

US EPA ARCHIVE DOCUMENT

Washington State Department of Ecology - Industrial Footprint Project							
GHP Footprint Worksheet - Environmental Domain							
Identifier	Aspect	Indicator	Units of measurement	2006	2007	fractional change	Type of scoring
ENV1	Air Quality	Polycyclic Aromatic Hydrocarbon (PAH) emissions	Pounds per air dried ton of production per pollutant	0.003	0.0028	-0.066666667	Base year
ENV2	Air Quality	Formaldehyde emissions	Pounds per air dried ton of production	0.107	0.099	-0.074766355	Base year
ENV3	Air Quality	Chloroform emissions	Pounds per air dried ton of production	0.0007	0.0006	-0.142857143	Base year
ENV4	Air Quality	NOx emissions	Pounds per air dried ton of production	6.02	5.37	-0.107973422	Base year
ENV5	Air Quality	SOx emissions	Pounds per air dried ton of production	0.172	0.143	-0.168604651	Base year
ENV6	Air Quality	Particulate matter (PM) emissions	Pounds per air dried ton of production	3.23	3.22	-0.003095975	Base year
ENV7	Air Quality	Carbon dioxide emissions	Pounds per air dried ton of production	4725	4391	-0.070687831	Base year
ENV8	Air Quality	Total emissions compared to permit limit	Ratio of emissions to permit limit	0.367167	0.3223	-0.122197801	Base year
ENV9	Air Quality	Total greenhouse gas emissions in carbon dioxide equivalent units	Metric tons carbon equivalents per air dried ton of production	893.32	1266.98	0.418282362	Base year
ENV10	Air Quality	Total reduced sulfur (TRS) emissions	Pounds per air dried ton of production	0	0	0	Base year
ENV11	Air Quality	Methylethylketone (MEK) emissions	Pounds per air dried ton of production			0	Base year
ENV12	Air Quality	Lead emissions	Pounds per air dried ton of production	0.001	0.001	0	Base year
ENV13	Air Quality	Mercury emissions	Pounds per air dried ton of production	0.00008	0.00007	-0.125	Base year
ENV14	Air Quality	Acetaldehyde emissions	Pounds per air dried ton of production	0.02	0.019	-0.05	Base year
ENV15	Air Quality	Propionaldehyde emissions	Pounds per air dried ton of production	0.001	0.001	0	Base year
ENV16	Air Quality	Hydrochloric acid emissions	Pounds per air dried ton of production	0.023	0.021	-0.086956522	Base year
ENV17	Air Quality	Barium emissions	Pounds per air dried ton of production	0.004	0.004	0	Base year
ENV18	Air Quality	Manganese emissions	Pounds per air dried ton of production	0.039	0.036	-0.076923077	Base year
ENV19	Energy Consumption	Net consumption of purchased electricity and fuel	Consumption in megajoules minus sales in megajoules	3450000000	2920000000	-0.153623188	Base year
ENV20	Energy Consumption	Energy used/sold from cogeneration	Megajoules from cogeneration per air dried ton of production	994	397	-0.600603622	Base year
ENV21	Energy Consumption	Intensity of energy used per unit production	Gigajoules consumed from all sources per air dried ton of production	27200	26000	-0.044117647	Target

ENV22	Energy Consumption	Percent of energy use from renewable sources	Ratio of megajoules from renewable sources to total megajoules consumed	93.8	91.2	-0.02771855	Target
ENV23	Environmental Management	Index of EMS levels	0, 1, or 2	1	1	0	Assigned
ENV24	Raw Materials	Percent of raw materials input from recycled/reused sources	Ratio of tons of raw material inputs from recycled and/or re-used sources to tons of raw material inputs total	0.066068908	0.076823967	0.162785481	Target
ENV25	Raw Materials	Percent raw fiber and biomass energy materials from FSC/SFI certified sources	Ratio of tons of raw fiber and biomass energy materials from FSC/SFI certified sources to tons of raw fiber and biomass energy materials total	0.026845944	0.035231995	0.312376834	Target
ENV26	Raw Materials	Average percent of recycled fiber content in products	Weighted average of recycled content in products	6.6	8.45	0.28030303	Base year
ENV27	Raw Materials	Raw material intensity	Tons of raw materials minus tons of raw materials that are recycled or re-used per air dried ton of production	0.908156344	0.883092004	-0.027599147	Target
ENV28	Regulatory Compliance	Percent of monitoring period in compliance	Percent	100	100	0	Target
ENV29	Regulatory Compliance	Percent of time below permit limits	Percent	100	100	0	Target
ENV30	Waste Disposal	Percent recycled, composted or re-used	Ratio of tons of waste recycled, re-used, or composted on or off site to total tons of waste	97	97	0	Base year
ENV31	Waste Disposal	Percent landfilled to total tons	Ratio of tons of waste sent to landfill to total tons of waste generated	3	3	0	Base year
ENV32	Water Intensity	Net water consumption	Cubic feet of water used from non-recycled sources, less total outflow	-1420000000	1250000000	0	Base year
ENV33	Water Intensity	Raw water intake per unit production	Cubic meters of raw water intake per air dried ton of production			0	Target
ENV34	Water Intensity	Temperature difference between incoming and outgoing water	MMBTU/day	177000	187000	0.056497175	Base year
ENV35	Water Quality	Discharged BOD as percent of permit limit	Annual average pounds per air dried unit of production	0.0064249	0.0079586	0.238711887	Base year
ENV36	Water Quality	Total Suspended Solids (TSS) discharged as percent of permit limit	Annual average pounds per air dried unit of production	0.0193461	0.0180997	-0.064426422	Base year
ENV37	Water Quality	Adsorbably Organic Halide (AOX) output	Annual average pounds per air dried unit of production	0	0	0	Base year
ENV38	Biodiveristy Conservation	Percent of undeveloped acres of facility owned land protected as habitat	Ratio of protected acres to total acres	0	0	0	Target

<u>Target or permit limit</u>	<u>Type of target</u>	<u>Raw score</u>	<u>Indicators</u>	<u>Equal weight factor</u>	<u>Equal weight score</u>	<u>Assigned weight</u>	<u>Weighted indicators</u>	<u>Assigned weight factor</u>
	Minimize	6.666666667	1	0.026315789	0.175438596	2	1	0.023255814
	Minimize	7.476635514	1	0.026315789	0.196753566	2	1	0.023255814
	Minimize	14.28571429	1	0.026315789	0.37593985	2	1	0.023255814
	Minimize	10.79734219	1	0.026315789	0.284140584	2	1	0.023255814
	Minimize	16.86046512	1	0.026315789	0.44369645	2	1	0.023255814
	Minimize	0.309597523	1	0.026315789	0.008147303	2	1	0.023255814
	Minimize	7.068783069	1	0.026315789	0.186020607	2	1	0.023255814
	Minimize	12.2197801	1	0.026315789	0.321573161	3	2	0.046511628
	Minimize	0	1	0.026315789	0	3	2	0.046511628
	Minimize	0	1	0.026315789	0	2	1	0.023255814
	Minimize	0	1	0.026315789	0	2	1	0.023255814
	Minimize	0	1	0.026315789	0	2	1	0.023255814
	Minimize	12.5	1	0.026315789	0.328947368	2	1	0.023255814
	Minimize	5	1	0.026315789	0.131578947	2	1	0.023255814
	Minimize	0	1	0.026315789	0	2	1	0.023255814
	Minimize	8.695652174	1	0.026315789	0.228832952	2	1	0.023255814
	Minimize	0	1	0.026315789	0	2	1	0.023255814
	Minimize	7.692307692	1	0.026315789	0.20242915	2	1	0.023255814
	Minimize	15.36231884	1	0.026315789	0.404271548	2	1	0.023255814
	Maximize	100	1	0.026315789	2.631578947	2	1	0.023255814
12.16	Minimize	0.046769231	1	0.026315789	0.001230769	3	2	0.046511628

100	Maximize	91.2	1	0.026315789	2.4	3	2	0.046511628
100	Maximize	50	1	0.026315789	1.315789474	1	0.5	0.011627907
100	Maximize	0.076823967	1	0.026315789	0.002021683	2	1	0.023255814
100	Maximize	0.035231995	1	0.026315789	0.000927158	2	1	0.023255814
	Maximize	100	1	0.026315789	2.631578947	2	1	0.023255814
0.5	Minimize	56.61924213	1	0.026315789	1.489980056	1	0.5	0.011627907
100	Maximize	100	1	0.026315789	2.631578947	3	2	0.046511628
100	Maximize	100	1	0.026315789	2.631578947	2	1	0.023255814
	Maximize	100	1	0.026315789	2.631578947	2	1	0.023255814
0	Minimize	0	1	0.026315789	0	3	2	0.046511628
	Minimize	0	1	0.026315789	0	3	2	0.046511628
15	Minimize	100	1	0.026315789	2.631578947	1	0.5	0.011627907
	Minimize	0	1	0.026315789	0	2	1	0.023255814
	Minimize	0	1	0.026315789	0	2	1	0.023255814
	Minimize	6.442642186	1	0.026315789	0.169543215	2	1	0.023255814
	Minimize	0	1	0.026315789	0	2	1	0.023255814
100	Maximize	0	1	0.026315789	0	1	0.5	0.011627907
	Sum:		38	Sum:	24.45673612	Sum:	43	Sum:

<u>Final weighted score</u>	<u>Comments</u>
0.15503876	Assuming this is not a permitted pollutant so no target is currently available.
0.173875245	Assuming this is not a permitted pollutant so no target is currently available.
0.332225914	Assuming this is not a permitted pollutant so no target is currently available.
0.251100981	Using base year for now. Need to convert permit limit into a target per ton of production.
0.39210384	Using base year for now. Need to convert permit limit into a target per ton of production.
0.007199942	Using base year for now. Need to convert permit limit into a target per ton of production.
0.164390304	Using base year for now. Need to convert permit limit into a target per ton of production.
0.568361865	Using base year for now.
0	Need to develop target based on percent reduction from base year.
0	Using base year for now. Need to convert permit limit into a target per ton of production.
0	Assuming this is not a permitted pollutant so no target is currently available.
0	Assuming this is not a permitted pollutant so no target is currently available.
0.290697674	Assuming this is not a permitted pollutant so no target is currently available.
0.11627907	Assuming this is not a permitted pollutant so no target is currently available.
0	Assuming this is not a permitted pollutant so no target is currently available.
0.202224469	Assuming this is not a permitted pollutant so no target is currently available.
0	Assuming this is not a permitted pollutant so no target is currently available.
0.178890877	Assuming this is not a permitted pollutant so no target is currently available.
0.357263229	Using base year for now.
2.325581395	Using base year for now.
0.002175313	Industry best target, as determined by John Talberth.

4.241860465	Assuming target is 100% for now.
0.581395349	Need to directly assign score based on 0, 1 or 2. For now, assuming 1, 50, and 100.
0.001786604	Assuming target is 100% for now.
0.000819349	Assuming target is 100% for now.
2.325581395	Using base year for now. Need to reasearch target.
0.658363281	Industry best target, as determined by John Talberth.
4.651162791	Assuming target is 100% for now.
2.325581395	should drop time above limits, focus on time below.
2.325581395	Using base year for now. But hard to score due to interaction between ENV 30, 32, and 33.
0	Base year used for now. 0 is the most desireable target. Need to devleop a scoring protocol when a target is 0.
0	Modify scoring so negative = 100. Otherwise, base year.
1.162790698	Industry best target, as determined by John Talberth.
0	Using base year for now.
0	Using base year for now. 0% equals a score of 100, 100% = a score of 0. Need to convert permit limit into a target per ton of production.
0.149828888	Using base year for now. 0% equals a score of 100, 100% = a score of 0. Need to convert permit limit into a target per ton of production.
0	Using base year for now. 0% equals a score of 100, 100% = a score of 0. Need to convert permit limit into a target per ton of production.
0	Assuming 100% for now. Need to develop target.
23.94216049	

		Pacific Islander	0	0	0.002	0	0
		Other	0	0	0.004	0	0
		Sum	245	213			Sum
							Sum/2=IRE

0.002	0.002								
0.004	0.004								
0.586693878	0.576883								
0.293346939	0.288441								

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<i>GHP Footprint Worksheet - Economic Domain</i>							
<u>Identifier</u>	<u>Aspect</u>	<u>Indicator</u>	<u>Units of measurement</u>	<u>2006</u>	<u>2007</u>	<u>fractional change</u>	<u>Type of scoring</u>
ECON1	Economic Impact	Regional economic impact - income	Million dollars per air dried ton of production	34.417	34.486	0.002004823	Base year
ECON2	Economic Impact	Regional economic impact - tax revenue	Million dollars per air dried ton of production	2.387	2.387	0	Base year
ECON3	Economic Impact	Regional economic impact - jobs	Number per air dried ton of production	686	662	-0.034985423	Base year
ECON4	Regional Economy	Percent of revenue regionally (goods)	Percent	20.3	20.3	0	Base year
ECON5	Regional Economy	Percent of purchases procured regionally (services, including utilities)	Percent	12.6	12.6	0	Base year
ECON6	Economic Impact	Net capital investment in facility	Ratio of capital investment (spread over years) to depreciation, replacement and maintenance	1.6	1.52	-0.05	Target
ECON7	Community Involvement	Total spending on habitat conservation/restoration	Dollars	0	0	0	Base year
ECON8	Community Involvement	Contributions to charities and non-profit organizations	Dollars	0	0	0	Base year
ECON9	Community Involvement	Contributions to local education	Dollars	61376.32	57624.42	-0.061129439	Base year
ECON10	Economic Development	Recycled/reused market creation	Dollars	6214766.3	5833560.6	-0.061338696	Base year
ECON11	Jobs	Average compensation including benefits	Dollars	29.04	30.06	0.035123967	Base year
ECON12	Jobs	Percent of total jobs at family wage level	Percent	100	100	0	Target
ECON13	Jobs	Percent of total jobs providing benefits	Percent	100	100	0	Target
ECON14	Customer Satisfaction	Claims paid including returns	Value of claims paid per million dollars in sales	0	0	0	Base year

<u>Target or permit limit</u>	<u>Type of target</u>	<u>Raw score</u>	<u>Indicators</u>	<u>Equal weight factor</u>	<u>Equal weight score</u>	<u>Assigned weight</u>	<u>Weighted indicators</u>	<u>Assigned weight factor</u>
	Maximize	100	1	0.071428571	7.142857143	3	2	0.090909091
	Maximize	100	1	0.071428571	7.142857143	3	2	0.090909091
	Maximize	100	1	0.071428571	7.142857143	3	2	0.090909091
	Maximize	100	1	0.071428571	7.142857143	3	2	0.090909091
	Maximize	100	1	0.071428571	7.142857143	3	2	0.090909091
Greater than one	Maximize	100	1	0.071428571	7.142857143	2	1	0.045454545
	Maximize	0	1	0.071428571	0	2	1	0.045454545
	Maximize	0	1	0.071428571	0	2	1	0.045454545
	Maximize	100	1	0.071428571	7.142857143	2	1	0.045454545
	Maximize	100	1	0.071428571	7.142857143	2	1	0.045454545
	Maximize	100	1	0.071428571	7.142857143	3	2	0.090909091
100	Maximize	100	1	0.071428571	7.142857143	3	2	0.090909091
100	Maximize	100	1	0.071428571	7.142857143	3	2	0.090909091
0	Minimize	0	1	0.071428571	0	2	1	0.045454545
		Sum:	14	Sum:	78.57142857	Sum:	22	Sum:

<u>Final weighted score</u>	<u>Comments</u>			
9.090909091				
9.090909091				
9.090909091				
9.090909091				
9.090909091				
4.545454545	Recommend simple scoring here: negative = 0, positive = 50, increase from base year = 100.			
0				
0				
4.545454545				
4.545454545				
9.090909091				
9.090909091	Assuming target is 100%			
9.090909091	Assuming target is 100%			
0	Base year used for now. 0 is the most desireable target.			
86.36363636				