Renewable Natural Gas Supply Contract Authorization

Environment & Sustainability
Facilities & Infrastructure
Presentation Overview

1. Review Port climate goals
2. How Renewable Natural Gas (RNG) supports climate goals
3. Why RNG is needed now
4. Proposed Action
   - Contract Principles
   - Budget
The Port’s Climate Goals

Reduce Port-owned and -controlled (Scope 1 &2) greenhouse gas emissions below 2005 levels by:

• 15% by 2020
• 50% by 2030
• 100% by 2050
The Port’s GHG Emissions

2018 Port-wide Scope 1 & 2 Greenhouse Gas Emissions

- **Liquid Fuels**: 15%
- **Electricity**: 50%
- **Natural Gas**:
Projected Future Greenhouse Gas Emissions

Port of Seattle GHG Emissions to 2030

Annual CO₂ Emissions (metric tons)


CA Goal = 50% by 2030

- Airport Fossil Natural Gas
- All Other Sources
With RNG Supply

Port of Seattle GHG Emissions to 2030 with RNG

CA Goal = 50% by 2030
What is Renewable Natural Gas (RNG)?

A zero carbon natural gas alternative. As organic waste breaks down, it emits methane gas that can be captured and processed to meet natural gas pipeline quality specifications.

RNG Sources:

• ~100 production facilities nationwide
• 70% are landfills; 30% wastewater treatment & anaerobic digesters
• 90% of these facilities used for transportation fuel (i.e. CNG fleets)
RNG Project Examples

Cedar Hills Landfill, King County
Renton WWTP, King County
Bar-Way Farm, Massachusetts
Why RNG is Needed Now

- There are no viable alternatives to reduce the footprint of the natural gas boilers:
  - Electrification would cost hundreds of millions
  - Electrification would require additional emergency back-up systems

- RNG:
  - Is the best zero carbon nat gas substitute available now
  - Is the lowest-cost option to meet climate goals
  - Supports energy independence
  - Creates green energy economy jobs
Contract Elements

- Fixed Price
- Flexibility to purchase additional gas
  - 10% with short notice
  - Larger volumes as mutually agreeable
- Projects supplying gas must be new sources (aka “additionality”)
- Meet definition of renewable cellulosic fuel
- Receive full federal incentive value
- Ability to capture 100% of future incentives to reduce cost
### Gas Account

<table>
<thead>
<tr>
<th></th>
<th>2020 Cost‡</th>
<th>Annual Cost</th>
<th>Total 10-Year Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Plant (Heating)</td>
<td>$643,500</td>
<td>$2,145,000</td>
<td>$21,450,000</td>
</tr>
<tr>
<td>CNG Fueling Station</td>
<td>*$42,037</td>
<td>*$150,000</td>
<td>*$1,500,000</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$685,537</strong></td>
<td><strong>$2,295,000</strong></td>
<td><strong>$22,950,000</strong></td>
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</tbody>
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‡Original budget for 2020 is $1.5 million. This new 2020 budget represents a savings of $800K

*Conservative estimate. Varies with federal incentive
Budget Request

Impact to Airline & Port Costs

• **Transportation RNG** is recovered by the CNG Operations cost center:
  ▪ Affects Rental Car Facility and Employee Parking (North Employee Parking Lot)
  ▪ Expected to be negligible cost, or refund/credit due to federal incentives

• **Central plant (heating) RNG** is recovered by Port expenses and Airline rates
  ▪ Shared between Port expenses 23% and Airlines 77%
  ▪ The RNG-related cost increase to the airline rates & charges will be <1%
  ▪ No RNG-related cost impact to terminal tenants such as airport dining and retail (ADR).
## Cost of Carbon Mitigation

<table>
<thead>
<tr>
<th>Project Type</th>
<th>Cost per Metric Ton CO₂</th>
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<tbody>
<tr>
<td>Convert Buses to Electric</td>
<td>$900</td>
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<tr>
<td>Stage 3 Mechanical Conservation</td>
<td>$300</td>
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<tr>
<td>RNG</td>
<td>$209</td>
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<tr>
<td>Renewable Diesel</td>
<td>$125</td>
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<tr>
<td>PSE Green Direct Electricity</td>
<td>$61</td>
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