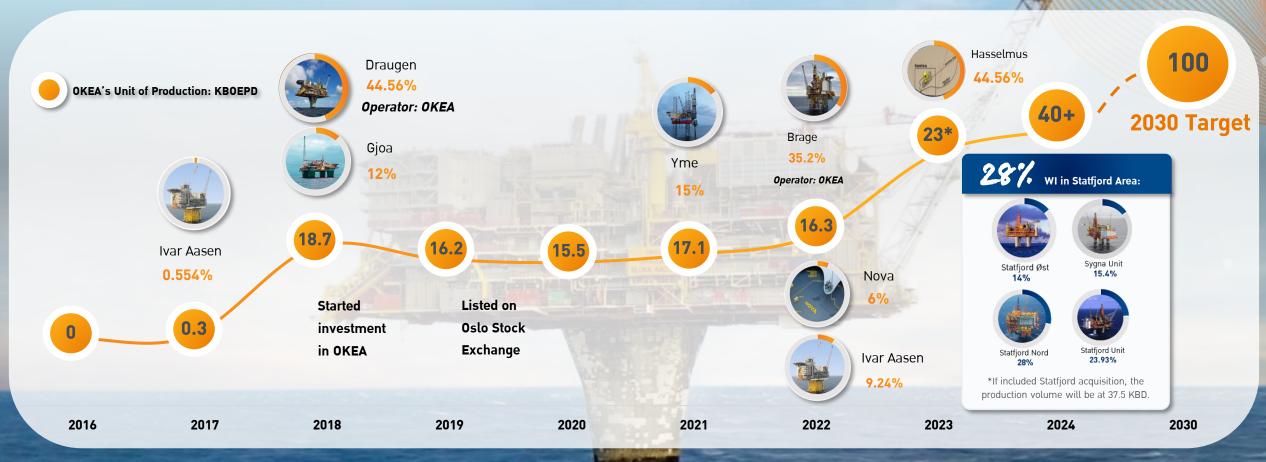




# **Strong Foothold in E&P Business**

With investment in upstream petroleum exploration and production (E&P) business through OKEA ASA in Norway since 2018, Bangchak Group has plans to extend our presence in E&P to other regions in the world.





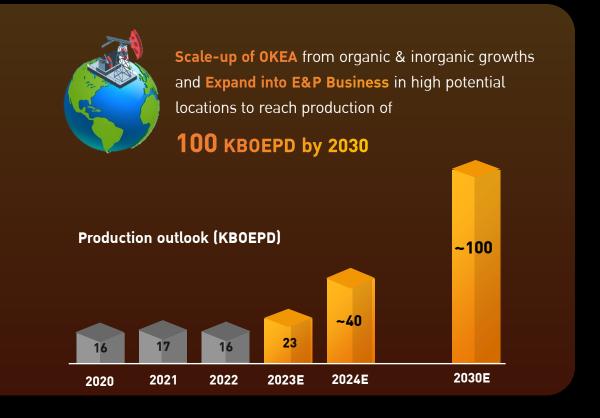


# **Strategy:** Natural Resources and New Businesses



### **Natural Resources Growth**







### OKEA's Target 30% CO2 emission reductions by 2030

Case study: 95% reduction in CO, intensity from Draugen by 2027 vs 2019 baseline

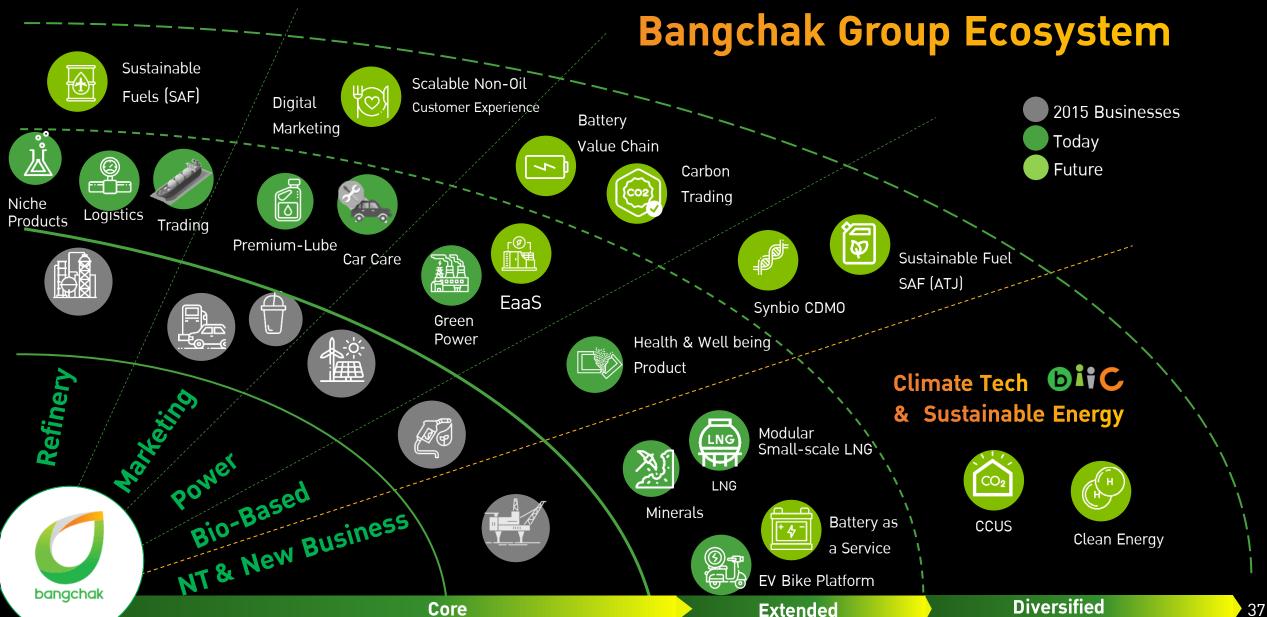
- Electrification of Draugen also key towards
   lifetime extension on the field from 2035 to 2040+
- Reduce OPEX
- Increase gas export

- Annual reductions in emissions from Draugen
  - **9** 200,000 tonnes CO2
  - 1,250 tonnes NOx



# Strategy: 2030 Illustration of

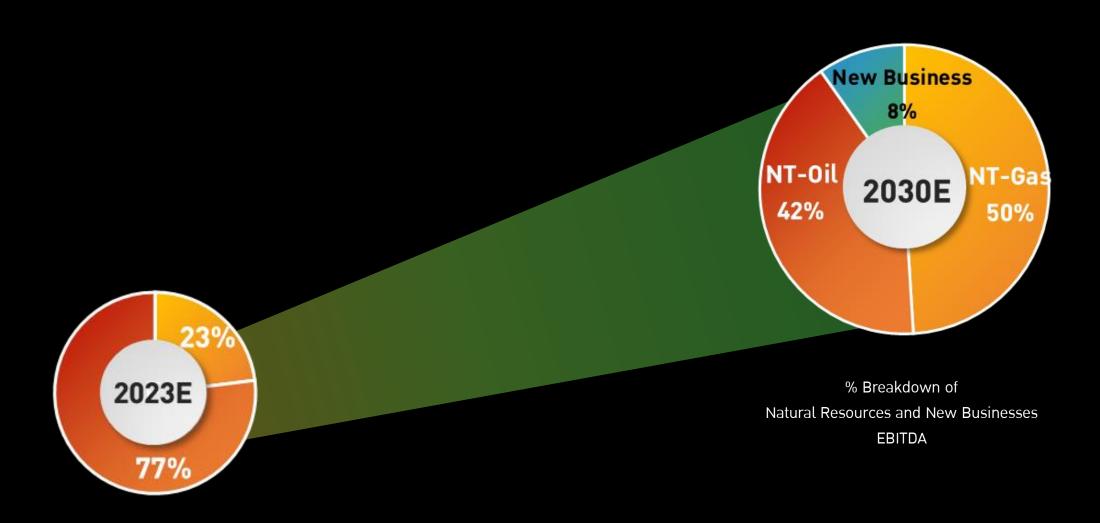






# **Strategy:** Natural Resources and New Businesses

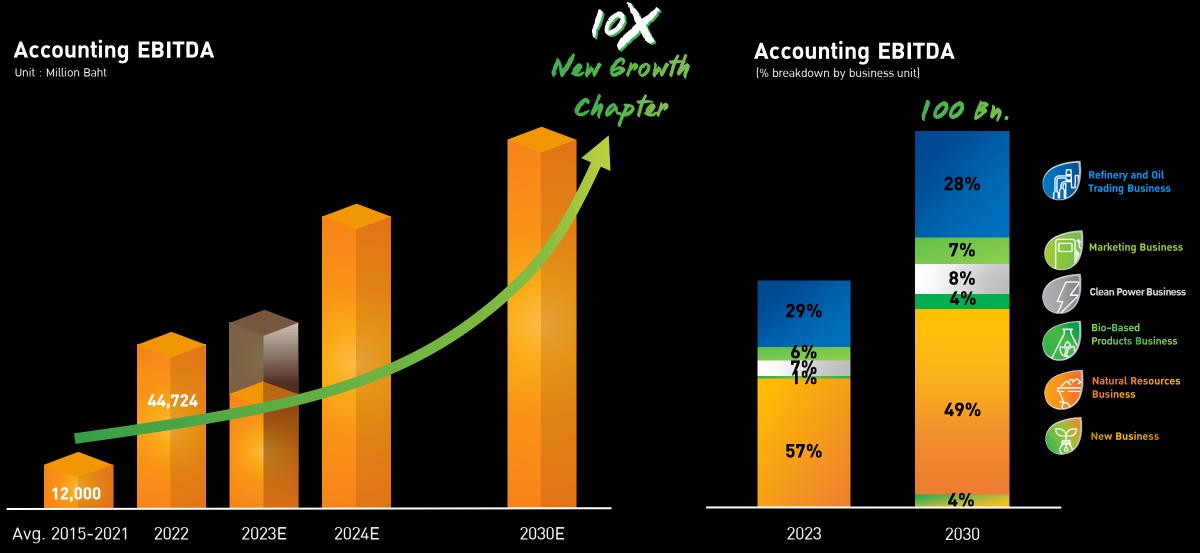




# **Exponential Growth Journey**



### Strong Market Fundamentals, Optimization, Diversification

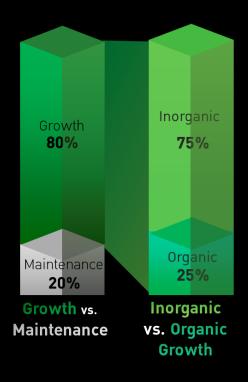


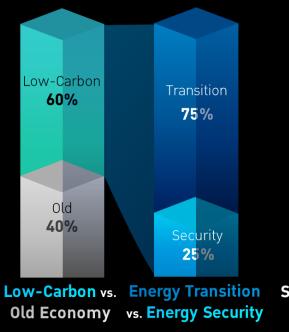
### **Investment Plan**

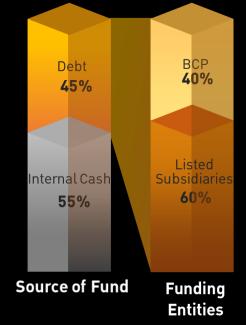


### CAPEX 2024-2030









(Unit: MB)

2024

Refinery and Oil Trading 9,000

**O**bsrc 1,700 Marketing 1.700

**Green Power** 14,000

800

17,800

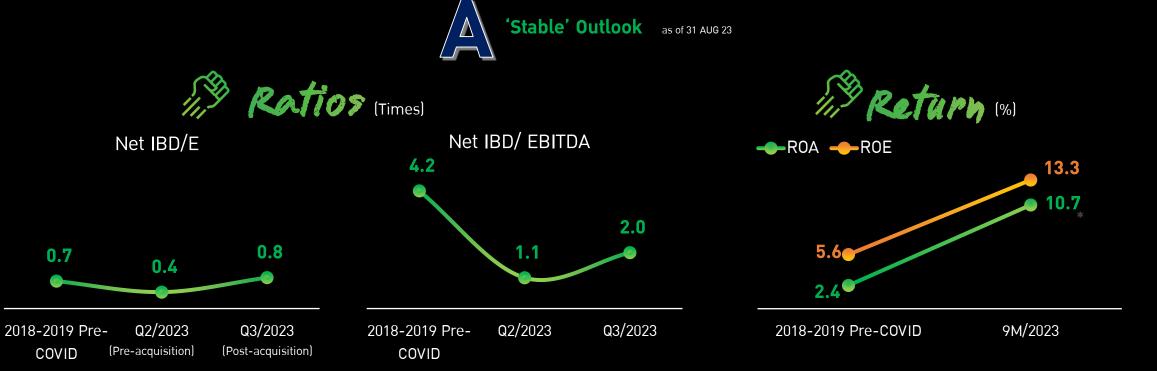
New Business 5,000

### **Strong Financial Status Going Forward**





### **Confirm Credit Rating from TRIS RATING:**

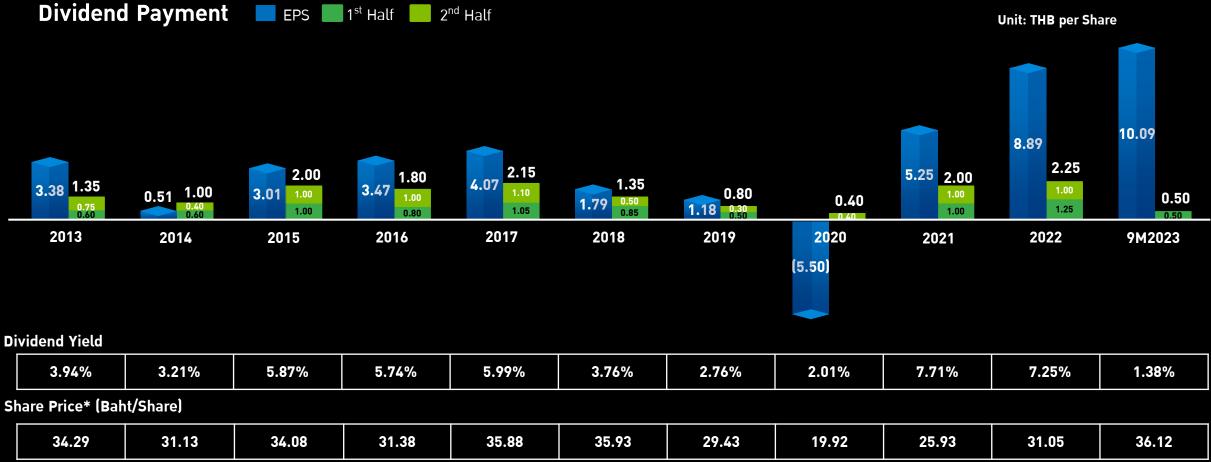


### Bangchak's Historical Dividend



### Dividend Policy: ≥ 30 percent of net profit after deduction of allocation of legal reserve

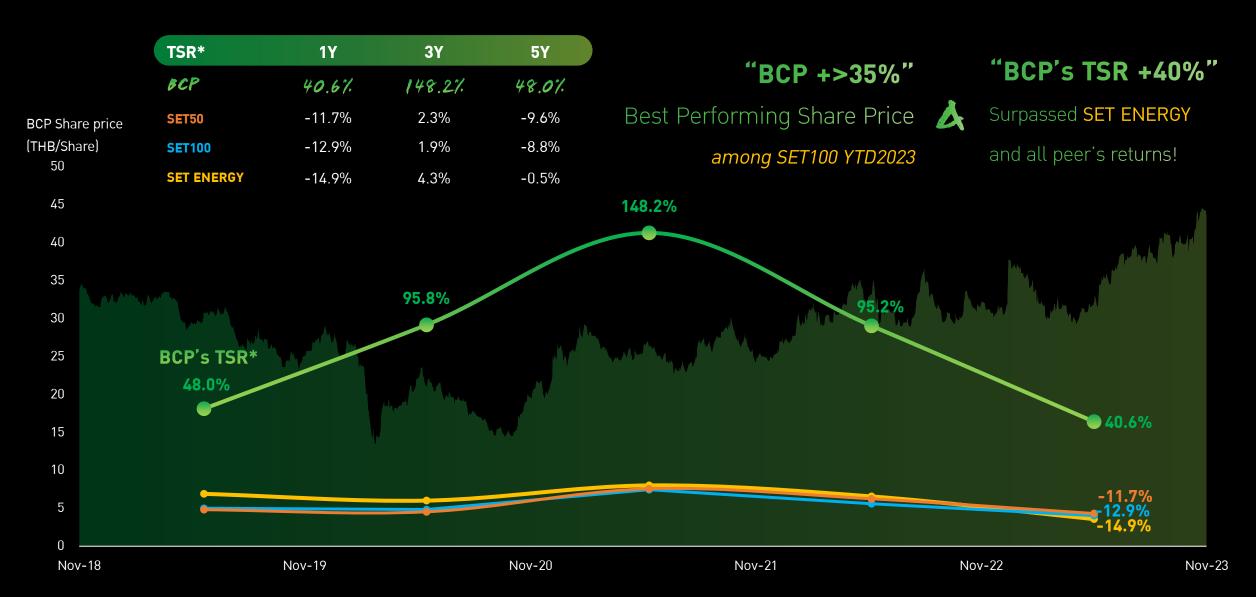
However, this is subject to the economic situation, the Company's cash flow and investment plans of the Company and its subsidiaries according to the necessary, appropriation and other concerning as the Board of Directors' consideration.



1 Jan 23 - 30 Nov 23

### Bangchak's Total Stock Return (TSR)





<sup>\*</sup>Total Stock Return (included Capital Gain and Dividend Received) - closing price as of 30 Nov 2023

# Agenda



### **Bangchak Group**



Industry Overview
& Future Directions of
Regenerative Fuels

### Reflecting Achievements in 2023

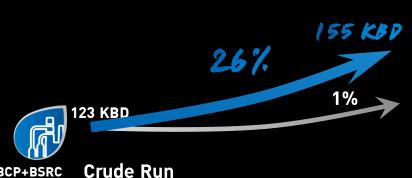


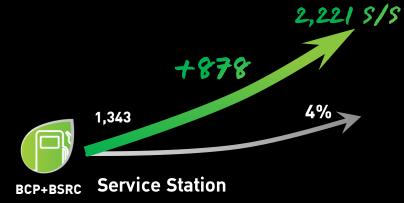
Embarking on an Exciting New Chapter Ahead

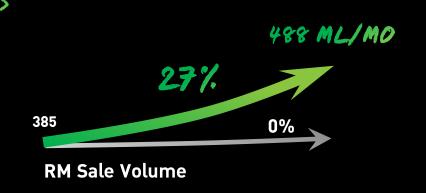


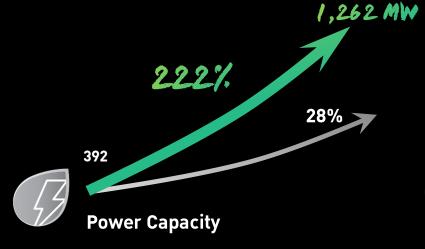
after Sep 2023

**BCP+BSRC** 









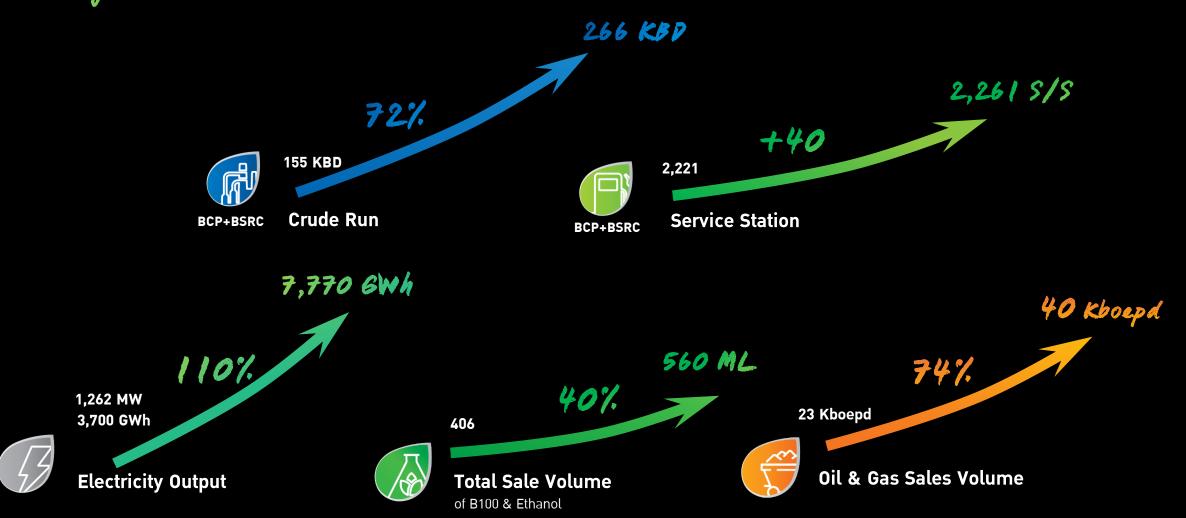




## Anticipating the Evolution of Success in 2024



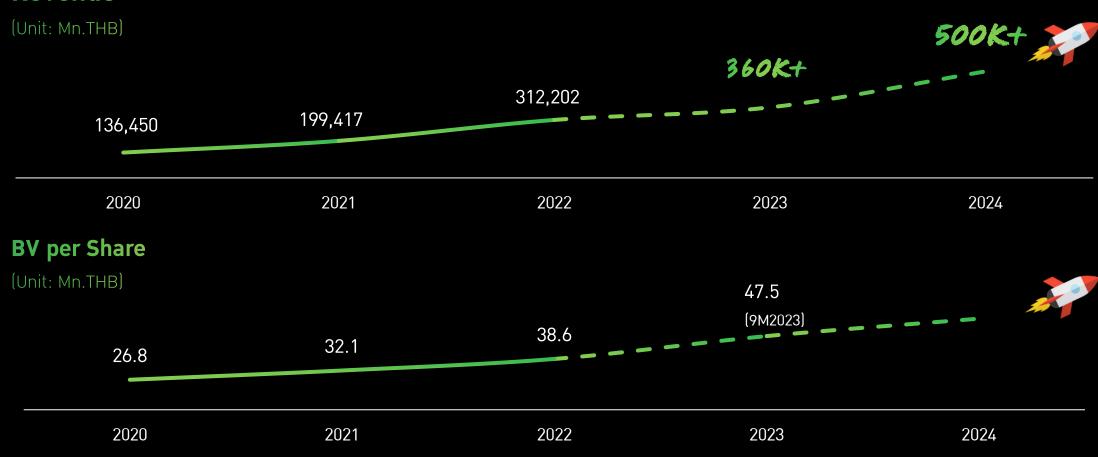
Priving Forces for sustainable Growth



# Embarking on an Exciting New Growth Chapter Stable path to the Future...



### Revenue



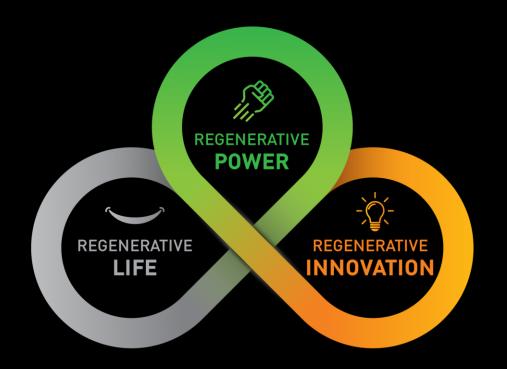
# Crafting a Sustainable World with Evolving Greenovation





GREENOVATE To REGENERATE

สมดุลธรรมชาติ สรรค์พลัวไม่สิ้นสุด





# THANK YOU

ir@bangchak.co.th

Tel. +66 2335 8663/8518/8662

www.bangchak.co.th

### Bangchak Pathway to Net Zero 2050



Target Carbon Neutrality by 2030



Target Net Zero by 2050

reakthrough Performance

**Efficiency and Process Improvement** 

**Energy Intensity Index: EII** 

90.5

Emphasizes high quality production processes, efficiency enhancements for Low Carbon

Niche Products
 Furnace Coating
 Solar Roo



Conserving Nature and Society / 0%



100,000 tco e/y in 2030 onward

Focusing on Agricultural, reforestation and Mangrove reforestation campaigns

roactive Business Growth & Transition

Green Portfolio, Future Technology, **Carbon Capture and Utilization** 

Partnering with





NET Zero Ecosystem



### Winnonie

EV-Bike Platform & **Battery Swapping Station** 

FY 2022 : 422 user, 100 stations

© 90,000 Users 4,000 Stations in 2030



Thailand first **Sustainable Aviation Fuel Producer** 7 KBD or 1 ML/D COD Q4/2024

Co. Reduction 80%



**One-Stop Solution Provider** For LNG Supply & Integrated system for logistic and industrial customer





BFPL's fuel transportation business, providing low-carbon fuels









# Significant Synergies Keep Going on Plan



>3,000 mm. THB
EBITPA Synergies

### **Refinery Operations**



- ✓ Improved utilization from 130 KBD to 174 KBD
- ✓ Product yield and GRM optimization
- ✓ Coordinated maintenance schedule
- ✓ Strategic oil blending

### **Logistics & Crude Supply**



- Crude co-loading
- Expanded logistics reach with lower cost
- Trading growth

### **Marketing Network**

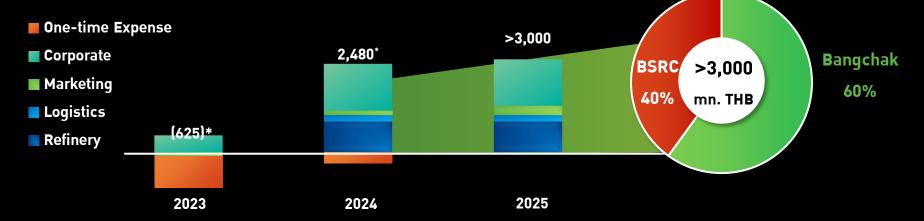


- ✓ BSRC's throughput enhancement
- ✓ Increase sales volume of premium products
- ✓ Expand industrial sales volume
- ✓ Opportunity for Non-oil network expansion in BSRC's stations

### **Corporate Cost Saving**



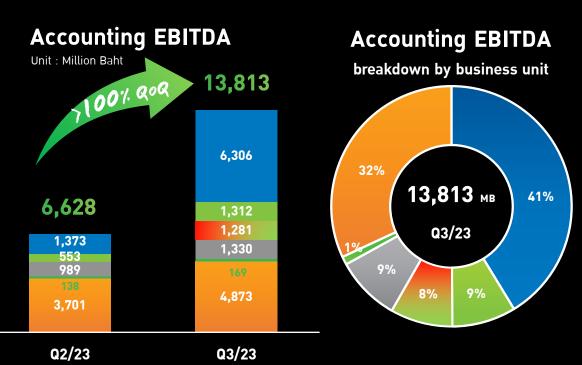
- Economies of scale on back-office operations
- ✓ Simplified management structure



\*Note: One-time expense: Q3/23: (~1,000) mn

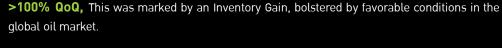
### 39 Years Highest-Record Net Profit











>100% QoQ, Operating GRM rose significantly to US\$14.67/BBL, due to broader crack spreads in major products amidst a tightening global oil supply from unplanned refinery

maintenance in the US and Asia, coupled with low regional inventories of middle distillate products.



Acquired 76.34% of Esso (Thailand) Public Company Limited, establishing it as a subsidiary (Bangchak Sriracha Public Company Limited: BSRC) Note: Realized 1-month performance



**+35% QoQ**, fueled by heightened electricity sales volume due to full-quarter operations of Laos Hydro powerplant and profit sharing from two recently invested combined-cycle power plants in the U.S.



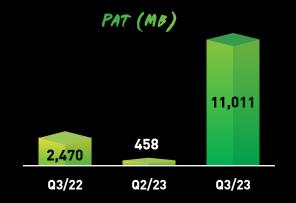
**+22% QoQ, Ethanol Business** thrived with elevated sales volume, contributing to a boosted gross profit, strategically managed to maximize benefits and complemented by concurrent product price increases.



+32% QoQ, powered by heightened sales volume from OKEA's Brage and Nova fields, paralleled by an upswing in average oil and gas selling prices driven by global supply constraints arising from Saudi Arabia's output cut.



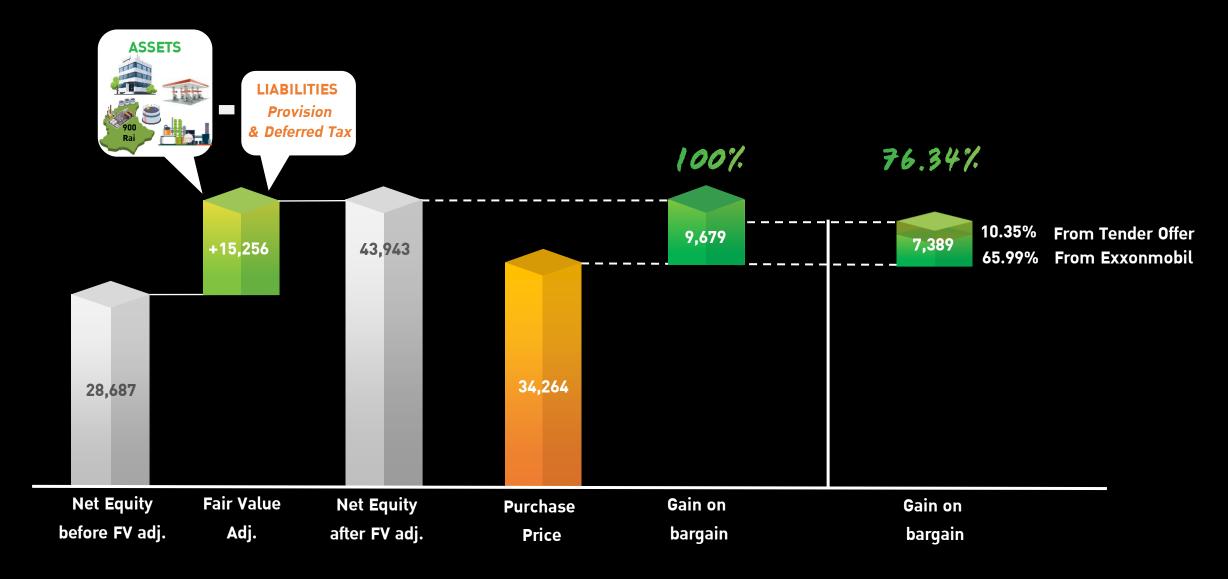




### Gain on Purchase from ESSO Acquisition Deal 7,389 MB



Unit: Million Baht



### Q3/2023: Unrivaled Strength and Resilience Core Performance

