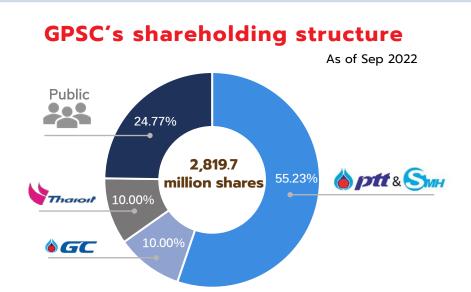


### **GPSC** | Structure



### The power and smart energy flagship of PTT Group

"GPSC, The global leading innovative and sustainable power company, the core business is to generate and supply electricity and utilities to customers and also developing new S-Curve business to create value to stakeholders."



**COMPANY INFORMATION** (as of Nov 16, 2022)

Business Type | Energy & Utilities listed on SET

Paid-up Capital | THB 28,197 million

Market Cap. | THB 187,512 million (3<sup>rd</sup> in power sector)

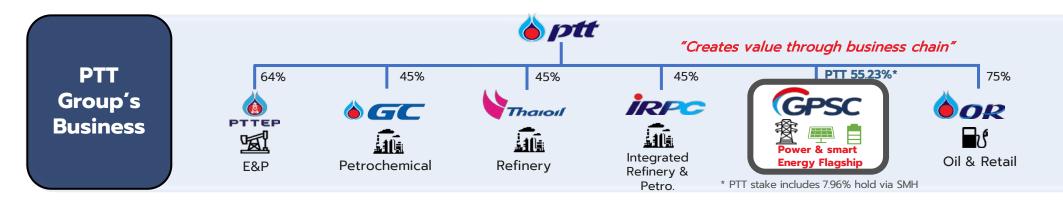
#### **CREDIT RATINGS**

AA+

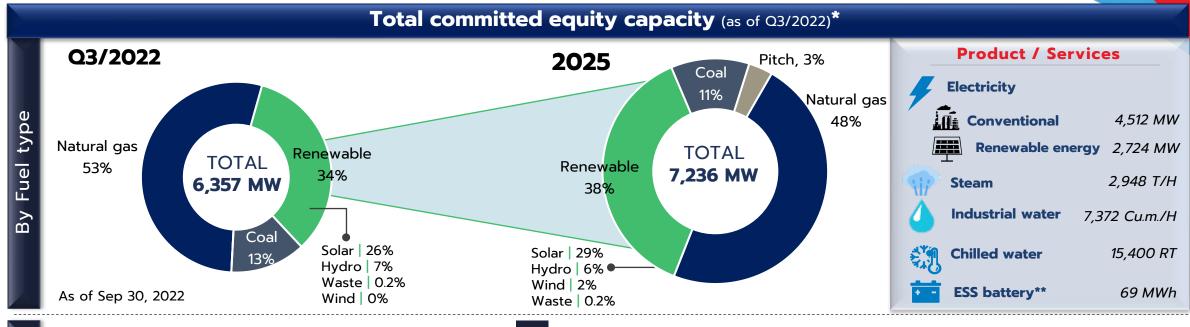
TRIS

A+(tha) BBB-

**Fitch**Ratings



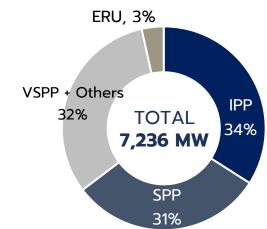
### **GPSC | Current Business Portfolio**



ortfolio

ڝٙ

Customer

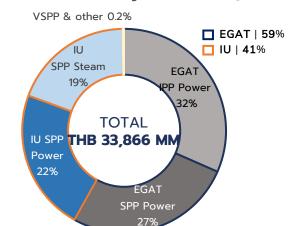


type

Plant 1

By

#### Q3/2022 Revenue by Customers | THB MM, %



#### LT OFF-TAKE CONTRACTS

- √ Guaranteed market and source of revenue
- ✓ Guarantee a minimum level of profit in regard to their investment
- ✓ Price adjustment formula, varying with fuel price



Key Highlight &
Business Improvement

2. Financial Performance



Key Highlight &
Business Improvement

2. Financial Performance



### **External Factors: What has happened so far?**

#### **Thai Economy**



- >> Global Covid-19 situation has been more relaxed with high number of vaccination rate in almost all regions
- >> Activity to rebound after the lifting of lockdown measures and tourism should pick up after border reopening

#### Fuel price surge



- >> The IEA reported this year's energy crisis is worse than the oil price shocks of the 1970s because it involves not just oil but natural gas and coal, as well
- >> Rising fuel costs remains a massive problem for business and consumers

#### Global recession risks



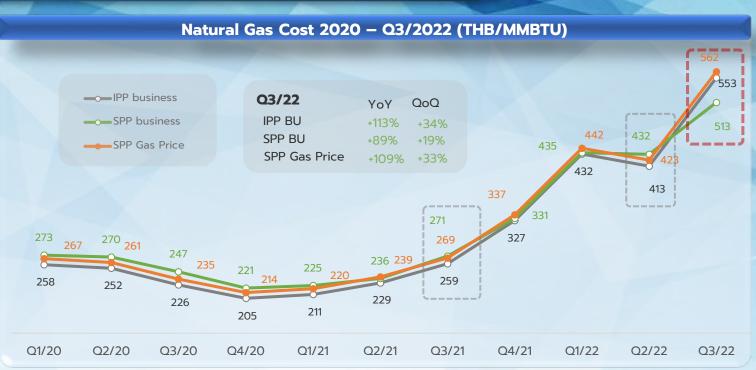
- >> The cost-of-living crisis, tightening financial conditions in most regions, Russia's invasion of Ukraine, and the lingering COVID-19 pandemic all weigh heavily on the outlook.
- >> Global economic activity is experiencing a broad-based and sharper-than-expected slowdown, with inflation higher than seen in several decades

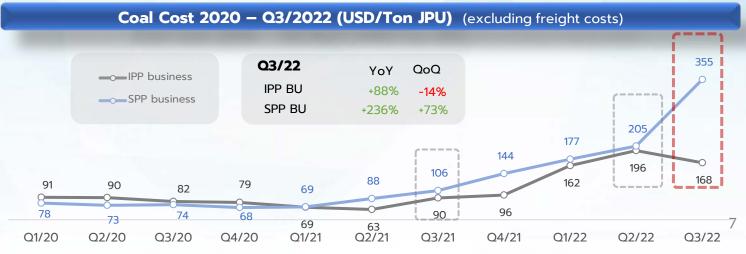
### **Key Macro Factors: as of Sep 2022**



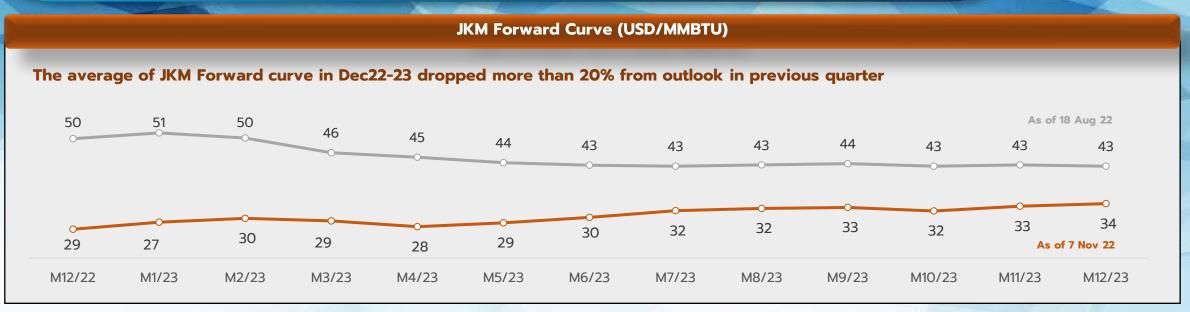
# Full-quarter benefit from the new Ft rate in 4Q22

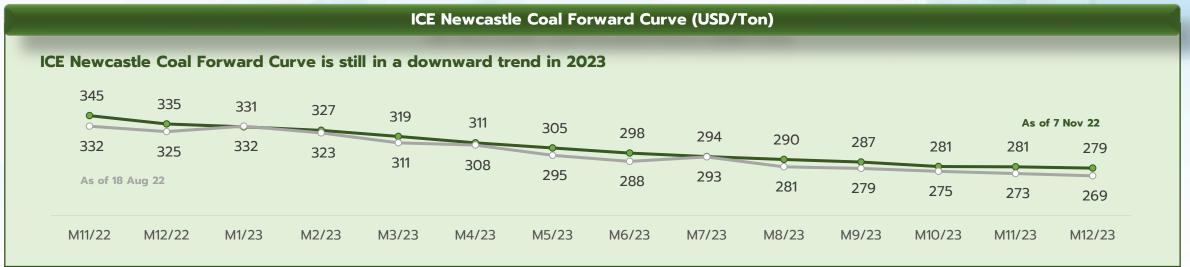
+ Ft increased from 0.2477 to 0.9343 THB/kWh in Sep-2022 (partially mitigated the impact of higher fuel costs)





### **Fuel Price Outlook**





# GPSC Business Improvement | Coping with Uncertainty

### Strengthening financial performance & Ensuring Liquidity

- Enhance synergy value from the acquisition of GLOW to create greater efficiency and scale
  - >> Higher synergy outcome: THB 1,592 MM in 9M22 vs THB 1,092 MM in 9M21



> Stringent cost control

>> OPEX saving THB 396 MM from original budget in 9M22

Adequate Capital & Balanced Growth:
 To ensure financial liquidity and maintain financial strength

>> GPSC Treasury Center Company Limited (GPSC TC), a wholly owned subsidiary of GPSC, entered into an agreement with SMBC for **Green Loan of USD 185 MM with 10-year contract** term designated.





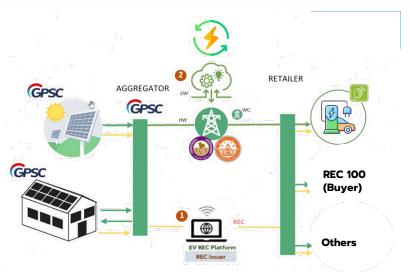
This will support to scale-up green energy to over 50% of its total capacity by the year 2030, aligning with the 4S strategy for the development of future energy projects for sustainable growth.

### GPSC Business Improvement | Going Beyond Power

#### Continue business development and extend collaboration

# ERC Sandbox Phase 2 for Green Innovation and Green Regulation 15 Aug 22, projects from GPSC and partners have qualified for the ERC Sandbox Phase 2

- A project to study and develop green energy trading platform and Renewable Energy Certificate (REC)
- A project to study the business model of electricity trading under the new PPA with the Third Party Access (TPA)



**2 Sep 22, GPSC, PTT and WD announced collaboration** in studying renewable energy development and application guidelines for using electricity in the production processes of WD factories in Thailand

- An evaluation of opportunities for procurement of renewable energy from multiple sources for WD under the ERC Sandbox Phase 2
- This collaboration will create long-term procurement of renewable energy from multiple sources for WD after official TPA implementation.
- A pilot project for the development of energy management innovation in the smart city



### **GPSC Business Improvement** Going Beyond Power

### Continue business development and extend collaboration



15 Sep 22, GPSC joins hands with SANY, LEADWAY and ROOTCLOUD to explore the development of battery swapping station for electric commercial vehicles, preparing for new s-curve industries

- ☐ To study the feasibility to develop battery swapping services and battery-as-a-service business for eCV along with the monitoring and operational management software
- ☐ The initial phase of the study will be focus on highway routes connecting the heavy traffic logistic areas







# GPSC Business Improvement | Expanding renewable power continually

### New round of renewable energy projects in Thailand have officially been launched

- ☐ The Energy Regulatory Commission (ERC) is preparing to select companies qualified to sell "clean electricity" to the government under its plan to bolster renewable energy supply in Thailand.
- □ State grid operators will buy electricity from licensed companies to develop renewable energy power plants, with combined generation capacity of 5.2 gigawatts, during the period 2022-2030

RE Big lot 2022 - 2030	2024	2025	2026	2027	2028	2029	2030	Total (MW)
Wind	-	250	250	250	250	250	250	1,500
Solar Farm	190	290	258	440	490	310	390	2,368
Solar + BESS	100	100	100	100	200	200	200	1,000
Biogas			75	75	75	70	40	335
Total				5,20	3 MW			

"GPSC is ready to submit proposals to develop and operate this project"

Applications will be assessed against the following **five areas of technical readiness**, **with scores being given for each area**, and applicant will need to meet a minimum score in order to be eligible for a PPA.











# GPSC Business Improvement | Project Updates

#### **CFXD**: Progress of offshore wind in Taiwan

On 26 Sep 22, GRSC has completed the conditions precedent of the Share Purchase Agreement of offshore wind power project in Taiwan with the total investment of approximately USD 500 MM and holds 25% of the total shareholder in Cl Changfang Limited and Cl Xidao Limited

#### **Construction Update**

- The construction has reached 49.60%
- 10 jackets installed
- 5 turbine installed
- Onshore substation Phase1 and Phase2 energized
- Localization process under control





SCOD | 2022-2024

GPSC Hold
25% of shares



Contracted Capacity 595 MW



# GPSC Business Improvement | Project Updates

### **Glow Energy Phase 2 : Construction Update**

SCOD | Q4/2022 Unit 1 : Nov 2022 / Unit 2 : Dec 2022





- The project is in the process of testing machines and equipment according to power purchase agreement and construction agreement
- > The construction has reached 91.67%

# GPSC Business Improvement Project Updates

### **Glow SPP2 : Construction Update**

- > GPSC has got an auspicious time to conduct the piling work for the construction of a new power plant, GLOW SPP 2 Replacement.
- This power plant is worth of THB 4,000 MM baht and it is aimed to replace the decommissioned power plant of Glow SPP 2 Company Limited on the same area within Map Ta Phut Industrial Estate, Rayong Province.

Projects	Electricity Capacity (MW)	Steam Production Capacity (t/h)	Contracted PPA with EGAT (MW)		
GLOW SPP2 Replacement					
• Glow SPP2	98	230	60 (2 PPAs)		







- > The project approved a construction permit
- ➤ The project is under construction as piling unit 1 and 2 and the concrete foundation
- > The construction has reached 19.99%

# GPSC Business Improvement Project Updates

#### **Avaada Energy Private Limited (AEPL)**



GPSC Hold 42.93% of shares

Contracted Capacity 4,634 MW

Project	Electricity Capacity (MW) as of 13 Jul 21	Electricity Capacity (MW) as of 30 Sep22	COD
Operating	1,392 (13 projects)	3,681 (27 projects)	-
Under construction	2,352 (8 projects)	953 (8 projects)	2022 – 2024
Total	3,744	4,634	

#### **Energy Recovery Unit (ERU)**







Electricity (MW)

**Steam** (ton/hr.)

250

175

#### **Project updates:**

- > The project is in the process of the construction of foundation
- > Overall, the project has reached 83.79%.

Note: 1. The project has been affected by COVID-19 pandemic and has been postponed the commercial operation from 2023 to 2025.

# **GPSC** | Sustainable Highlights

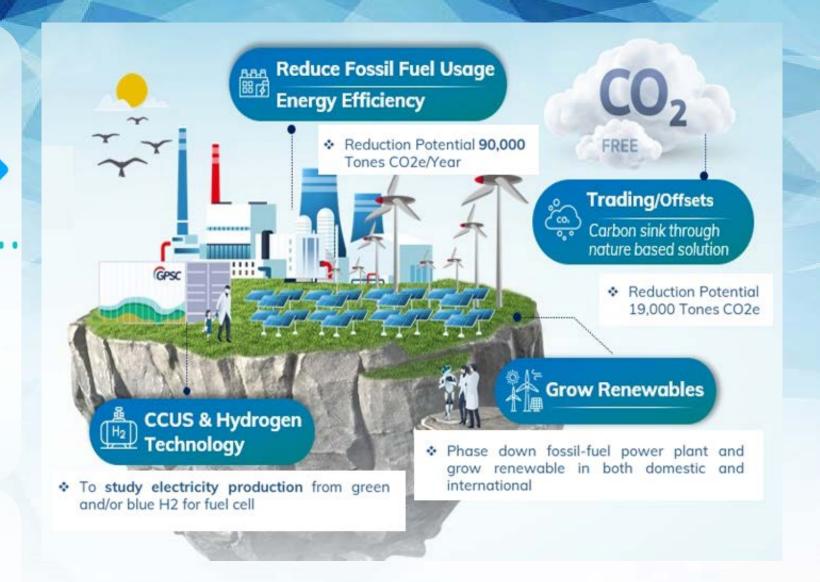


#### Target

- Net Zero Emissions by 2060
- Carbon Neutrality by 2050
- Carbon intensity reduction
   10% by 2025 & 35% by 2030

10% by 2025 & 35% by 2030

- Carbon intensity reduction
- Carbon Neutrality by 2050
- Net Zero Emissions by 2060



# **GPSC** | Sustainability Recognitions

# **Sustainability Award**

**Bronze Class 2022** 

**S&P Global** 





The Stock Exchange of Thailand (SET) has put Global Power Synergy Public Company Limited (GPSC) on its Thailand Sustainability Investment (THSI) list for the year 2022 for 5 consecutive years.





# Thailand greenhouse Gas management Organization

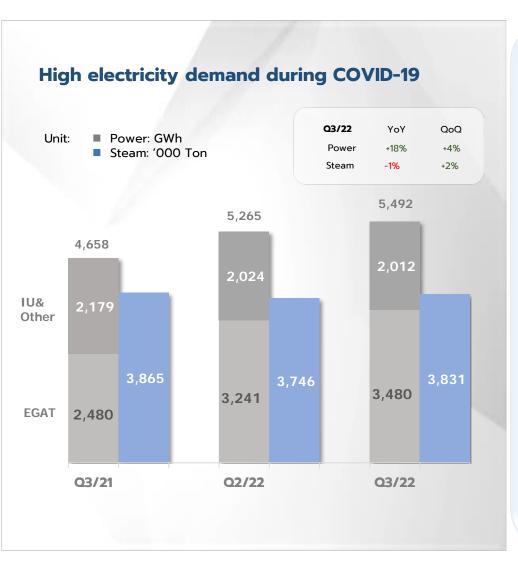
Low Carbon and Sustainability Business 2022

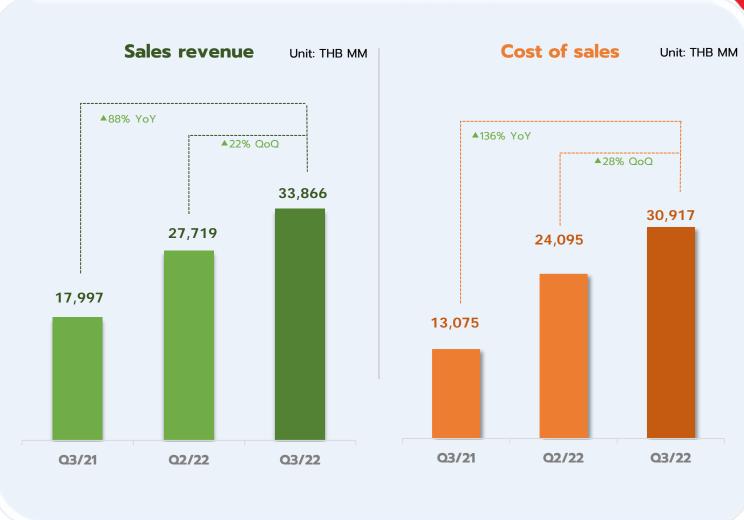
Key Highlight &
Business Improvement

**2.** Financial Performance



### Q3/2022 Key Highlight | Business Performance





### Q3/2022 | Financial Performance

#### **Key Events - Highlights and Lowlights**

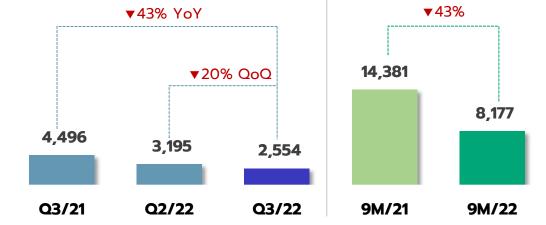


- + Strong electricity and steam demand
  - □ Total electricity sales volume increased 18% YoY and 4% QoQ (Sales volume to EGAT +40% YoY and 7% QoQ)
  - ☐ Stable steam demand from industrial customers
- + SRC & GIPP: Higher margin from operating with diesel oil
- Higher shares of profit from Xayaburi hydro power plant and Dividend Received from RPCL (THB 81 MM)

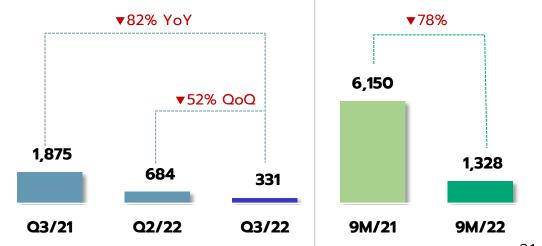
# **Lowlights**

- Significantly higher natural gas (NG) & coal price
  - □ NG price of SPP portfolio increased 89% YoY and 19% QoQ
  - ☐ Coal price of SPP portfolio increased 236% YoY and 73% QoQ
- Planned and Unplanned Outage at GHECO-One and SRC

# EBITDA Unit: THB MM

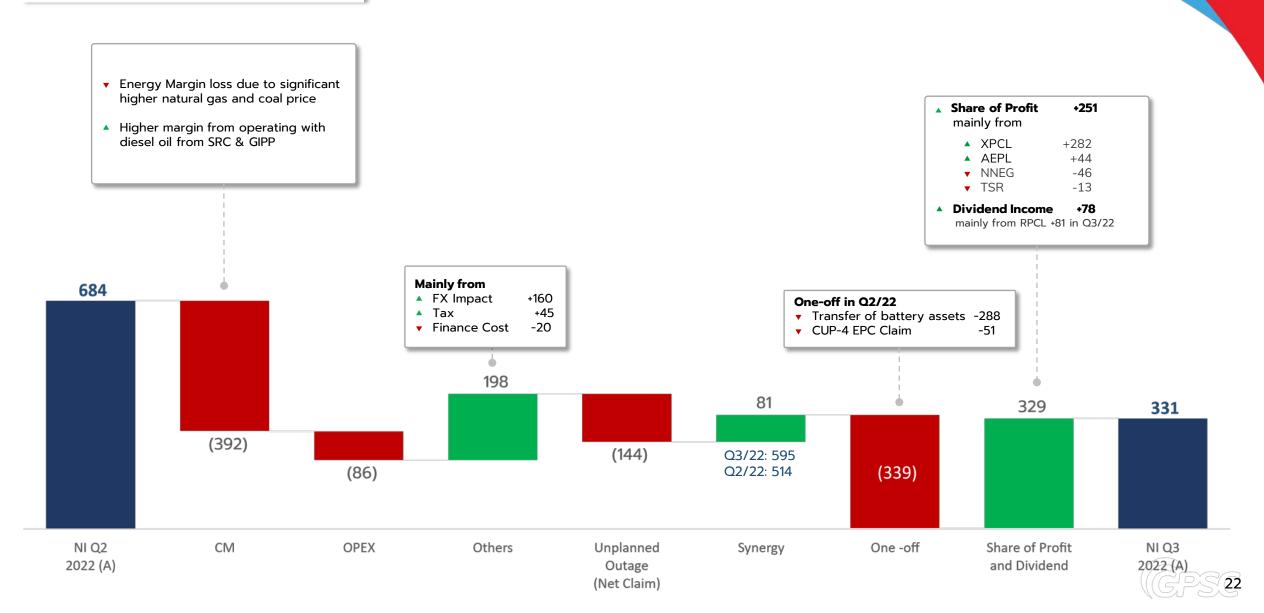


#### Net Income Unit: THB MM



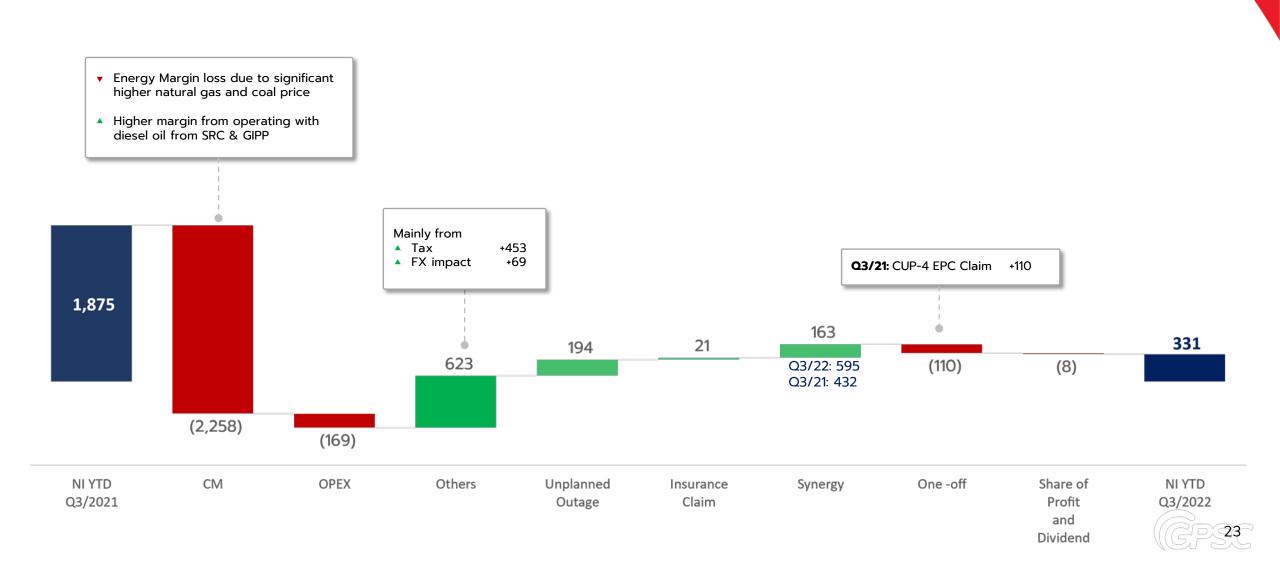
### Q3/2022 vs Q2/2022 (QoQ) Net Profit

#### Net Profit **THB -353 MM (-52%)**



### Q3/2022 vs Q3/2021 (YoY) Net Profit

Net Profit **THB -1,544 MM (-82%)** 



# **Q&A SESSION**

#### **IR Contact:**

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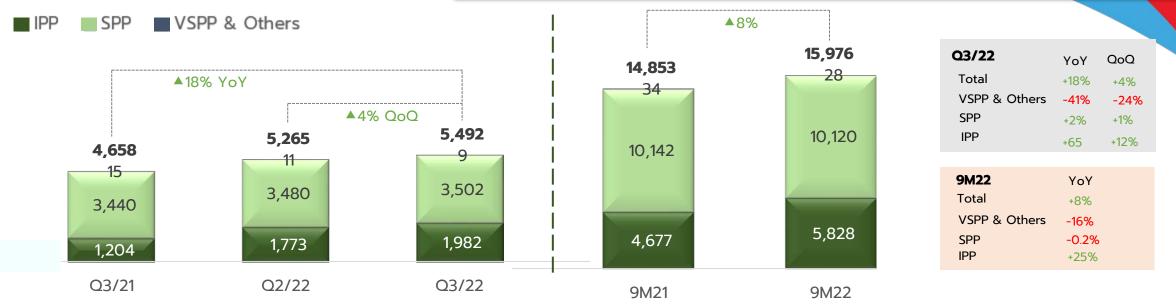


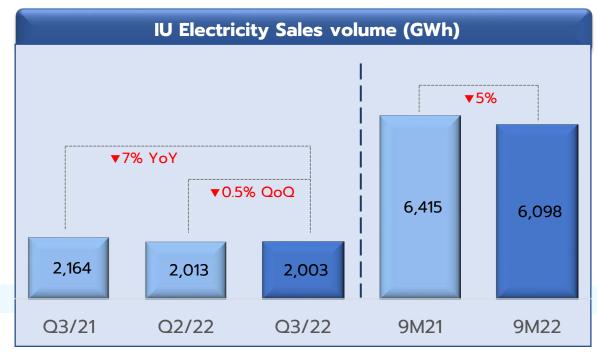


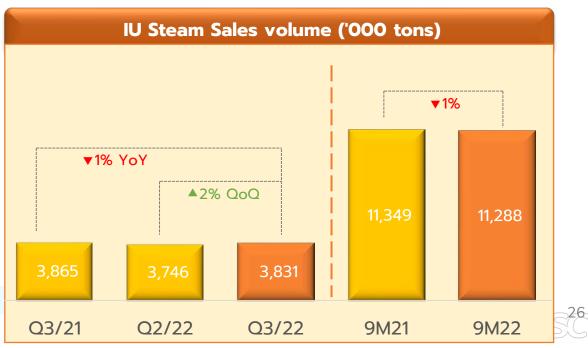
Appendix

### **Key Macro Factors (as of Sep 2022)**

#### **Electricity Sales volume (GWh) & Steam Sales volume ('000 tons)**





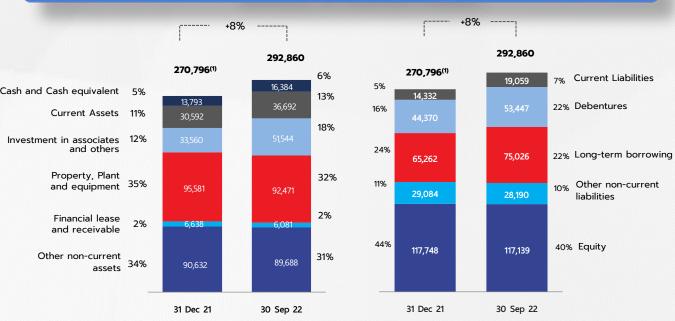


### **Q3/2022 Operating Results**

Overall operating results of the Company and its subsidiaries (unit: THB million)		Q2/22	Q3/22	change +/(-)		9M/21	9M/22	change +/(-)
(drit. The minor)				YoY	QoQ			YoY
Operating revenue	17,997	27,719	33,866	88%	22%	52,855	88,846	68%
Cost of sales (excluding depreciation and amortization)	(13,075)	(24,095)	(30,917)	136%	28%	(37,108)	(79,459)	114%
Gross profit	4,922	3,625	2,949	(40%)	(19%)	15,747	9,387	(40%)
Selling and administrative expenses	(431)	(436)	(401)	(7%)	(8%)	(1,381)	(1,228)	(11%)
Other operating income	5	6	6	10%	(12%)	15	17	18%
EBITDA	4,496	3,195	2,554	(43%)	(20%)	14,381	8,177	(43%)
Depreciation and amortization	(2,205)	(2,157)	(2,150)	(2%)	(0.3%)	(6,431)	(6,443)	0.2%
EBIT	2,291	1,037	404	(82%)	(61%)	7,950	1,733	(78%)
Finance costs	(998)	(1,046)	(1,068)	7%	2%	(2,959)	(3,089)	4%
Other non-operating income and expenses	262	619	205	(22%)	(67%)	1,037	1,745	68%
Dividend received and shares of profit of associates and joint ventures	772	435	764	(1%)	75%	1,591	1,372	(14%)
Income tax expenses	(295)	(53)	158	(154%)	(398%)	(1,095)	139	(113%)
Profit before FX and extraordinary items	2,033	992	462	(77%)	(53%)	6,525	1,899	(71%)
Net foreign exchange gain (loss)	(95)	(184)	(61)	36%	67%	(161)	(314)	95%
Net profit	1,938	808	401	(79%)	(50%)	6,363	1,586	(75%)
Non-controlling interests	(63)	(124)	(70)	11%	(44%)	(213)	(258)	21%
Net profit for the Company	1,875	684	331	(82%)	(52%)	6,150	1,328	(78%)
Adjusted Net Income	2,256	1,204	784	(65%)	(35%)	7,335	2,759	-62%
Gross profit margin (%)	27%	13%	9%	(19%)	(4%)	30%	11%	(19%)
Net profit margin (%)	10%	2%	1%	(9%)	(1%)	12%	1%	(10%)
Adjusted Net Income margin (%)	13%	6%	2%	(10%)	(2%)	14%	3%	(11%)

#### **Q3/2022 Operating Results**

#### **Summary of Financial Position**



Remark: (1) Reclassify the statement of financial position for December 31, 2021 as other receivables, other current assets, other payables, and other current liabilities.

#### Total asset +22,064 MTHB

Cash and cash equivalents	+2,592
• Investment in associates and JV, mainly CFXD, AEPL and Nuovo Plus	+17,984
Other current assets	+6,099
• PPE	-3,110
• Financial lease and receivable	-557
Other non-current assets	-944

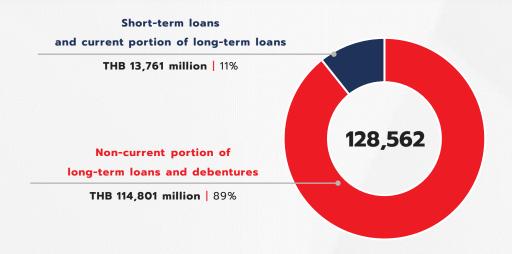
#### Liabilities +22,673 MTHB

<ul> <li>Long-term borrowings and</li> </ul>	
debentures	+18,780
Current liabilities	+4,788
Other non-current liabilities	-895

#### **Equity -609 MTHB**

NI for the period	+1,586
Dividend payment	-3,524
Other comprehensive income	+1,329

#### **Total Interest-Bearing Debt (THB million)**



#### **CREDIT RATINGS**

AA+



A+(tha) BBB-



# **GPSC** | Power Plant Portfolio (1/2)

Name	Туре	Shareholding (%)	Total capacity (MW)	Equity Power capacity (MW)	Equity Operating Power capacity (MW)	Steam (T/H)	Industrial water (Cu.m/H)	COD	Tenor
IPP					,				
Sriracha	IPP	GPSC (100%)	700	700	700	-	80	2000	25
Glow IPP	IPP	GLOW (95%)	713	677	677	-	-	2003	25
Huay Ho	IPP	GLOW (67%)	152	102	102	-	-	1999	30
GHECO-One	IPP	GLOW (65%)	660	429	429	-	-	2012	25
XPCL	IPP	GPSC (25%)	1285	321	321	-	-	2019	29
RPCL	IPP	GPSC (15%)	1400	210	210	-	-	2008	25
Total IPP	· ·		4,910	2,439	2,439	-	80		
SPP									
CUP-1	SPP	GPSC (100%)	226	226	226	890	720	2006	10-15
CUP-2	SPP	GPSC (100%)	113	113	113	170	510	2008	15
CUP-3	SPP	GPSC (100%)	-	-	-	280	770	2009	15
Rayong Expansion (CUP-3)	SPP	GPSC (100%)	15	15	15	-	-	2019	n/a
CUP-4	SPP	GPSC (100%)	49	49	49	140	-	2019	Long-term
Glow Energy Phase 1	SPP	GLOW (100%)	-	-	-	250	1,340	1994	-
Glow Energy Phase 2	SPP	GLOW (100%)	281	281	281	300	1,180	1996	(extension)
Glow Energy Phase 4	SPP	GLOW (100%)	77	77	77	137	2,050	2005	25
Glow Energy Phase 5	SPP	GLOW (100%)	328	328	328	160	-	2011	10-20
Glow SPP 2/ GLOW SPP 3	SPP	GLOW (100%)	513	513	513	190	150	1999	25
Glow SPP 11 Phase 1	SPP	GLOW (100%)	120	120	120	-	360	2000	25
Glow SPP 11 Phase 3	SPP	GLOW (100%)	42	42	42	-	-	2006	10-20
Glow SPP 11 Phase 2	SPP	GLOW (100%)	110	110	110	-	212	2012	25
Glow Energy CFB 3	SPP	GLOW (100%)	85	85	85	79	-	2010	10-20
IRPC-CP Phase 1	SPP	GPSC (51%)	45	23	23	86.7	-	2015	25-27
IRPC-CP Phase 2	SPP	GPSC (51%)	195	99.4	99.4	66.3	-	2017	25
IRPC-CP Phase 3	SPP	GPSC (51%)	70	35.7	-	-	-	2024	-
NNEG	SPP	GPSC (30%)	125	38	38	9	-	2016	25
NNEG Expansion	SPP	GPSC (30%)	60	18	18	3	-	2020	21
NNEG Expansion 2	SPP	GPSC (30%)	30	9	-	1.59	-	2024	-
BIC-1	SPP	GPSC (25%)	117	29.25	29.25	5	-	2013	25
BIC-2	SPP	GPSC (25%)	117	29.25	29.25	5	-	2017	25
Total SPP	, i	,	2,718	2,241	2,196	2,773	7,292		

# **GPSC** | Power Plant Portfolio (2/2)

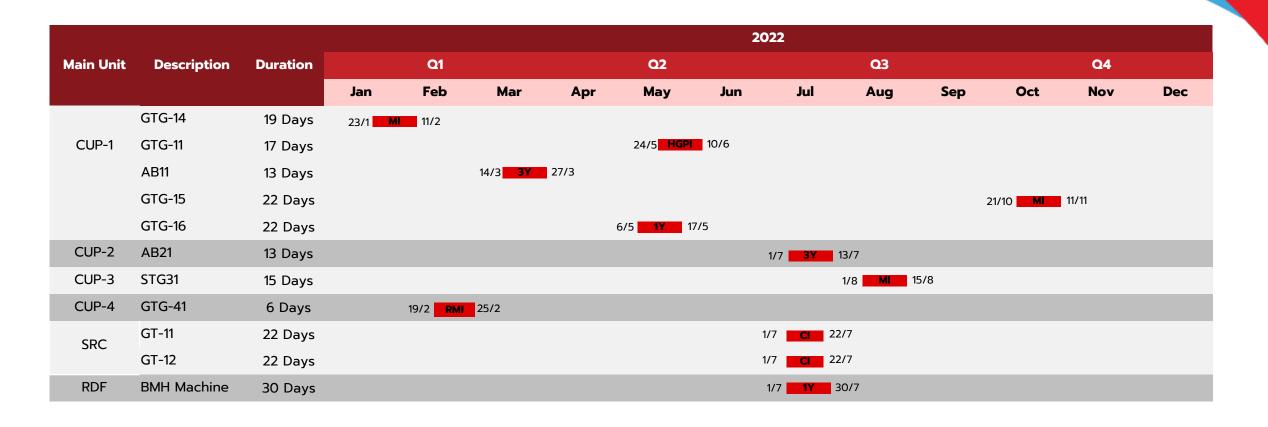
Name	Туре	Shareholding (%)	Total capacity (MW)	Equity Power capacity (MW)	Equity Operating Power capacity (MW)	Steam (T/H)	Industrial water (Cu.m/H)	COD	Tenor
VSPP and others									
Rayong Waste to Energy (WTE)	VSPP	GPSC (100%)	9.8	9.8	9.8	-	-	2021	18
Glow Energy Solar Plant	VSPP	GLOW (100%)	1.55	1.55	1.55	-	-	2012	25
CHPP	VSPP	GPSC (100%)	5	5	5	-	-	2008	30
CHPP (Solar)	VSPP	GPSC (100%)	5	5	5	-	-	2016	25
GRP (NPS, WXA, PPS)	VSPP	GPSC (50%)	39.5	19.75	19.75	-	-	2014-15	25
GRP1 (Sheng Yang)	Solar	GPSC (45%)	55.8	25.11	-	-	-	2016-21	20
AEPL (Solar Power Platform)	Solar	GPSC (43%)	4,634	1,990	1,580			2018-24	10-25
TSR (SSE1)	VSPP	GPSC (40%)	80	32	32	-	-	2013	25
NL1PC	Hydro	GPSC (40%)	65	26	26	-	-	2019	24
Chonburi Clean Energy (CCE)	VSPP	GLOW (33%)	8.6	2.87	2.87	-	-	2019	20
CFXD (Offshore wind farm) (Under closing process)	Wind	GPSC (25%)	595	149	-	-	-	2022-24	20
Private PPA	Solar	GPSC Gr. (100%)	40.39	40.39	14.46			2018-24	Long-term
Total VSPP and others			5,540	2,306	1,722	-	-		
ERU									
ERU (Under construction)	Petroleum Pitch	GPSC (100%)	250	250	-	175	-	2025	25
	Total ERU		250	250	-	175	-		
Total capacity			13,418	7,236	6,357	2.948	7,372		

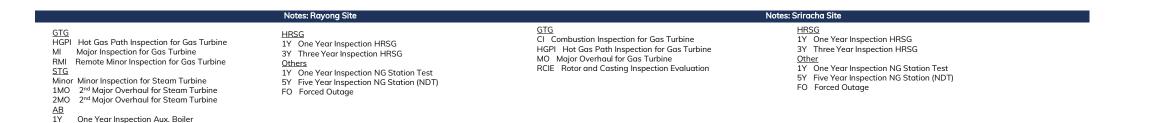
Note: - Total committed equity capacity as of December 31, 2021.

<sup>-</sup> Equity capacity includes 100% stake in GLOW, CFXD, Private PPA and ERU

<sup>-</sup> On January 18, 2022, GPSC has raised the equity injection amounting USD 25 million in AEPL and shareholding proportion was increased to 42.93%

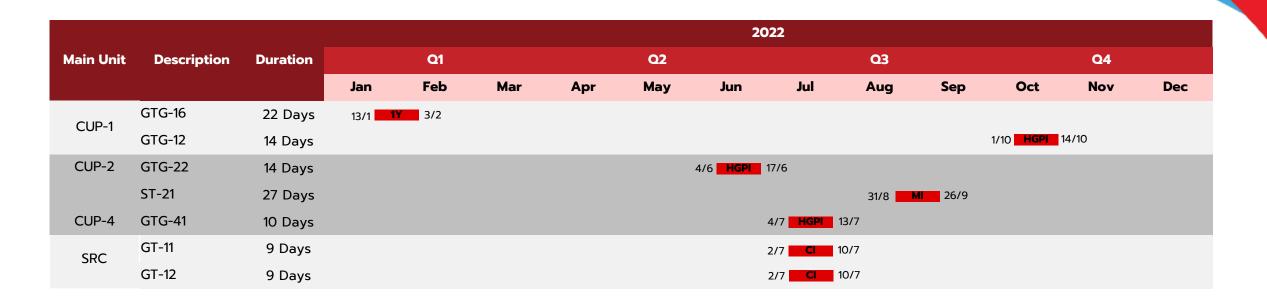
## 2022 Maintenance Schedule | Sriracha and Rayong Plants

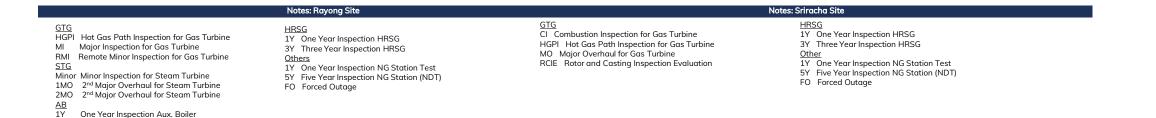




Three Year Inspection Aux. Boiler

### 2023 Maintenance Schedule | Sriracha and Rayong Plants





Three Year Inspection Aux. Boiler

# **2022 Maintenance Schedule** | IRPC-CP

								20	22					
Main Unit	Description	Duration		<b>Q</b> 1			Q2			Q3			<b>Q</b> 4	
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Block 1														
CTG 21	Α	5 Days							5					
HRSG 21	YI	5 Days							5					
CTG 22	Α	5 Days							5					
HRSG 22	YI	5 Days							5					
STG 23	YI	5 Days							5					
Block 2														
CTG 31	А	5 Days						5						
HRSG 31	YI	5 Days						5						
CTG 32	Α	6 Days										5		
HRSG 32	YI	6 Days										5		
STG 33	YI	5 Days										5		
Aux. Boiler	YI	8 Days											7	

#### Notes:

- YI: Yearly Inspection, A: Inspection Level A
- The duration of maintenance above does not include inspection by law.

# **2023 Maintenance Schedule** | IRPC-CP

								20	23					
Main Unit	Description	Duration		Q1			Q2			Q3			<b>Q4</b>	
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Block 1														
CTG 21	А	5 Days								5				
HRSG 21	YI	5 Days								5				
CTG 22	Α	5 Days								5				
HRSG 22	YI	5 Days								5				
STG 23	YI	5 Days								5				
Block 2														
CTG 31	А	5 Days									5			
HRSG 31	YI	5 Days									5			
CTG 32	Α	5 Days												5
HRSG 32	YI	5 Days												5
STG 33	YI	5 Days												5
Aux. Boiler	YI	7 Days						7						

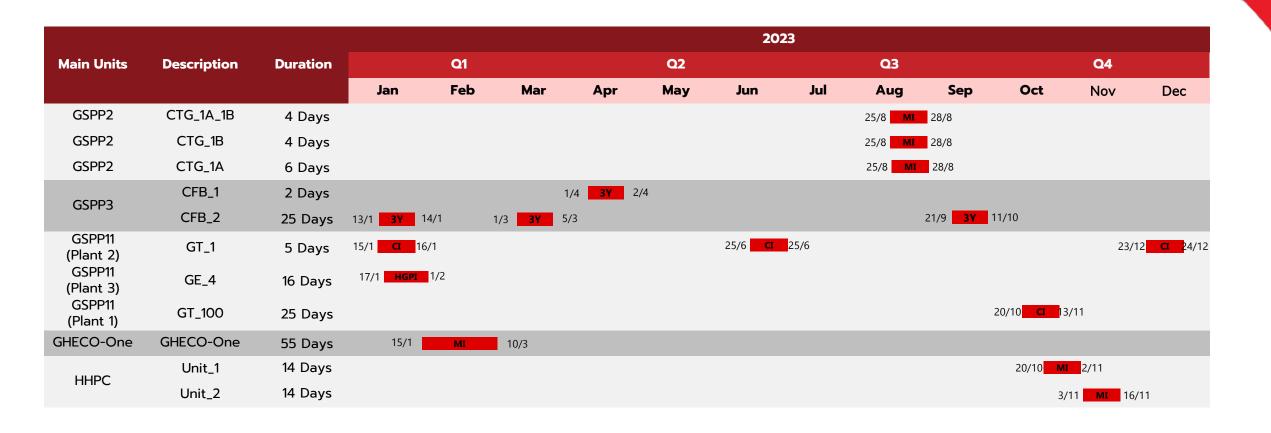
#### Notes:

- YI: Yearly Inspection, A: Inspection Level A
- The duration of maintenance above does not include inspection by law.

## **2022 Maintenance Schedule** | GLOW's Main Units



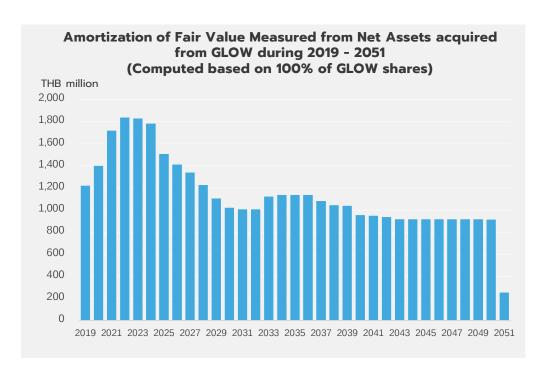
### **2023 Maintenance Schedule** | GLOW's Main Units



### Fair Value Measurement of Net Assets from Acquisition of Glow

unit: THB million

			_
Items	Book Value of GLOW	Fair Value of GLOW	Differential Value
Assets	107,655	155,500	47,845
Liabilities	(56,246)	(66,497)	(10,251)
Net Assets of GLOW at 14 March 2019	51,409	89,003	37,594
Non-Controlling interests at 30.89%		(32,092)	
Total Net Asset obtained GLOW at 69.11%		56,911	
Goodwill		36,090	
Proportion of acquisition cost 69.11%		93,001	



GPSC has completed the acquisition of 69.11% on 14 March 2019 at a total of THB 93,001 million, the company has measured the fair value of GLOW net assets as follows:

- The fair value uplift of THB 37,594 million from **Purchase Price Allocation (PPA)**
- The fair value recognition of net assets acquired from GLOW will be amortized yearly (based on the remaining period of the contract, 5 to 31 years).
- Goodwill will be subjected to an impairment test on a yearly basis.



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