



# Effluent Heat Recovery

## AT NORTH SHORE WASTEWATER TREATMENT PLANT

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LIQUID WASTE SERVICES

GVS&DD Board, 28 July 2017

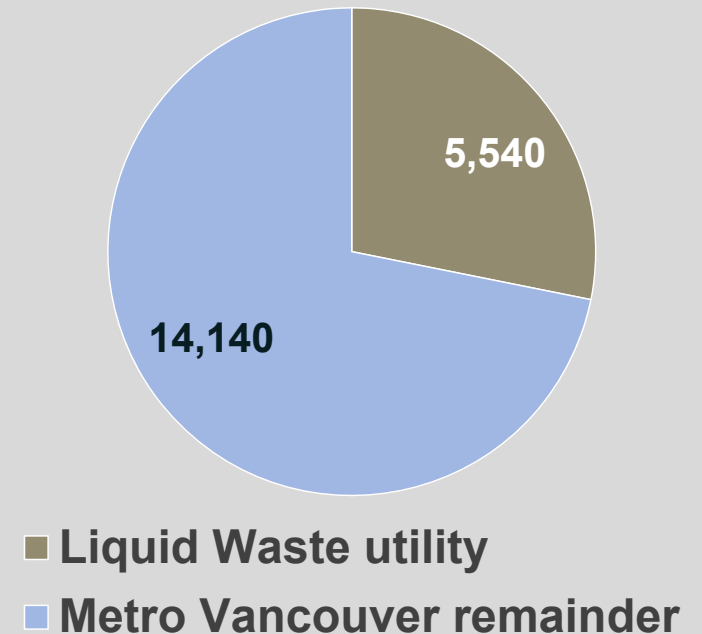


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# Climate action commitment

- Metro Vancouver has committed to pursuing corporate greenhouse gas neutrality
  - by signing the Climate Action Charter in 2007
  - by endorsing the 2010 Corporate Climate Action Plan
- New sources of GHG reductions are required to achieve this

2016 corporate GHG emissions (tonnes)



# NSWWTP Project Objectives

Secondary Wastewater Treatment

Sustainability  
Environmental, Social, Economic

Integrated Resource Recovery

Community Integration



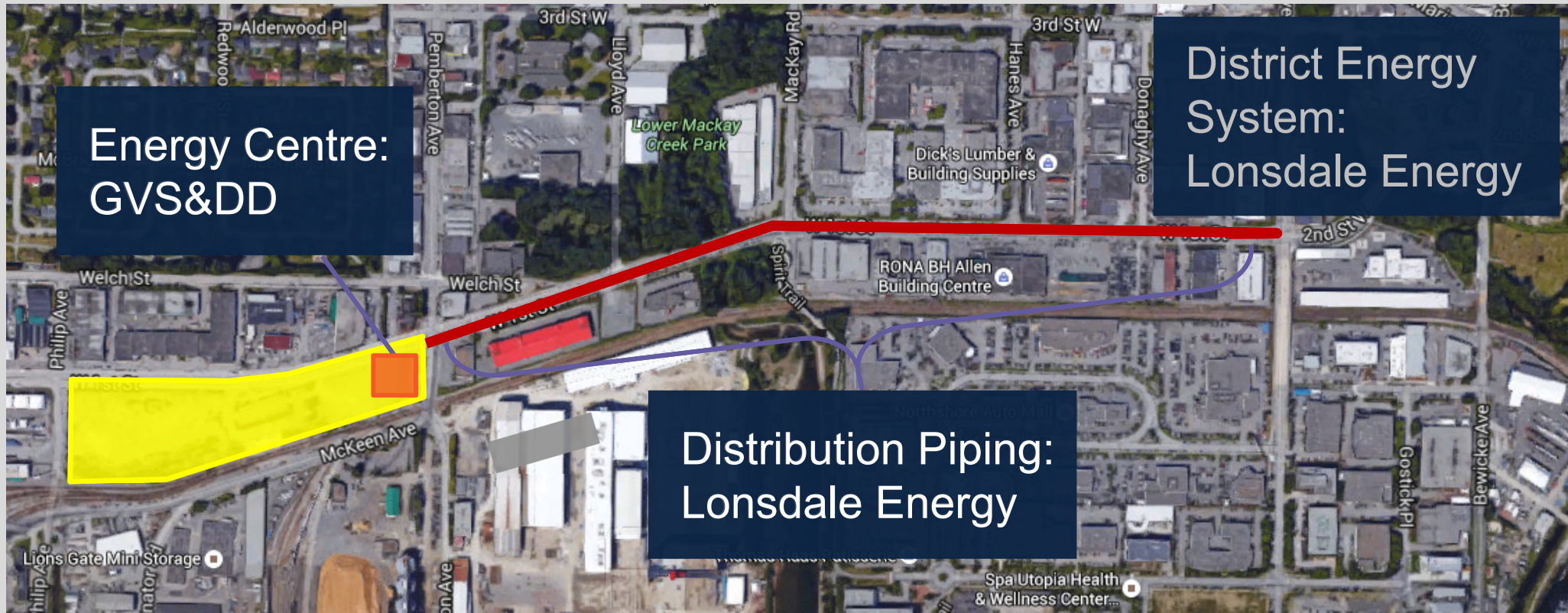
# Integrated resource recovery opportunities

Optional opportunities not included in \$700M project budget

1. Reclaimed water (\$1.2M) – now planned
2. Phosphorus recovery (\$8.5M) – business case not currently viable
3. Effluent heat (net \$16.9M) – recommended (this report)



# Project Scope



- Proximity to Lonsdale Energy Corporation
- Only respondent to call for expression of interest

## Cost of effluent heat opportunity

- Optional item in ADApT bid
- Cost efficiencies by building at same time

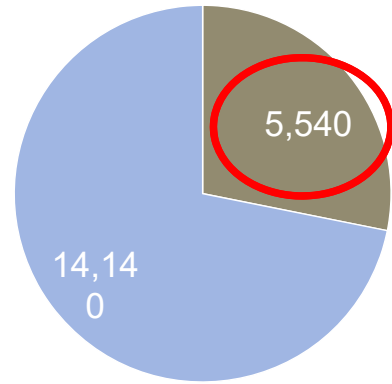
Item	Capital Cost
ADApT contract: effluent heat recovery facility	\$15,926,000
BC Hydro infrastructure	\$2,000,000
<b>Subtotal: spending authority reqd</b>	<b>\$17,926,000</b>
Potential BC Hydro grant	-\$1,000,000
<b>Net cost to Metro Vancouver</b>	<b>\$16,926,000</b>

LEC distribution piping system	\$3,543,000
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2016 corporate GHG emissions (tonnes)



■ Liquid Waste utility  
■ Metro Vancouver remainder

## Benefits

	Net capital investment	Annual GHG credits (tonnes/yr)
GVS&DD	\$16,926,000	5,700
BC Hydro (due to grant)	\$1,000,000	300
LEC	\$3,543,000	1,200

- GHG-neutral Liquid Waste utility
- Cost-effective GHG project

# NSWWTP budget

	Contributions
GVS&DD	\$295 million
Federal	\$212 million
Provincial	\$193 million
<b>Total</b>	<b>\$700 million</b>

- Effluent heat opportunity is optional item and not included
- \$17.9 million spending authority required for effluent heat system
- Some or all of this cost may be accommodated in \$700 million if contingency allows







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