



**To:** Finance Committee

**Date:** November 8, 2017

**From:** John Irving, P.Eng., MPA  
Director, Engineering and  
Chief Executive Officer, Lulu Island Energy  
Company

**File:** 10-6600-10-01/2017-Vol 01

Jerry Chong, CPA, CA  
Director, Finance and Chief Financial Officer,  
Lulu Island Energy Company

**Re: 2018 Operating Budget for the Lulu Island Energy Company**

**Staff Recommendation**

That the Lulu Island Energy Company report titled “2018 Operating Budget for the Lulu Island Energy Company” dated November 8, 2017 from the Chief Executive Officer and Chief Financial Officer, Lulu Island Energy Company be received for information.

John Irving, P.Eng., MPA  
Director, Engineering and  
Chief Executive Officer,  
Lulu Island Energy Company  
(604-276-4140)

Jerry Chong, CPA, CA  
Director, Finance and  
Chief Financial Officer,  
Lulu Island Energy Company  
(604-276-4064)

Att. 1

<b>REPORT CONCURRENCE</b>	
<b>CONCURRENCE OF GENERAL MANAGER</b> 	
<b>REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE</b>	<b>INITIALS:</b> 
<b>APPROVED BY CAO</b> 	

## Report

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**DATE:** November 8, 2017

**TO:** John Irving  
Chief Executive Officer, Lulu Island Energy Company

Jerry Chong  
Chief Financial Officer, Lulu Island Energy Company

**FROM:** Alen Postolka, District Energy Manager

Helen Zhao, Controller

**Re:** **2018 Operating Budget for the Lulu Island Energy Company**

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### Staff Recommendation

That the 2018 Operating Budget for the Lulu Island Energy Company (LIEC) as presented in the staff report titled, “2018 Operating Budget for the Lulu Island Energy Company” dated November 8, 2017 be approved by the LIEC’s Board of Directors.

### Background

LIEC, a corporation wholly-owned by the City of Richmond, was established to provide district energy services for the City. Under direction from Council, and following receipt of the necessary approval from the Inspector of Municipalities, the incorporation of LIEC was completed in August 2013.

In June 2014, the City and LIEC executed a District Energy Utilities Agreement, assigning LIEC the function of establishing and operating district energy systems as well as providing thermal energy services on behalf of the City.

In October 2014, LIEC and Corix Utilities executed a Concession Agreement whereby LIEC would own the Oval Village District Energy Utility’s (OVDEU) infrastructure, and Corix would design, construct, finance, operate and maintain OVDEU, subject to the City, as shareholder of LIEC, setting rates for customers and defining service areas.

In order to consolidate the City’s district energy operations, on October 11, 2016, Council authorized staff to transfer the City’s district energy assets to LIEC. The asset transfer was completed on March 31, 2017, and LIEC now effectively manages all district energy initiatives.

Staff have prepared this report to present the 2018 Operating Budget to the Board. Upon the Board's approval, staff will present the 2018 operating budget to Council for information in order to follow the City's reporting process.

## Analysis

### OVDEU (Oval Village District Energy Utility)

Over 1,650 residential units currently receive energy from the OVDEU. Space heating and domestic hot water heating energy is currently supplied from the two interim energy centres with natural gas boilers which combined provide 11 MW of heating capacity. When enough buildings are connected to the system, a permanent energy centre will be built which will produce low carbon energy, currently planned to be harnessed from the Gilbert Trunk sanitary force main sewer. Over the project's lifetime, the OVDEU system is anticipated to reduce GHG emissions by more than 52,000 tonnes of CO<sub>2</sub> compared to business as usual.

Staff are working with Corix on the successful delivery of Phase 1 of the OVDEU project. There are currently eight buildings (Carrera, Riva 1, Riva 2, River Park Place-Phase 1, Cadence, Tempo, Riva 3 and Aspac 9) connected to the OVDEU (Attachment 1), and Corix is continuing construction of the infrastructure necessary to connect more developments per LIEC's direction.

The following table represents anticipated development connection timelines for the next three years:

Table 1: Development Timing in OVDEU Service Area

	<b>Anticipated Occupancy</b>
Polygon (Carrera)	Occupied/Connected
Onni (Riva 1)	Occupied/Connected
Onni (Riva 2)	Occupied/Connected
Intracorp (River Park Place 1)	Occupied/Connected
Cressey (Cadence)	Occupied/Connected
Amacon (Tempo)	Occupied/Connected
Onni (Riva 3)	Occupied/Connected
Aspac (Parcel 9)	Occupied/Connected
Intracorp (River Park Place 2)	2019
ASPAC Lot 12	2020
Onni Riva Ph3 Bldg 4	2020
ASPAC Lot 13	2020

ADEU (Alexandra District Energy Utility)

ADEU has been operating since 2012 as a sustainable energy system which provides a centralized energy source for heating, cooling and domestic hot water heating for residential and commercial customers located in the Alexandra/West Cambie neighbourhood. ADEU assists in meeting the community-wide greenhouse gas emission reduction targets adopted as part of Richmond's Sustainability Framework by providing buildings with renewable low carbon energy through geo-exchange technology.

The system currently provides energy to nine buildings (Remy, Mayfair Place, Oxford Lane Townhomes, Omega, Alexandra Court, Jamatkhana Temple, Smart REIT, Fire Hall No. 3) connecting over 1400 residential units and over 1.6 million square feet of floor area (Attachment 2). ADEU's first commercial customers, with more than 280,000 ft<sup>2</sup> of serviced floor area, were connected in 2016.

As of September 30, 2017 (end of the second billing quarter), the ADEU system has delivered 13,425 MWh of energy to customers for space heating, cooling and domestic hot water heating. While some electricity is consumed for pumping and equipment operations, almost 100% of this energy was produced locally from the geo-exchange fields located in the greenway corridor and West Cambie Park. The backup and peaking natural gas boilers and cooling towers in the energy centre have operated only for a few days throughout the system's operation to date.

The following table represents anticipated development connection timelines for the next three years:

Table 2: Development Timing in ADEU Service Area

	<b>Anticipated Occupancy</b>
Remy	Occupied/Connected
Mayfair Place	Occupied/Connected
Oxford Lane Townhomes	Occupied/Connected
Omega	Occupied/Connected
Alexandra Court	Occupied/Connected
Jamatkhana Temple	Occupied/Connected
Smart REIT	Occupied/Connected
Fire Hall No3	Occupied/Connected
Spark	2019
Westmark	2019
Polygon Odlin West	2020
Ex-Jingon	2021
Alexandra Gate (Mandarin)	2022

Both OVDEU and ADEU are still new utilities in the early stages of operation, and even though some of the actual utility (electricity and natural gas), operation and maintenance costs have been used to plan the budget, the majority of these costs are largely based on projections from the models. In addition, the customers' energy use (building performance) is estimated based on the

actual metered energy consumption, average building performance in the region and energy modeling reports prepared by the buildings' designers. The 2018 Operating Budget incorporates estimated revenues and expenses from the ADEU and OVDEU based on the above projections and development activity.

LIEC historically followed the Public Sector Accounting Board (PSAB) in the preparation of its financial statements, which were then consolidated with the City's financial statements. LIEC's servicing costs related to the repayment of the capital portion of the OVDEU concession agreement were required to be included in the costs of servicing the City's aggregate liabilities when determining the City's liability limit.

Since all district energy operations are now consolidated under LIEC, staff have completed an assessment on whether LIEC could be classified as a Government Business Enterprise (GBE). As a GBE, LIEC's servicing costs (related to the repayment of the capital portion of the OVDEU concession agreement or LIEC's servicing costs related to repayment of any future capital investment) either through direct borrowing or through a new concession agreement would not be required to be included in the costs of servicing the City's aggregate liabilities when determining the City's liability limit.

As a GBE, LIEC is required to apply International Financial Reporting Standards (IFRS) in the preparation of its financial statements. The City will present LIEC's financial information as an investment.

Staff have prepared the 2018 Operating Budget under IFRS.

Operating Budget under IFRS

	<b>2017 Budget<sup>1</sup></b>	<b>2018 Budget</b>	<b>\$ Increase (decrease)</b>	<b>% Increase (decrease)</b>
<b>Revenues</b>				
Metered Billings (Quarterly)	\$3,040,000	\$3,379,124	339,124	11%
Service Fee (City of Richmond)	915,000	934,215	19,215	2.1%
Energy Modeling Review Fee	30,000	20,000	(10,000)	(33%)
	<b>3,985,000</b>	<b>4,333,339</b>	<b>348,339</b>	<b>9%</b>
<b>Cost of Sales</b>				
Contracts	906,000	1,075,088	169,088	19%
Utilities	622,000	732,314	110,314	18%
	1,528,000	1,807,402	279,402	18%
<b>Gross Margin</b>	<b>2,457,000</b>	<b>2,525,937</b>	<b>68,937</b>	<b>3%</b>
<b>Operating Expenses</b>				
Salaries and Benefits	591,480	615,393	23,913	4%
General Administration Expenses	51,000	52,530	1,530	3%
Professional Fees	46,900	65,000	18,100	39%
Advertising and Marketing	5,150	5,305	155	3%
Insurance	35,900	65,000	29,100	81%
Memberships	8,090	8,333	243	3%
PW Overhead Allocation	3,250	3,348	98	3%
	<b>741,770</b>	<b>814,907</b>	<b>73,137</b>	<b>10%</b>
<b>Income before under noted items</b>	<b>1,715,230</b>	<b>1,711,030</b>	<b>(4,200)</b>	<b>(0.2%)</b>
<b>Contributions and Financing Income</b>				
Asset contributions (ETS fee)	86,324 <sup>1</sup>	86,324	-	0%
Finance income	-	30,000	30,000	100%
	86,324	116,324	30,000	35%
<b>Earnings before interest, taxes and amortization (EBITA)</b>	<b>1,801,554</b>	<b>1,827,354</b>	<b>25,800</b>	<b>1%</b>
Interest Expense	134,025	-	(134,025)	(100%)
Amortization Expense	1,117,702	1,131,384	13,682	1%
<b>Net Income (Loss)</b>	<b>549,827</b>	<b>695,971</b>	<b>146,143</b>	<b>27%</b>

1. 2017 budget amounts have been restated to reflect the adoption of IFRS for the financial statement presentation.

### *Revenues*

The metered billings (user fee) revenues are expected to increase in 2018 by \$339,124 to \$3,379,124 (2017 – 3,040,000). This reflects a full year of energy sales to a number of buildings that were connected in 2017. The overall budgeted revenue is expected to increase by \$348,339 to \$4,333,339 (2017 – \$3,985,000).

The Service Fee, as approved by Council in 2016, is based on the numerous benefits LIEC brings to the City and the local community. Staff and specialty consultants working on low carbon district energy initiatives are covered by the Service Fee. With or without LIEC, the City would need to fund these costs in order to successfully implement district energy initiatives for the City and position itself at the forefront of tackling some of the environmental challenges our world faces. The service fee amount for 2018 has been increased by the Consumer Price Index to \$934,215.

### *Cost of sales*

The cost of sales is the direct variable cost relating to operating revenue, which includes utilities (electricity and natural gas) and contract services. The budgeted increases in 2018 are due to the operation and maintenance activities needed to service additional buildings that were connected in 2017.

### *Operating Expenses*

The operating expenses are expenditures that LIEC will incur to engage in business activities such as salaries and benefits, general administration expense, professional fees, insurance expense, etc. The budgeted operating expenses are projected to increase by \$73,137 to \$814,907 (2017 – \$741,770):

- Salaries and benefits - The increase of \$23,913 is due to a 2% adjustment and the addition of a portion of the engineering-in-training (EIT) salary.
- Professional fees – The increase of \$18,100 is mainly due to the adoption of International Financial Reporting Standards (IFRS).
- Insurance – With all district energy assets now under LIEC, staff have requested proposals from multiple insurance brokers. Proposals are higher due to the additional capital assets being insured.

### *Contributions and financing income*

The Contributions and financing income section represents other sources of revenue for the business. The one-time collection of contributions from developers is included under contributions and financing income.

- Asset contributions (ETS fee) – this revenue refers to all the distribution piping system, energy transfer station and construction costs inside the property line. These costs are paid by developers. LIEC has legal ownership of these capital assets, and recognizes a

contribution from developers for the amount reimbursed. Under IFRS, the revenue of asset contributions (ETS fee) will be recognized over the useful life of the energy transfer stations from the date a section is available for use.

- Finance income – this is the interest earned on existing cash balances.

#### *Interest expense*

Under IFRS, the interest expense will be capitalized rather than expensed. The cost of funds used to finance the construction of the long term capital asset will result in an increase in the total amount of fixed assets appearing on the balance sheet. The budgeted decrease in 2018 is due to the successful negotiation with Corix to decrease the interest rate from 3.75% to 2.67% on the debt portion.

#### *Earnings before interest, taxes and amortization (EBITA)*

The earnings before interest, taxes and amortization (EBITA) is used to evaluate LIEC's financial performance. The EBITA is expected to increase from \$1,801,554 to \$1,827,354 in 2018. LIEC's financial sustainability and future growth must be taken into consideration when reviewing its EBITA. LIEC's success is dependent upon developing in house expertise in order to reduce reliance on consultants whenever possible. Other important factors are the planning of future projects, which includes research and development, and exploratory reviews on future technology and opportunities.

The 2018 LIEC Operating Budget has been prepared based on projections from forecasts and modelling for the ADEU and OVDEU. This is also the first year where LIEC will adopt International Financial Reporting Standards. Staff will monitor LIEC's transition closely and advise the Board if any changes or budget amendments are required.

#### **Financial Impact**

None.

#### **Conclusion**

The 2018 Operating Budget is presented based on staff's best estimates and assumptions available at the time of writing.

*For:*   
Helen Zhao, CPA, CA  
Controller  
(604-276-4053)

Att. 1: Oval Village DEU Service Area map  
Att. 2: Alexandra DEU Service Area map



Attachment 2 – Alexandra DEU Service Area map (as of October 2017)

