

**COMMUNITY EMISSIONS WORKSHEETS
ENERGY USAGE, TRANSPORTATION, FOR BASE YEAR 2005**

SECTOR	SUB-SECTOR	ELECTRICITY kWh	WOOD		PROPANE gal	FUEL OIL gal	VMT miles
			ords	tons			
COMMUNITY-WIDE (1)							318,028,000
RESIDENTIAL	EAST JEFFERSON (2)	182,887,983					
	SOUTH JEFFERSON (3)	5,852,415					
	WEST JEFFERSON (3)	7,864,183					
	COMMUNITY-WIDE (4)		8,461		1,153,230	678,188	
COMMERCIAL (5)	EAST JEFFERSON	80,650,575			806,505		
	SOUTH JEFFERSON	585,241			5,852		
	WEST JEFFERSON	786,418			7,864		
INDUSTRIAL	PT PAPER CORP. (6)	144,100,000		(7) 112,000	145,000	11,410,000	(8)***1,872,000
				(9) 360,281			
	PTPC to PSE (6)	-2,500,000					
	EAST JEFFERSON (10)	1,697,851			16,978		
Notes:							
1. Vehicle Miles Traveled based on Washington State Department of Transportation survey of state, county, city, and other roads (916 total centerline miles in Jefferson County in 2005). Community-wide VMT includes Residential, Commercial, & Industrial. 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. Electricity usage from R.L.Yetter, Puget Sound Energy (PSE).							
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 x 19% of hh (from Census)							

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5. Commercial electricity usage for East County from PSE.			
Commerical 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.			
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 CO ₂ / kWh obtained from Oattie 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 CO ₂ /kWh for PSE. Electricity mmBtu and tons CO ₂ calculated separately from CACP software.			
For Fuel oil (reprocessed), added PTPC emission factor of 173.9 lbs CO ₂ / 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

TRANSPORTATION METHOD	WASTE tons (1)	FUEL TO TX STA gal per ton (2)	FUEL TO TX STA gal	TONS CO ₂ e per gallon (3)	TONS CO ₂ e to TX STA
DM DISPOSAL (City)	5,447	1.37	7,462		
MURREY'S DISPOSAL (County)	5,550	1.76	9,768		
		TOTAL	Diesel, 17,230 (heavy truck)	0.0106	183
SELF-DISPOSAL	9,803	2.32	Gas, 22,743 (light truck)	0.0105	239
SOLID WASTE tons	FROM TX STA	FUEL gal per ton (2, 4)	FUEL gal	TONS CO ₂ e per gallon (3)	TONS CO ₂ e to Landfill
20,800	HT TO TACOMA 90 miles	1.34	27,872	0.0106	295
20,800	RAIL TO LANDFILL(5) 270 miles	0.62	12,881	0.0111	143
				TOTAL	860
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 landfull 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%.					

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RECYCLED MATERIAL	TONS	DESTINATION	COMPANY		
MIXED PAPER	1,565	Kent	Weyerhaeuser		
CARDBOARD	844	Port Townsend	PTPC		
NEWS PRINT	274	Port Angeles	Nippon Paper		
CONTAINERS	188				
MISCELLANEOUS	447				
TOTAL	3,318	(note 1)			
YARD DEBRIS	6,979	(note 2)			
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.					