

US EPA ARCHIVE DOCUMENT

Washington State Department of Ecology - Industrial Footprint Project							
Simpson 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	0.0002151	0.000213682	-0.006589196	Base year
ENV2	Air Quality	Formaldehyde emissions	Pounds per air dried ton of production	0.031334859	0.029970274	-0.043548453	Base year
ENV3	Air Quality	Chloroform emissions	Pounds per air dried ton of production	0.00163	0.00164	0.006134969	Base year
ENV4	Air Quality	NOx emissions	Pounds per air dried ton of production	0.0015889	0.001489	-0.062873686	Base year
ENV5	Air Quality	SOx emissions	Pounds per air dried ton of production	0.0010756	0.0014575	0.355057642	Base year
ENV6	Air Quality	Particulate matter (PM) emissions	Pounds per air dried ton of production			0	Base year
ENV7	Air Quality	Carbon dioxide emissions	Pounds per air dried ton of production	0.944014334	0.925270453	-0.019855504	Base year
ENV8	Air Quality	Total emissions compared to permit limit	Ratio of emissions to permit limit	0.38427	0.39418	0.025789159	Base year
ENV9	Air Quality	Total greenhouse gas emissions in carbon dioxide equivalent units	Metric tons carbon equivalents per air dried ton of production	0.377783954	0.345062956	-0.086612989	Base year
ENV10	Air Quality	Total reduced sulfur (TRS) emissions	Pounds per air dried ton of production			0	Base year
ENV11	Air Quality	Methylethylketone (MEK) emissions	Pounds per air dried ton of production	0.0116	0.0119	0.025862069	Base year
ENV12	Air Quality	Lead emissions	Pounds per air dried ton of production	0.001128953	0.000181051	-0.839629181	Base year
ENV13	Air Quality	Mercury emissions	Pounds per air dried ton of production	2.77962E-06	2.73682E-06	-0.015397765	Base year
ENV14	Air Quality	Acetaldehyde emissions	Pounds per air dried ton of production	0.06706793	0.058698453	-0.124791038	Base year
ENV15	Air Quality	Propionaldehyde emissions	Pounds per air dried ton of production	0.0148	0.0147	-0.006756757	Base year
ENV16	Air Quality	Hydrochloric acid emissions	Pounds per air dried ton of production	0.663411662	0.878718916	0.324545477	Base year
ENV17	Air Quality	Barium emissions	Pounds per air dried ton of production	0.00019885	0.000193683	-0.025984886	Base year
ENV18	Air Quality	Manganese emissions	Pounds per air dried ton of production	0.000369903	0.000448417	0.212255931	Base year
ENV19	Energy Consumption	Net consumption of purchased electricity and fuel	Consumption in megajoules minus sales in megajoules	5014695000	5510051000	0.098780883	Base year
ENV20	Energy Consumption	Energy used/sold from cogeneration	Megajoules from cogeneration per air dried ton of production	0	0	0	Base year
ENV21	Energy Consumption	Intensity of energy used per unit production	Gigajoules consumed from all sources per air dried ton of production	28740	28700	-0.001391788	Target

ENV22	Energy Consumption	Percent of energy use from renewable sources	Ratio of megajoules from renewable sources to total megajoules consumed	85.8	87.9	0.024475524	Target
ENV23	Environmental Management	Index of EMS levels	0, 1, or 2			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	20.61176552	20.65413113	0.002055409	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	56.13368802	53.19336125	-0.052380787	Target
ENV26	Raw Materials	Average percent of recycled fiber content in products	Weighted average of recycled content in products	35.57630609	36.67423981	0.030861375	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	1.548195493	1.521597608	-0.017179927	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	98.9	96.1	-0.028311426	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	96.6	92.9	-0.038302277	Base year
ENV31	Waste Disposal	Percent landfilled to total tons	Ratio of tons of waste sent to landfill to total tons of waste generated	3.4	7.1	1.088235294	Base year
ENV32	Water Intensity	Net water consumption	Cubic feet of water used from non-recycled sources, less total outflow	0	0	0	Base year
ENV33	Water Intensity	Raw water intake per unit production	Cubic meters of raw water intake per air dried ton of production	1364	1454	0.065982405	Target
ENV34	Water Intensity	Temperature difference between incoming and outgoing water	MMBTU/day	41	41	0	Base year
ENV35	Water Quality	Discharged BOD as percent of permit limit	Annual average pounds per air dried unit of production	0.0104552	0.0087329	-0.164731426	Base year
ENV36	Water Quality	Total Suspended Solids (TSS) discharged as percent of permit limit	Annual average pounds per air dried unit of production	0.0157032	0.0152132	-0.031203831	Base year
ENV37	Water Quality	Adsorbably Organic Halide (AOX) output	Annual average pounds per air dried unit of production	0.0008019	0.0006961	-0.13193665	Base year
ENV38	Biodiveristy Conservation	Percent of undeveloped acres of facility owned land protected as habitat	Ratio of protected acres to total acres	12	12	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	0.658919637	1	0.026315789	0.01733999	2	1	0.023255814
	Minimize	4.354845333	1	0.026315789	0.114601193	2	1	0.023255814
	Minimize	0	1	0.026315789	0	2	1	0.023255814
	Minimize	6.28736862	1	0.026315789	0.165457069	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	1.985550432	1	0.026315789	0.052251327	2	1	0.023255814
	Minimize	0	1	0.026315789	0	3	2	0.046511628
	Minimize	8.661298906	1	0.026315789	0.227928919	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	83.96291814	1	0.026315789	2.209550477	2	1	0.023255814
	Minimize	1.539776507	1	0.026315789	0.040520434	2	1	0.023255814
	Minimize	12.47910379	1	0.026315789	0.328397468	2	1	0.023255814
	Minimize	0.675675676	1	0.026315789	0.017780939	2	1	0.023255814
	Minimize	0	1	0.026315789	0	2	1	0.023255814
	Minimize	2.598488588	1	0.026315789	0.068381279	2	1	0.023255814
	Minimize	0	1	0.026315789	0	2	1	0.023255814
	Minimize	0	1	0.026315789	0	2	1	0.023255814
	Maximize	0	1	0.026315789	0	2	1	0.023255814
12.16	Minimize	0.042369338	1	0.026315789	0.001114983	3	2	0.046511628

100	Maximize	87.9	1	0.026315789	2.313157895	3	2	0.046511628
100	Maximize	0	1	0.026315789	0	1	0.5	0.011627907
100	Maximize	20.65413113	1	0.026315789	0.543529766	2	1	0.023255814
100	Maximize	53.19336125	1	0.026315789	1.399825296	2	1	0.023255814
	Maximize	100	1	0.026315789	2.631578947	2	1	0.023255814
0.5	Minimize	32.86019888	1	0.026315789	0.864742076	1	0.5	0.011627907
100	Maximize	100	1	0.026315789	2.631578947	3	2	0.046511628
100	Maximize	96.1	1	0.026315789	2.528947368	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	1.031636864	1	0.026315789	0.027148339	1	0.5	0.011627907
	Minimize	0	1	0.026315789	0	2	1	0.023255814
	Minimize	16.47314255	1	0.026315789	0.433503751	2	1	0.023255814
	Minimize	3.120383107	1	0.026315789	0.082115345	2	1	0.023255814
	Minimize	13.19366505	1	0.026315789	0.347201712	2	1	0.023255814
100	Maximize	12	1	0.026315789	0.315789474	1	0.5	0.011627907
	Sum:		38	Sum:	19.99402194	Sum:	43	Sum:

Final weighted score	Comments
0.015323712	Assuming this is not a permitted pollutant so no target is currently available.
0.101275473	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.
0.146217875	Using base year for now. Need to convert permit limit into a target per ton of production.
0	Using base year for now. Need to convert permit limit into a target per ton of production.
0	Using base year for now. Need to convert permit limit into a target per ton of production.
0.046175591	Using base year for now. Need to convert permit limit into a target per ton of production.
0	Using base year for now.
0.402851112	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.
1.952626003	Assuming this is not a permitted pollutant so no target is currently available.
0.035808756	Assuming this is not a permitted pollutant so no target is currently available.
0.290211716	Assuming this is not a permitted pollutant so no target is currently available.
0.015713388	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.
0.060429967	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	Using base year for now.
0	Using base year for now.
0.001970667	Industry best target, as determined by John Talberth.

4.088372093	Assuming target is 100% for now.
0	Need to directly assign score based on 0, 1 or 2. For now, assuming 1, 50, and 100.
0.480328631	Assuming target is 100% for now.
1.237054913	Assuming target is 100% for now.
2.325581395	Using base year for now. Need to reasearch target.
0.382095336	Industry best target, as determined by John Talberth.
4.651162791	Assuming target is 100% for now.
2.234883721	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.
0.011995777	Industry best target, as determined by John Talberth.
0	Using base year for now.
0.383096338	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.
0.072567049	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.
0.30682942	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.
0.139534884	Assuming 100% for now. Need to develop target.
21.707688	

0.002	0.002								
0.004	0.004								
0.358855792	0.3340276								
0.179427896	0.1670138								

Washington State Department of Ecology - Industrial Footprint Project							
<i>Simpson Footprint Worksheet - Economic Domain</i>							
Identifier	Aspect	Indicator	Units of measurement	2006	2007	fractional change	Type of scoring
ECON1	Economic Impact	Regional economic impact - income	Million dollars per air dried ton of production	100.931	105.206	0.042355669	Base year
ECON2	Economic Impact	Regional economic impact - tax revenue	Million dollars per air dried ton of production	7.4	7.75	0.047297297	Base year
ECON3	Economic Impact	Regional economic impact - jobs	Number per air dried ton of production	1847	1892	0.024363833	Base year
ECON4	Regional Economy	Percent of revenue regionally (goods)	Percent	21.4	17.9	-0.163551402	Base year
ECON5	Regional Economy	Percent of purchases procured regionally (services, including utilities)	Percent	14.4	14.2	-0.013888889	Base year
ECON6	Economic Impact	Net capital investment in facility	Ratio of capital investment (spread over years) to depreciation, replacement and maintenance	0.17	0.15	-0.117647059	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	119325	101014	-0.15345485	Base year
ECON9	Community Involvement	Contributions to local education	Dollars	11217	11171	-0.004100918	Base year
ECON10	Economic Development	Recycled/reused market creation	Dollars	21360313	2954917	-0.861663216	Base year
ECON11	Jobs	Average compensation including benefits	Dollars	98000	99000	0.010204082	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	0.4	0.2	-0.5	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	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	2	1	0.045454545
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	50	1	0.071428571	3.571428571	2	1	0.045454545
		Sum:	14	Sum:	82.14285714	Sum:	22	Sum:

<u>Final weighted score</u>	<u>Comments</u>			
9.090909091				
9.090909091				
9.090909091				
9.090909091				
9.090909091				
0	Recommend simple scoring here: negative = 0, positive = 50, increase from base year = 100.			
0				
4.545454545				
4.545454545				
4.545454545				
9.090909091				
9.090909091	Assuming target is 100%			
9.090909091	Assuming target is 100%			
2.272727273	Base year used for now. 0 is the most desireable target.			
88.63636364				