## COMMUNITY EMISSIONS WORKSHEETS

### ENERGY USAGE, TRANSPORTATION, FOR BASE YEAR 2005

<table>
<thead>
<tr>
<th>SECTOR</th>
<th>SUB-SECTOR</th>
<th>ELECTRICITY kWh</th>
<th>WOOD cords</th>
<th>PROpane gal</th>
<th>FUEL OIL gal</th>
<th>VMT miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMUNITY-WIDE (1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>318,028,000</td>
</tr>
<tr>
<td>RESIDENTIAL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EAST JEFFERSON (2)</td>
<td></td>
<td>182,887,983</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOUTH JEFFERSON (3)</td>
<td></td>
<td>5,852,415</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WEST JEFFERSON (3)</td>
<td></td>
<td>7,864,183</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COMMUNITY-WIDE (4)</td>
<td></td>
<td>8,461</td>
<td>1,153,230</td>
<td>678,188</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COMMERCIAL (5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EAST JEFFERSON</td>
<td></td>
<td>80,650,575</td>
<td></td>
<td>806,505</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOUTH JEFFERSON</td>
<td></td>
<td>585,241</td>
<td></td>
<td>5,882</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WEST JEFFERSON</td>
<td></td>
<td>786,418</td>
<td></td>
<td>7,864</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INDUSTRIAL</td>
<td>PT PAPER CORP. (6)</td>
<td>144,100,000</td>
<td>(7) 112,000</td>
<td>145,000</td>
<td>11,410,000</td>
<td>(8)***1,872,000</td>
</tr>
<tr>
<td></td>
<td>PTPC to PSE (6)</td>
<td>-2,500,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EAST JEFFERSON (10)</td>
<td>1,697,851</td>
<td></td>
<td>16,978</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Notes:
   
   Information provided by Pat Whitacker, WSDOT Transportation Data Office, whittap@wsdot.wa.gov
   
   VMT apportioned by the CACP Transportation Assistant.
   
   - Gasoline: 8.5% full-sized autos, 18.7% mid-sized autos 33% compact autos; 32.4% light trucks/SUV/vans, 0.4% motorcycles.
   - Diesel: 0.3% compact autos, 5.2% heavy trucks,1.3% light trucks, 0.2% transit.

2. Residential East County (93% of population) includes Port Townsend, Port Hadlock, Port Ludlow, Chimacum, Irondale, and Quilcene.
   

3. Residential South County (3% of population) includes Brinnon; West County (4% of population) includes Clearwater.
   
   Electricity usage calculated for South at 3.2% and West at 4.3% of Residential kWh for East Jefferson County.

4. Community-wide propane and fuel oil based on City of Oak Harbor value for 457 gallons per household (hh) and 14,844 hh in Jefferson County in 2005 (based on U.S. Census data for 2000).
   
   - Propane usage = 457 gal./hh x 14,844 hh x 17% of hh (from Census).
   - Fuel oil usage = 457 gal./hh x 14,844 hh x 10% of hh (from Census).
   
   Community-wide wood usage based on City of Oak Harbor value for 3 cords/hh x 14,844 hh x 19% of hh (from Census).
<table>
<thead>
<tr>
<th>5. Commercial electricity usage for East County from PSE. Commerial electricity usage for South and West County estimated at 10% of Residential usage. Fuel usage (placed in propane category) estimated at 0.01 gallons per kWh. This factor was derived from data on Jefferson County government operations and assumed to apply to other commercial entities.</th>
</tr>
</thead>
</table>
| 6. **Port Townsend Paper Corporation (PTPC)** information provided by Kristin Marshall, Environmental Manager, PTPC, 379-2082, kristinm2@ptpc.com
Electricity purchased by contract from Bonneville Power Administration: mainly hyroelectric and nuclear power.
Emission factor of 0.114 lbs CO2 / kWh obtained from Ottie Nabors, ofnabors@bpa.gov, 503-230-4002.
PTPC sold 2,500,000 kWh of hydroturbine power generated by Big Quilcine River water supply to PSE;
Default emission factor = 1.06 lbs CO2/kWh for PSE. Electricity mmBtu and tons CO2 calculated separately from CACP software.
For Fuel oil (reprocessed), added PTPC emission factor of 173.9 lbs CO2 / mmBtu to the CACP software.
This is halfway between the CACP value of 164.4 for light FO and 183.0 for heavy FO. |
| 7. Tons of hog fuel (converted to bone-dry basis). |
| 8. VMT for PTPC calculated from 130 heavy truck trips per day x 40 miles round trip in County x 360 days per year.
***This VMT for PTPC was not entered into the CACP software because it is already included in the Community-wide VMT. |
| 9. Dry tons of liquor solids calculated from wet pulping liquor. |
| 10. Industrial electricity usage for Jefferson County from PSE (does not include PTPC). Fuel estimated as in Note 5. |
| 11. Data collected by William Wise, 385-1271, whwise@yahoo.com and Joanna Loehr, 385-6579, joannal@olympus.net |
| 12. This file: **Community 2005 Emissions Worksheets, 7-6-08.** |
## COMMUNITY EMISSIONS WORKSHEETS
### SOLID WASTE FOR BASE YEAR 2005

<table>
<thead>
<tr>
<th>TRANSPORTATION METHOD</th>
<th>WASTE</th>
<th>FUEL TO TX STA</th>
<th>FUEL TO TX STA</th>
<th>TONS CO(_2)e</th>
<th>TONS CO(_2)e</th>
</tr>
</thead>
<tbody>
<tr>
<td>DM DISPOSAL (City)</td>
<td>5,447</td>
<td>1.37 gal per ton</td>
<td>7,462 gal</td>
<td>0.0106 to TX STA</td>
<td>183</td>
</tr>
<tr>
<td>MURREY'S DISPOSAL (County)</td>
<td>5,550</td>
<td>1.76 gal per ton</td>
<td>9,768 gal</td>
<td>Diesel, 17,230</td>
<td>(heavy truck)</td>
</tr>
<tr>
<td>SELF-DISPOSAL</td>
<td>9,803</td>
<td>2.32 gal per ton</td>
<td>22,743 gal</td>
<td>0.0105 to TX STA</td>
<td>239</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SOLID WASTE FROM TX STA</th>
<th>FUEL</th>
<th>FUEL</th>
<th>TONS CO(_2)e</th>
<th>TONS CO(_2)e</th>
</tr>
</thead>
<tbody>
<tr>
<td>20,800</td>
<td>1.34 gal per ton</td>
<td>27,872 gal</td>
<td>0.0106 to Landfill</td>
<td>295</td>
</tr>
<tr>
<td>90 miles</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20,800</td>
<td>0.62 gal per ton</td>
<td>12,881 gal</td>
<td>0.0111 to Landfill</td>
<td>143</td>
</tr>
<tr>
<td>270 miles</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td>860</td>
<td></td>
</tr>
</tbody>
</table>

### NOTES
1. Solid waste delivered to Jefferson County Transfer Station (TX STA). Does not include recycled materials.

   Average composition: 19.9% paper, 15.4% food waste; 3.1% plant debris; 27.9% wood/textiles; 33.8% other.

   Information provided by Al Cairns, Department of Public Works, 385-9160, acairns@co.jefferson.wa.gov

2. Trucking information provided by Kent Kovalenko, Murrey's Olympic Disposal, 360-452-7298, kentk@wasteconnections.com

3. CO\(_2\) production from CACP software.

4. Rail information from Steven Forsberg at Burlington Northern Santa Fe Railway, steven.forsberg@bnsf.com

5. Information on methane recovery from landfill obtained from Art Mains, Engineer, Roosevelt Landfill, Klickitat County, 1-800-275-5641, www.rabanco.com

85-90% of the methane is recovered from the landfill. 75% of the recovered methane is used for electricity. 25% of the methane is flared. The CACP software considers either to be a form of methane capture. Thus, methane recovery was set to 85%.
## Community Emissions Worksheets
### Solid Waste for Base Year 2005

<table>
<thead>
<tr>
<th>Recycled Material</th>
<th>Tons</th>
<th>Destination</th>
<th>Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixed Paper</td>
<td>1565</td>
<td>Kent</td>
<td>Weyerhauser</td>
</tr>
<tr>
<td>Cardboard</td>
<td>844</td>
<td>Port Townsend</td>
<td>PTPC</td>
</tr>
<tr>
<td>News Print</td>
<td>274</td>
<td>Port Angeles</td>
<td>Nippon Paper</td>
</tr>
<tr>
<td>Containers</td>
<td>188</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>447</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3,318</strong></td>
<td>(note 1)</td>
<td></td>
</tr>
<tr>
<td>Yard Debris</td>
<td>6979</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Information provided by Matt Hall, Skookum Corp, mhall@skookum.org
2. Information provided by Al Cairns, Department of Public Works, 385-9160, acairns@co.jefferson.wa.gov
3. Data compiled by Marion Huxtable, 379-9527, mhuxtable@olympus.net, and Joanna Loehr.
4. This file: **Community 2005 Emissions Worksheets, 7-6-08.**