

**2014-2018 Development Plan & 2014 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 Five-year Development Plans****1. Capital expenditure forecasts under the approved Five-year Development Plans**

Categories <sup>1</sup> (\$ million)	2009-2013 Development Plan						2014-2018 Development Plan	
	2009	2010	2011	2012	2013	Total	2014	2014- 2018
(A) Power Generation System								
Emission Reduction Projects	573.5	438.9	216.6	323.5	123.8	1,676.3		6,065.8 <sup>#</sup>
Post-commissioning Projects & Other Power Generation System(s)	400.4	727.0	781.0	474.7	367.7	2,750.8		
Sub-total	973.9	1,165.9	997.6	798.2	491.5	4,427.1		
(B) Transmission & Distribution System	1,213.0	1,296.7	1,361.4	1,256.0	1,038.3	6,165.4		5,322.9
(C) Customer and Corporate Services Development	507.1	222.0	309.7	403.7	300.2	1,742.7		1,644.4
<b>Grand Total</b>	<b>2,694.0</b>	<b>2,684.6</b>	<b>2,668.7</b>	<b>2,457.9</b>	<b>1,830.0</b>	<b>12,335.2</b>		<b>13,033.1<sup>#</sup></b>

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

**Notes to the confidential figures:**

Revealing HEC major capital expenditure categories would enable the suppliers easily assess the budget estimates of certain projects that would increase their ability of price negotiations. Such might cause an increase in the costs of capital expenditure leading to an increase future tariff level. This would 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.

<sup>#</sup> Including \$3.0 billion for the proposed "L10" project for 2016-2018, approved only on a provisional basis and subject to the Government's Confirmation as detailed in the LegCo paper provided by the Environment Bureau on 10 December 2013.

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<b>2.A Approved 2009-2013 Development Plan – Project Capital Expenditure Forecasts</b>			
Project No.	Project	Remark	Project Total CapEx (HK\$M)
<b>G.1 Generation – Emission Reduction Projects</b>			
G.1.1	Coal-fired Units L2, L4, L5 FGD and Low NOx Retrofit		654.6
G.1.2	Coal-fired Units L2-L6 Start Up Fuel Conversion from Heavy Fuel Oil to Ultra Low Sulphur Diesel		52.9
G.1.3	CCGT Unit GT57 Reliability Upgrading and Emission Performance Improvement		629.7
G.1.4	CCGT Unit L9 Reliability Enhancement		339.1
<b>G.2 Generation – Post-commissioning Projects &amp; Other Power Generation System(s)</b>			
G.2.1	Upgrade Coal-fired Units Operating Efficiency and Reliability – Including Upgrading L4, L5 Steam Turbine Efficiency and Replacing L6 Control System		694.9
G.2.2	Improve and Upgrade Coal Conveying and Handling System		190.4
G.2.3	New Store Building for Gas Generation Facilities		101.4
G.2.4	Improve and Upgrade Common Facilities, Power Export Transmission Facilities and Other Auxiliary Plants		1,764.1
<b>T&amp;D Transmission &amp; Distribution Projects</b>			
T&D.1	Marsh Road Substation and Associated Transmission Cable Circuits		717.5
T&D.2	Cable Replacement for Kennedy Road-Davis 132kV Circuits		307.4
T&D.3	Cable Replacement for North Point-Parker 132kV Circuits		223.1
T&D.4	Power Supply to MTRC West and South Island Lines		699.2
T&D.5	Zone Electricity Supply Improvement		418.5
T&D.6	Reinforce Eastern District 275kV System for Phasing Out 132kV Overhead Lines		269.6
T&D.7	Construct New Distribution Network to Supply New Customers		1,622.8
T&D.8	Construct 22kV Distribution Network to Promote Electricity Supply Reliability		352.3
T&D.9	Replace North Point 132kV Station EHV Switchgear		250.6
T&D.10	132kV & 275kV Transmission System Improvement & Reliability Upgrade		463.3
T&D.11	HV/LV Distribution Systems Reinforcement		841.1
<b>C. Customer &amp; Corporate Services Development Projects</b>			
C.1	Replace and Upgrade IT Systems for Corporate Applications Including (1) HK Electric Customer Information System (HECIS); and (2) Enterprise Resources Planning & Operation Management Systems (MIAMI & ERP)		627.7
C.2	Replace and Upgrade IT systems for Engineering Applications Including (1) Power Station Central Management Information System (CNMIS); (2) Energy and Distribution Management Systems (EMS & DMS); and (3) EMS & DMS Remote Terminal Units (RTU)		236.4
C.3	Distribution System Metering, Communication System, Customer Services, Operation Premises Improvement, Electric Vehicle, and Building M&E Services Energy Efficiency Upgrade		878.6
<b>Total CapEx of All the Above Projects</b>			<b>12,335.2</b>

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<b>2.B Major Projects Deleted in the Course of 2009-2013 Development Plan Review</b>			
<b>Project No.</b>	<b>Project</b>	<b>Remark</b>	<b>Project Total CapEx (HK\$M)</b>
	Lamma Extension - L10 Combined Cycle Gas Generating Unit		
	Offshore Wind Farm		
	Lamma 275kV System Reconfiguration		
<b>Total CapEx of All the Above Projects</b>			

### **Notes to the confidential figures:**

For those projects not yet commenced, revealing the capital expenditure forecast would not be appropriate. If such capital expenditures are to be incurred in the future, HEC will be weakened in the bargaining power in price negotiations during the tendering stage leading to increase in capital expenditure expenses which will indirectly cause increase in future tariff level that would cause harm to the interests of the customers.

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**2.C Actual capital expenditure in the 2009-2013 Development Plan Period**

Categories (\$ million)	2009-2013 Development Plan				
	2009	2010	2011	2012	2013 Estimate
(A) Power Generation System					
Emission Reduction Projects	676.7	590.8	243.7	112.1	59.1
Post-commissioning Projects & Other Power Generation System(s)	486.1	556.2	974.4	854.9	447.3
Sub-total	1,162.8	1,147.0	1,218.1	967.0	506.4
(B) Transmission & Distribution System	963.1	934.2	1,183.6	1,165.0	1,040.7
(C) Customer and Corporate Services Development	572.9	300.5	427.4	378.9	322.6
<b>Grand Total</b>	2,698.8	2,381.7	2,829.1	2,510.9	1,869.7

**Explanations:**

According to the prevailing 5-year (2009-2013) Development Plan, the cumulative actual and forecast total capital expenditure for the 5 years (2009-2013) was lower than the budget estimate shown in the Development Plan (\$12.2902 billion vs. \$12.3352 billion).

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<b>3.A Approved 2014-2018 Development Plan – Project Capital Expenditure Forecasts</b>			
<b>Project No.</b>	<b>Project</b>	<b>Remark</b>	<b>Project Total CapEx (HK\$M)</b>
<b>G. Generation Projects</b>			
G.1	Lamma Extension – L10 Combined Cycle Gas Generating Unit <sup>##</sup>		
G.2	Life Extension of Coal-Fired Unit (L2) & Ancillary Plant Improvement		
G.3	CCGT Unit GT57 Reliability Upgrading		
G.4	CCGT Unit L9 Reliability Upgrading		
G.5	Upgrade Coal-Fired Units Operating Efficiency and Reliability		
G.6	Improve and Upgrade Coal Conveying and Handling System		
G.7	Improve and Upgrade Common Facilities, Civil Works, Power Export Transmission Facilities and Other Auxiliary Plants		
<b>T&amp;D. Transmission &amp; Distribution Projects</b>			
T&D.1	Cable Replacement for Kennedy Road-Davis 132kV Circuits		
T&D.2	Cable Replacement for North Point-Parker 132kV Circuits		
T&D.3	Power Supply to MTRC Shatin to Central Link (North South Corridor), West and South Island Lines		
T&D.4	Zone Electricity Supply Improvement		
T&D.5	Construct New Distribution Network to Supply New Customers		
T&D.6	Construct 22kV Distribution Network to Promote Electricity Supply Reliability		
T&D.7	Replace North Point 132kV Station EHV Switchgear		
T&D.8	132kV & 275kV Transmission System Improvement & Reliability Upgrade		
T&D.9	HV/LV Distribution Systems Reinforcement		
<b>C. Customer &amp; Corporate Services Development Projects</b>			
C.1	Replace and Upgrade IT systems for Corporate Applications		
C.2	Replace and Upgrade IT systems for Engineering Applications		
C.3	Distribution System Metering, Communication System, Customer Services, Operation Premises Improvement, and Building M&E Services Energy Efficiency Upgrade		
<b>Total CapEx of All the Above Projects</b>			<b>13,033.1</b>

### Notes to the confidential figures:

Since a lot of works are in progress under individual project, 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 the customers.

<sup>##</sup> Subject to the Government's Confirmation as detailed in the LegCo paper provided by the Environment Bureau on 10 December 2013.

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<b>3.B Shelved Projects Proposed by HEC</b>
<b>Project</b>
Lamma Extension – L11 Combined Cycle Gas Generating Unit
Offshore Wind Farm
Alternative Gas Supply Pipeline to Lamma Power Station

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

Tariff Component (cents/kWh)	2013	2014	2015	2016	2017	2018
	Annual Tariff Review	DP Forecast/ Annual Tariff Review*	DP Forecast	DP Forecast	DP Forecast	DP Forecast
(A) Basic Tariff	94.7	101.8	101.7	101.0	100.4	100.0
<i>Increase/(Decrease)%</i>						
-- Annual		+7.5%	-0.1%	-0.7%	-0.6%	-0.4%
-- Since 2013		+7.5%	+7.4%	+6.7%	+6.0%	+5.6%
(B) Fuel Clause Charge	40.2	33.1	33.2	33.9	34.5	34.9
<i>Increase/(Decrease)%</i>						
-- Annual		-17.7%	+0.3%	+2.1%	+1.8%	+1.2%
-- Since 2013		-17.7%	-17.4%	-15.7%	-14.2%	-13.2%
(C) Rate Reduction Reserve Rebate						
(D) Special Rebate						
(E) Net Tariff	134.9	134.9	134.9	134.9	134.9	134.9
<i>Increase/(Decrease)%</i>						
-- Annual		0%	0%	0%	0%	0%
-- Since 2013		0%	0%	0%	0%	0%
(F) Tariff Stabilization Fund (\$M)		168.2	299.1	293.3	288.5	289.1
(G) Fuel Clause Recovery Account CR/(DR) (\$M)		222.3	326.0	415.6	312.7	(33.8)

\* The two exercises were done at the same time.

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### 4.B Tariff component by year – Five-year development plan forecast compared with annual tariff review (Without L10)

Tariff Component (cents/kWh)	2013	2014	2015	2016	2017	2018
	Annual Tariff Review	DP Forecast/ Annual Tariff Review*	DP Forecast	DP Forecast	DP Forecast	DP Forecast
(A) Basic Tariff @ <i>Increase/(Decrease)%</i> -- Annual -- Since 2013	94.7	101.8 +7.5% +7.5%	101.7 -0.1% +7.4%	100.9 -0.8% +6.5%	100.0 -0.9% +5.6%	99.0 -1.0% +4.5%
(B) Fuel Clause Charge <i>Increase/(Decrease)%</i> -- Annual -- Since 2013	40.2	33.1 -17.7% -17.7%	33.2 +0.3% -17.4%	33.9 +2.1% -15.7%	34.5 +1.8% -14.2%	34.9 +1.2% -13.2%
(C) Rate Reduction Reserve Rebate						
(D) Special Rebate						
(E) Net Tariff <i>Increase/(Decrease)%</i> -- Annual -- Since 2013	134.9	134.9 0% 0%	134.9 0% 0%	134.8 -0.1% -0.1%	134.5 -0.2% -0.3%	133.9 -0.4% -0.7%
(F) Tariff Stabilization Fund (\$M)		168.2	299.1	295.0	286.1	299.4
(G) Fuel Clause Recovery Account CR/(DR) (\$M)		222.3	326.0	415.6	312.7	(33.8)

\* The two exercises were done at the same time.

@ This set of Projected Basic Tariff Rates for HEC without “L10” will apply pending the issue of a written confirmation by the Government as detailed in the LegCo paper provided by the Environment Bureau on 10 December 2013.



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#### II. Information related to tariff adjustments

In accordance with the prevailing Scheme of Control Agreement, electricity tariff (net tariff) is made up of the basic tariff and the fuel clause charge. The changes of basic tariff take into consideration of:- (1) Average Net Fixed Asset; (2) Operating Expenses; (3) Local Electricity Sales; (4) Tariff Stabilization Fund balance; and (5) Scheme of Control Taxation and Other. For the fuel clause charge, the factors include:- (1) Fuel Prices; (2) Correction of over-recovery of last year fuel clause charge; and (3) Fuel Clause Recovery Account balance.

#### 1. The tariff proposal submitted to the HKSAR Government by HEC on 10<sup>th</sup> December 2013

	2013 Tariff ¢/kWh	2014 Tariff ¢/kWh	Adjustment %
Basic Tariff	94.7	101.8	7.5% +7.1 cent
Fuel Clause Charge	40.2	33.1	-17.7% -7.1 cent
Net Tariff	134.9	134.9	0% 0 cent

#### Year End Balance (\$ billion)

- Tariff Stabilisation Fund (Estimate)	0.01B	0.17B
- Fuel Clause Recovery Account (Estimate)	0.05B	0.22B

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### 2. Rationale for tariff adjustment

	<b>Rationales for tariff adjustment</b>	<b>Tariff impact (¢ / kWh)</b>
(1)	<b>Basic Tariff</b>	
(a)	<b>Decrease in Average Net Fixed Asset</b>  (Decrease from estimated [REDACTED] billion in 2013 to estimated [REDACTED] billion in 2014, the major components include capital expenditure on transmission & distribution projects, generation projects and customer and corporate services development projects)  Note: Average Net Fixed Assets for any year means the average, for that year, of the opening and closing balances of Net Fixed Assets.	-0.2
(b)	<b>Increase in operating expenses</b>  (Increase from estimated \$3.03 billion in 2013 to estimated \$3.27 billion in 2014 mainly due to the rise in material prices & employee expenses and increase in depreciation)  (Please refer to item 3)	+2.2

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	<b>Rationales for tariff adjustment</b>	<b>Tariff impact (¢ / kWh)</b>																		
(1)	<b>Basic Tariff</b>																			
(c)	<p><b>Increase in local electricity sales</b></p> <p>(The sales of electricity increase from estimated [redacted] billion kWh in 2013 to estimated [redacted] billion kWh in 2014. The major changes in different categories are tabled as follows:)</p> <table border="1" data-bbox="480 745 1115 1050"> <thead> <tr> <th>Million kWh</th> <th>2013 Estimate*</th> <th>2014 Estimate</th> </tr> </thead> <tbody> <tr> <td>Domestic</td> <td>[redacted]</td> <td>[redacted]</td> </tr> <tr> <td>Commercial</td> <td>[redacted]</td> <td>[redacted]</td> </tr> <tr> <td>Industrial</td> <td>[redacted]</td> <td>[redacted]</td> </tr> <tr> <td>Total</td> <td>[redacted]</td> <td>[redacted]</td> </tr> <tr> <td>Change Over Previous Year</td> <td>[redacted]</td> <td>[redacted]</td> </tr> </tbody> </table> <p>*Figures rounded to hundreds</p>	Million kWh	2013 Estimate*	2014 Estimate	Domestic	[redacted]	[redacted]	Commercial	[redacted]	[redacted]	Industrial	[redacted]	[redacted]	Total	[redacted]	[redacted]	Change Over Previous Year	[redacted]	[redacted]	-0.4
Million kWh	2013 Estimate*	2014 Estimate																		
Domestic	[redacted]	[redacted]																		
Commercial	[redacted]	[redacted]																		
Industrial	[redacted]	[redacted]																		
Total	[redacted]	[redacted]																		
Change Over Previous Year	[redacted]	[redacted]																		
(d)	<p><b>Increase in Tariff Stabilisation Fund Balance</b></p> <p>(TSF balance reduced by <u>\$0.41 billion</u> from \$0.42 billion at the beginning of 2013 to estimated \$0.01 billion at end 2013. TSF balance will be increased by <u>\$0.16 billion</u> to estimated \$0.17 billion at end 2014; Total TSF addition in 2014 will be <u>\$0.57 billion</u> higher than 2013 reduction)</p>	+6.4																		

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	<b>Rationales for tariff adjustment</b>	<b>Tariff impact (¢ / kWh)</b>
(1)	<b>Basic Tariff</b>	
(e)	<b>Others</b> (Decrease in Scheme of Control taxation* )  *Details please refer to item (2) (b) & (c)	-0.9
	<b>Sub-total (Basic Tariff):</b>	+7.1

### Notes to the confidential figures

- (i) Forecast Average Net Fixed Assets (ANFA) values might reveal future 2014 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.
- (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.

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	<b>Rationales for tariff adjustment</b>	<b>Tariff impact (¢ / kWh)</b>
<b>(2)</b>	<b>Fuel Clause Charge</b>	
(a)	<b>Decrease in Fuel Price</b> (Fuel clause adjustments decrease from estimated \$3.5 billion in 2013 to estimated \$3.4 billion in 2014 mainly due to international fuel prices fluctuations resulting in fall in fuel prices. Please refer to Tariff Proposal Note 1 for details.)	-0.6
(b)	<b>Correction for the over-recovery of fuel clause charge in 2013</b> (i.e. the total Fuel Clause Charge received minus "difference between Standard Fuel Cost and Actual Fuel Cost")  (Decrease of the Fuel Clause Recovery Account deficit from \$0.82 billion at end 2012 to estimated \$0.05 billion surplus in end 2013; the change is \$0.87 billion)	-8.1
(c)	<b>Increase in the Fuel Clause Recovery Account Surplus</b>  (Increase of the Fuel Clause Recovery Account surplus from \$0.05 billion at end 2013 to estimated \$0.22 billion in end 2014; the change is \$0.17 billion)	+1.6
(d)	<b>Others</b>	
	<b>Sub-total (Fuel Clause Charge):</b>	-7.1
	<b>Grand total:</b>	-

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### Tariff Proposal Note 1 for 2014

<b>Fuel consumed (Tera-joules)</b>	<u>2013 (Estimate)</u>	<u>2014 (Estimate)</u>
• Coal	78,246	
• Natural Gas	32,053	
• Oil	455	
Total	110,754	

<b>Average Fuel Price (HK\$ per GJ)</b>	<u>2013 (Estimate)</u>	<u>2014 (Estimate)</u>
• Coal	27.6	
• Natural Gas	93.1	
• Oil	140.7	
Overall	47.3	

<b>Total Fuel Cost (\$ million)</b>	<u>2013 (Estimate)</u>	<u>2014 (Estimate)</u>
• Coal	2,160	
• Natural Gas	2,985	
• Oil	64	
• Others	25	
Overall	5,234	

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

Standard fuel costs (Include in basic tariff)	1,766	
Fuel Clause Recovery Account	3,468	
Overall	5,234	

#### **Notes to 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 2013 (\$ million) Estimate	Forecast Expense for 2014 (\$ million) Estimate	% Change
Operating Expenses			
Employee expenses	518.6		1
Materials & Services ( <i>note a</i> )	160.9	174.4	
Administration Exp. ( <i>note b</i> )	85.6	177.8	
Loan charges	2.3		2
Government Rent & Rates	233.1	246.6	
Others (Insurance)	29.6	31.2	
Contingency	-	5.0	
Stocks/FA Write-offs ( <i>note c</i> )	47.3	82.2	
Provision of asset decommissioning	(19.9)	-	
Depreciation	1,971.2	2,014.7	
Sub-total for Operating Expenses & Depreciation:	3,028.7	3,269.8	8%
Taxation	990.1	949.4	
Total Non-fuel Operating Expenses:	4,018.8	4,219.2	5%

#### Note

- Based on quotations from suppliers and contractors. If quotations are unavailable, expenses are based on inflation rates assumptions.
- The 2013 administration expenses have one-off reduction as some projects are now re-scheduled. It will resume to normal in 2014.
- 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 be varied by individual. Disclosing such detail may create false expectation and employee relations will then be jeopardized.
- Disclosure of confidential funding information could materially affect HEC's borrowing costs, leading to increased costs to Hong Kong citizens.

- End -