







2019-2023 Development Plan

Entering a New Era of Gas Generation for a Low-Carbon Future

Development Plan Background



- "Hong Kong's Climate Action Plan 2030+" Improving fuel mix as a key strategy for Hong Kong to combat climate change
- Densely populated vertical city Reliable power supply and excellent customer service is critical to Hong Kong's development
 - HK Electric's supply reliability rating above 99.999% since 1997,
 reaching 99.9999% in 2017
- Sustainable development of Hong Kong Timely and adequate resources required to build necessary electricity infrastructure

Development Plan Objectives



- 2019-2023 Development Plan requires \$26.6B capital expenditure
 - Support Government's environmental and climate change policies –
 Build infrastructure for transition from coal to gas generation
 - Help transform Hong Kong into a smart city and enhance power networks
 - Maintain highly reliable power supply and excellent customer services



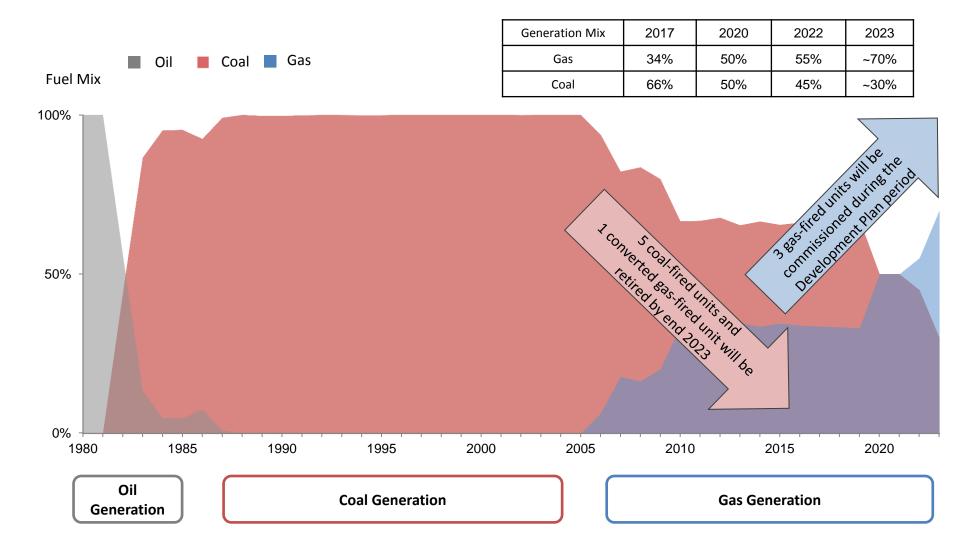


2019 to 2023 Capital Expenditure - \$26.6 B

Transmission & Distribution Systems Customer and 34% **Corporate Services** \$9.1 B Development 5% \$1.3 B New Generating Units & Other Generation 61% **Facilities** \$16.2 B

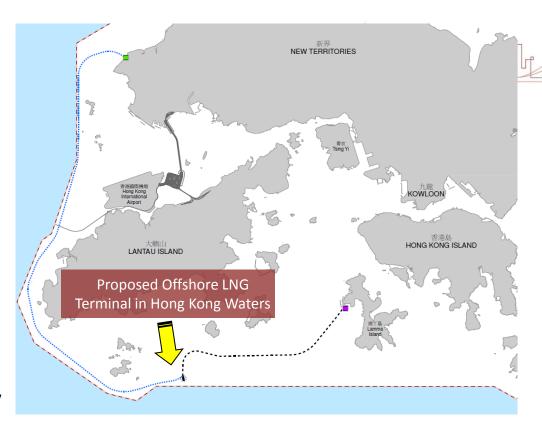
Towards Low-Carbon Power Generation





Securing 2nd Gas Supply

- Gas generation to increase to 50% in 2020 to meet Government's fuel mix target
- Gas generation increases further to 55% in 2022 and 70% in 2023 with new generating units
- Lamma Power Station now wholly relies on a single cross-border submarine pipeline – risk of gas supply loss under incidents threatening electricity supply security
- Building Offshore Liquefied Natural
 Gas (LNG) Terminal greatly enhances
 gas supply security and bargaining
 power on gas purchase





Offshore LNG
Terminal using
Double-Berth
Floating Storage
and Re-Gasification
Unit Technology
(Illustration Photo)

More Resilient Power Grid

港燈 The Power behind HK Electric 125

- Construct and reinforce T&D Facilities
 - New zone substation in Eastern District
 - Replacement zone substation in Sheung
 Wan
 - New distribution substations and network expansion for new building developments
- Improve and enhance grid intelligence and automation features
 - Deploy smart meters to build an intelligent information exchange platform for customer energy management
 - Reinforce and enhance remote control and monitoring system

Deploy smart meters to promote transformation of Hong Kong into a smart city



Congested underground utilities and shortage of space significantly increase network construction cost and maintenance



Factors Affecting Future Tariffs

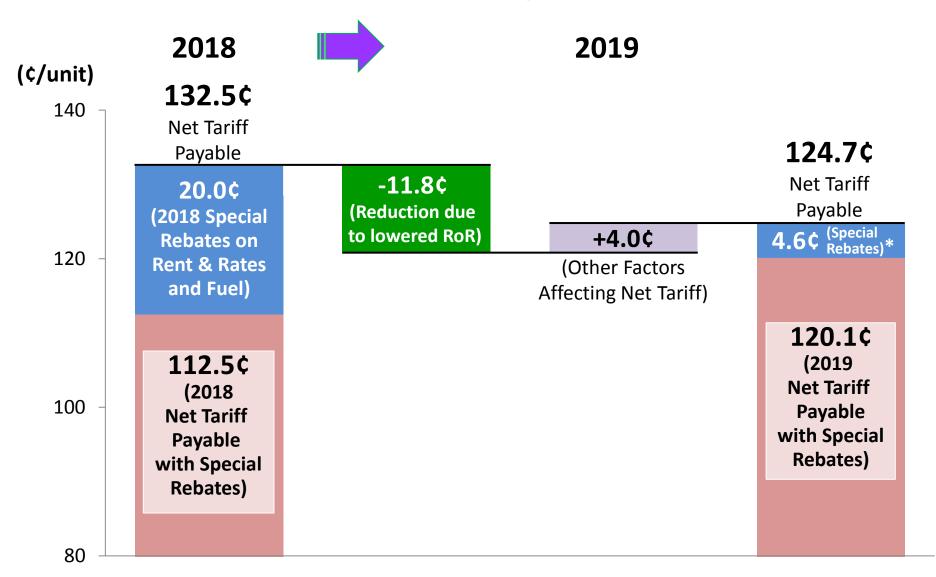


- 2019-2033 Scheme of Control Agreement (SCA) new requirements
 - Lower Permitted Rate of Return (8%) will reduce Basic Tariff
 - Frequent adjustments of Fuel Clause Charge timely reflect actual fuel cost fluctuations
 - Wider promotion of energy efficiency & conservation initiatives and RE incur additional resources and cost
- Key factors
 - Increase in capital expenditure
 - Escalation in operating expenses
 - Higher gas consumption

Year 2018 and 2019 Tariff Comparison



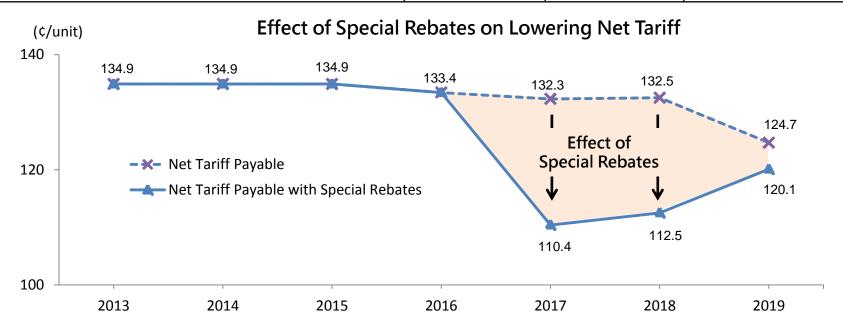








Year	2018	2019	Adjustment	
Components	(¢/unit)			
Basic Tariff	109.1	101.3	- 7.8 [-7.1%]	
Fuel Clause Charge	23.4	23.4		
Net Tariff Payable	132.5	124.7	-7.8 [- 5.9%]	
Special Rent & Rates Rebate	- 4.0	- 2.3	+ 1.7	
Special Fuel Rebate	- 16.0	- 2.3	+ 13.7	
Net Tariff Payable with Special Rebates	112.5	120.1	+ 7.6 [+ 6.8%]	







Year	2018	2019	2020	2021	2022	2023		
Components	(¢/unit)							
Basic Tariff	109.1	101.3	105.3	110.2	114.8	115.7		
Change since 2018	-	-7.1%	-3.5%	+1.0%	+5.2%	+6.0%		
Special Rent and Rates Rebate	-4.0	-2.3	-0.3	-	-	-		
Net Basic Tariff	105.1	99.0	105.0	110.2	114.8	115.7		
Change since 2018	-	-5.8%	-0.1%	+4.9%	+9.2%	+10.1%		

Conclusion



- HK Electric will make best endeavour to complete all planned projects
- Commissioning new gas generating units will further improve air quality and help combat climate change
- Installing smart meters and improving grid intelligence will help transform
 Hong Kong into a smart city
- 2019 net tariff payable is 124.7¢ per unit, lower than 132.5¢ in 2018 by
 5.9%
- After special rebates, 2019 net tariff payable will be 120.1¢ per unit, 7.6¢
 or 6.8% higher than 112.5¢ in 2018



Thank You