

2019-2023 Development Plan & 2019 Tariff Review Annex HEC-A

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Provision of information by The Hongkong Electric Company, Limited (HEC) for Economic Development Panel of the Legislative Council

I. Information related to the 2019-2023 Development Plan

1. Capital expenditure forecasts under the 2019-2023 Development Plan

Categories ¹ (\$ million)	Total
Power Generation System	16,224.4
Transmission & Distribution System	9,064.6
Customer and Corporate Services Development	1,297.3
Grand Total	26,586.3

Note 1: Detailed breakdown of capital expenditure shown on page 2.

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Item	Project	Project Total CapEx (HK\$M)
G. Power Generation System		
G.1	Lamma Extension – L10 Combined Cycle Gas Generating Unit	
G.2	Lamma Extension – L11 Combined Cycle Gas Generating Unit	
G.3	Lamma Extension – L12 Combined Cycle Gas Generating Unit	
G.4	Lamma Extension – Preparatory Field Work for L13 Combined Cycle Gas Generating Unit	
G.5	Po Toi Island Solar Renewable Energy System	
G.6	Offshore LNG Terminal	
G.7	Reprovision of Retired Open Cycle Gas Turbine Units	
G.8	Upgrade of L9 Combined Cycle Gas Generating Unit Reliability	
G.9	Improvement and Upgrade of Coal and Ash Handling System	
G.10	Common Utilities and Provisions at Lamma Extension	
G.11	Improvement and Upgrade of Common Facilities, Civil Works, and Other Auxiliaries for Generation System	
T&D. Transmission & Distribution System		
T&D.1	Cable Replacement for Kennedy Road-Davis 132-kV Circuits	
T&D.2	Cable Replacement for Kennedy Road-Moreton Terrace 132-kV Circuits	
T&D.3	Power Supply to MTRC Shatin to Central Link (North South Corridor)	
T&D.4	Zone Substation Development	
T&D.5	Additional Transmission System for New Generating Units	
T&D.6	Construction of New Distribution Network to Supply New Customers	
T&D.7	Zone Substation Improvement to Enhance Reliability	
T&D.8	132-kV & 275-kV Transmission System Improvement & Reliability Upgrade	
T&D.9	HV/LV Distribution Systems Reinforcement	
T&D.10	Grid Automation and Control Improvement	
T&D.11	Smart Meters and Advanced Metering Infrastructure	
T&D.12	Other Improvement and Reliability Upgrade Works for Transmission and Distribution System	
C. Customer and Corporate Services Development		
C.1	Replacement and Upgrade of IT System and Infrastructure	
C.2	Communication System, Customer Services, Operation Premises Improvement, and Miscellaneous	
Total CapEx of All the Above Projects		26,586.3

Notes to the confidential figures:

Since a lot of works are in progress under individual projects, revealing the capital expenditure forecast would not be appropriate. Such projects may be in the tendering stage or having potential contractual disputes with the contractors or suppliers. As a result, revealing such confidential figures may not benefit customers.

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2. Tariff component by year – Five-year development plan forecast compared with annual tariff review

Tariff Component (cents/kWh)	2018	2019	2020	2021	2022	2023
	Annual Tariff Review	DP Forecast/ Annual Tariff Review*	DP Forecast	DP Forecast	DP Forecast	DP Forecast
(A) Basic Tariff	109.1	101.3	105.3	110.2	114.8	115.7
<i>Increase/(Decrease)%</i>						
-- Annual		-7.1%	+3.9%	+4.7%	+4.2%	+0.8%
-- Since 2018		-7.1%	-3.5%	+1.0%	+5.2%	+6.0%
(B) Special Rent & Rates Rebate	-4.0	-2.3	-0.3	-	-	-
(C) Net Basic Tariff	105.1	99.0	105.0	110.2	114.8	115.7
<i>Increase/(Decrease)%</i>						
-- Annual		-5.8%	+6.1%	+5.0%	+4.2%	+0.8%
-- Since 2018		-5.8%	-0.1%	+4.9%	+9.2%	+10.1%
(D) Fuel Clause Charge	23.4	23.4	25.8	27.5	29.8	36.2
<i>Increase/(Decrease)%</i>						
-- Annual		-%	+10.3%	+6.6%	+8.4%	+21.5%
-- Since 2018		-%	+10.3%	+17.5%	+27.4%	+54.7%
(E) Special Fuel Rebate	-16.0	-2.3	-	-	-	-
(F) Net Tariff	112.5	120.1	130.8	137.7	144.6	151.9
<i>Increase/(Decrease)%</i>						
-- Annual		+6.8%	+8.9%	+5.3%	+5.0%	+5.0%
-- Since 2018		+6.8%	+16.3%	+22.4%	+28.5%	+35.0%
(G) Tariff Stabilization Fund (\$M)	331.0	328.5	326.8	325.7	324.9	268.7
(H) Fuel Clause Recovery Account CR/(DR) (\$M)	978.5	614.8	413.2	330.3	288.9	38.7

* The two exercises were done at the same time

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II. Information related to tariff adjustments

1. Tariff Adjustment

	2018 Tariff ¢/kWh	2019 Tariff ¢/kWh	Adjustment %
Basic Tariff	109.1	101.3	
Special Rent & Rates Rebate	-4.0	-2.3	
Net Basic Tariff	105.1	99.0	-5.8% -6.1 cents
Fuel Clause Charge	23.4	23.4	
Special Fuel Rebate	-16.0	-2.3	
Net Tariff	112.5	120.1	+6.8% +7.6 cents

Year End Balance (\$ billion)

- Tariff Stabilisation Fund (Estimate)	0.33B	0.33B
- Fuel Clause Recovery Account (Estimate)	0.98B	0.61B

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2. Rationale for tariff adjustment

	Rationales for tariff adjustment	Tariff impact (¢ / kWh)																		
(1)	Basic Tariff																			
(a)	<p>Change in Rate of Permitted Return</p> <p>Reduction of rate of permitted return from 9.99% to 8.00%.</p>	-11.8																		
(b)	<p>Increase in Average Net Fixed Assets</p> <p>Increase from estimated [redacted] billion in 2018 to estimated [redacted] billion in 2019, the major components include capital expenditure on transmission & distribution projects, generation projects and customer and corporate services development projects</p> <p>Note: Average Net Fixed Assets for any year means the average, for that year, of the opening and closing balances of Net Fixed Assets.</p>	+2.0																		
(c)	<p>Decrease in operating expenses</p> <p>Decrease from estimated \$4.11 billion in 2018 to estimated \$4.03 billion in 2019 (Refer item 3A)</p>	-0.7																		
(d)	<p>Decrease in local electricity sales</p> <p>The sales of electricity decrease from estimated 10.50 billion kWh in 2018 to estimated [redacted] billion kWh in 2019. The major changes in different categories are tabled as follows:</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 30%;">Million kWh</th> <th style="width: 35%;">2018 Estimate</th> <th style="width: 35%;">2019 Estimate</th> </tr> </thead> <tbody> <tr> <td>Domestic</td> <td>2,462</td> <td>[redacted]</td> </tr> <tr> <td>Commercial</td> <td>7,743</td> <td>[redacted]</td> </tr> <tr> <td>Industrial</td> <td>297</td> <td>[redacted]</td> </tr> <tr> <td>Total</td> <td>10,502</td> <td>[redacted]</td> </tr> <tr> <td>Change Over Previous Year</td> <td>-1.1%</td> <td>[redacted]</td> </tr> </tbody> </table>	Million kWh	2018 Estimate	2019 Estimate	Domestic	2,462	[redacted]	Commercial	7,743	[redacted]	Industrial	297	[redacted]	Total	10,502	[redacted]	Change Over Previous Year	-1.1%	[redacted]	+0.8
Million kWh	2018 Estimate	2019 Estimate																		
Domestic	2,462	[redacted]																		
Commercial	7,743	[redacted]																		
Industrial	297	[redacted]																		
Total	10,502	[redacted]																		
Change Over Previous Year	-1.1%	[redacted]																		

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	Rationales for tariff adjustment	Tariff impact (¢ / kWh)
(1)	Basic Tariff	
(e)	All others	
	Change in Tariff Stabilisation Fund balance, interest & SOC taxation, etc.	+1.9
	Sub-total (Basic Tariff):	-7.8
(2)	Special Rent & Rates Rebate	
	Return of rent & rates overcharged by Government (Decrease from 4.0 ¢/kWh to 2.3 ¢/kWh)	+1.7
	Sub-total (Special Rent & Rates Rebate):	+1.7
<p>Notes on the confidential figures:</p> <p>(i) Forecast Average Net Fixed Assets (ANFA) values might reveal future 2019 profits. Any disclosure of confidential information may be detrimental to the interests of small shareholders and may also violate the Hong Kong Listing Rules requirements. Any person using confidential information or any “tipping” to others for dealings may also commit an offence under the Securities and Futures Ordinance.</p> <p>(ii) Disclosure of future sales growth might indicate to suppliers HEC’s underlying demands which could increase their bargaining power in prices setting leading to higher prices to be borne by the Hong Kong citizens. This might also reveal HEC’s future fixed assets investment as well as future profits. Any disclosure of confidential information may be detrimental to the interests of small shareholders and may also violate the Hong Kong Listing Rules requirements. Any person using confidential information or any “tipping” to others for dealings may also commit an offence under the Securities and Futures Ordinance.</p>		

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	Rationales for tariff adjustment	Tariff impact (¢ / kWh)
(3)	Fuel Clause Charge	
(a)	Expected increase in 2019 fuel price over 2018 Higher fuel clause chargeable per unit	+0.1
(b)	Fuel Cost Recovery Difference (i.e. the total Fuel Clause Charge received minus “difference between Standard Fuel Cost and Actual Fuel Cost”)	-0.1
	Sub-total (Fuel Clause Charge):	-
(4)	Special Fuel Rebate	
	Reduced from 16.0 ¢/kWh to 2.3 ¢/kWh	+13.7
	Sub-total (Special Fuel Rebate):	+13.7
	(1) + (2) + (3) +(4) Grand total:	+7.6

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Fuel consumed (Tera-joules)	<u>2018 (Estimate)</u>	<u>2019 (Estimate)</u>
• Coal	77,552	
• Natural Gas	32,173	
• Oil	487	
Total	110,212	

Average Fuel Price (HK\$ per GJ)	<u>2018 (Estimate)</u>	<u>2019 (Estimate)</u>
• Coal	29.7	
• Natural Gas	63.1	
• Oil	105.5	
Overall	40.0	

Total Fuel Cost (\$ million)	<u>2018 (Estimate)</u>	<u>2019 (Estimate)</u>
• Coal	2,300	
• Natural Gas	2,029	
• Oil	51	
• Others	26	
Overall	4,406	

Actual Fuel Costs pass through to customers through the following 2 accounts:

Standard fuel costs (Include in basic tariff)	1,837	
Fuel Clause Recovery Account	2,569	
Overall	4,406	

Notes on the confidential figures:

Disclosure of fuel demand and price forecasts would materially disadvantage HEC in negotiations in setting price or volume delivery terms with fuel suppliers, resulting in higher prices and hence increase fuel clause charges to be borne by Hong Kong citizens.

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3. The detailed items of the operating expenses and the respective budget figures

Items for Non-Fuel Operating Expenses	Forecast Expense for 2018 (\$ million) Estimate	Forecast Expense for 2019 (\$ million) Estimate	% Change
Operating Expenses			
Employee expenses (1)	785.9		
Materials & Services (note a)	349.0	402.4	
Loan charges (2)	3.4		
Government Rent & Rates	262.3	275.4	
Contingency	55.0		
Stocks/FA Write-offs (note b)	83.5	100.3	
Provision for Decommissioning	315.3	172.5	
Depreciation	2,257.8	2,264.0	
(A) Sub-total for Operating Expenses & Depreciation:	4,112.2	4,032.9	-1.9%
Interest (2)	31.8		
Taxation (3)	535.0		
(B) Sub-total for Interest & Taxation:	566.8	646.0	
Total Non-fuel Operating Expenses:	4,679.0	4,678.9	-0.0%

Note

- Based on quotations from suppliers and contractors. If quotations are unavailable, expenses are based on inflation rates assumptions.
- Estimation based on usage conditions of fixed assets.

Notes to the confidential figures as highlighted:

- HEC has a policy of pay for performance. As a result, staff salary adjustment rate will vary by individual. Disclosing such detail may create false expectation and jeopardize employee relations.
- Disclosure of confidential funding information could materially affect HEC's borrowing costs, leading to increased costs to Hong Kong citizens.
- Disclosure of information may enable calculation of interest.