



Orcas Unlimited
Carbon Offsets Program
2008



I. Internal Operations

Facilities Include Workshop/Storage Area, attached office & one business vehicle

KWH - Storage/office facility	Waste	Recycling	Flights	Hotels	Auto Miles
Avg 186 KWH	20 lb/mo	40 lb/mo		0	0 6,000

II. Field Operations

Includes guided trips and vessel charters by Orcas Unlimited (OU)

Trip Name	Trip Days	Total Pax	Avg Pax	Waste lbs	Hotel Nights	Fuel/Trip	CO2 Weight
Marmot	19	61	3.2	5	1	21.4	6.666
Chiniak	5	16	3.2	5	1	35.7	11.156
Anton	1	9	9	5	1	8	0.889
Near Island	10*	90*	9	10	0	0	0.000
Research	16	32	2	10	0.2	28.6	14.300
Extended	4	10	2.5	30	2	37.1	14.840
Average	7.5	21.3	4.81			21.8	7.970

(see part IV)

**Prospective*

Annual Operations-related Emissions (Internal + External): 8 Metric Tons (MT) CO2

Annual Number of Clients: 218

Actual OU Operations CO2 Offset per client: 8.0 / 218 = 0.036 MT CO2

All CO2 Emission estimates courtesy of Sustainable Travel International (www.sti.org)

III. Client Air Travel

Includes guided trips and vessel charters by Orcas Unlimited

Client Point of Origin	Average Air Travel Emissions: 3 MT CO2 per client
Eastern 18%	Average Duration of Kodiak Visit: 6 days
Central 11%	Air Travel Emissions per Visit Day = 3.0 MT / 6 = 0.5 MT
Mountain 9%	Average Trip Duration (OU): 1.22 days
Pacific 24%	Actual Air Travel CO2 Offset: 0.5 MT/day x 1.22 days = 0.61 MT CO2
Alaska 27%	
Europe 9%	
Asia/Aus 2%	

Visit Duration figures courtesy of Kodiak Island Convention & Visitor's Bureau

Client Point of Origin and average OU trip duration based on 2006-2007 charter data

All CO2 Emission estimates courtesy of Sustainable Travel International (www.sti.org)

IV. Carbon Offsets Program

Calculating the cost in dollars of our emissions

Actual OU Operations CO2 Offset per client = 0.036 MT CO2

Actual Air Travel CO2 Offset per client = 0.61 MT CO2

Total CO2 Offset per client = 0.646 MT CO2

CO2 Offset for all clients = 0.646 MT x 218 clients = 140.0 MT

Offsets per Green Tag = 1400 lbs CO2 or 0.6352 MT CO2

Green Tags required = 140.0 MT / .6352 MT per Green Tag = 221.25 Green Tags

Wholesale Green Tag Price = \$12

Total Cost for Carbon Offsets via Green Tags = \$2655

Avg Offset Cost = \$2655 / 218 clients = \$12.17

Weighted cost breakdown per Client Trip

Trip Name	Avg Offset Cost	x	CO2 Weight	/	Avg CO2 Weight	=	Weighted Offset Cost
Marmot	\$ 12.17		6.67		7.98		\$ 10.57
Chiniak	\$ 12.17		11.16		7.98		\$ 17.69
Anton	\$ 12.17		0.89		7.98		\$ 1.41
Near Island	\$ 12.17		0.00		7.98		\$ -
Research	\$ 12.17		14.30		7.98		\$ 22.67
Extended	\$ 12.17		14.84		7.98		\$ 23.53
Average	\$ 12.17		7.98				

Offset Costs are incorporated into (not added to) advertised rates