

US EPA ARCHIVE DOCUMENT

Washington State Department of Ecology - Industrial Footprint Project							
NPI 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	0.005	0.0056	0.12	Base year
ENV2	Air Quality	Formaldehyde emissions	Pounds per air dried ton of production	0.0433	0.042	-0.030023095	Base year
ENV3	Air Quality	Chloroform emissions	Pounds per air dried ton of production	0.0219	0.0219	0	Base year
ENV4	Air Quality	NOx emissions	Pounds per air dried ton of production	2.857	2.366	-0.171858593	Base year
ENV5	Air Quality	SOx emissions	Pounds per air dried ton of production	4.772	2.98	-0.375523889	Base year
ENV6	Air Quality	Particulate matter (PM) emissions	Pounds per air dried ton of production	1.473	1.406	-0.045485404	Base year
ENV7	Air Quality	Carbon dioxide emissions	Pounds per air dried ton of production	201162.92	187950.7	-0.065679202	Base year
ENV8	Air Quality	Total emissions compared to permit limit	Ratio of emissions to permit limit	0.5834	0.5834	0	Base year
ENV9	Air Quality	Total greenhouse gas emissions in carbon dioxide equivalent units	Metric tons carbon equivalents per air dried ton of production	0.17	0.11	-0.352941176	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	0.0031	0.0035	0.129032258	Base year
ENV12	Air Quality	Lead emissions	Pounds per air dried ton of production	0.0005	0.0005	0	Base year
ENV13	Air Quality	Mercury emissions	Pounds per air dried ton of production	0.00003467	0.000033081	-0.045832132	Base year
ENV14	Air Quality	Acetaldehyde emissions	Pounds per air dried ton of production	0.0184	0.0181	-0.016304348	Base year
ENV15	Air Quality	Propionaldehyde emissions	Pounds per air dried ton of production	0.0026	0.0025	-0.038461538	Base year
ENV16	Air Quality	Hydrochloric acid emissions	Pounds per air dried ton of production	0.009	0.0088	-0.022222222	Base year
ENV17	Air Quality	Barium emissions	Pounds per air dried ton of production	0.0016	0.0016	0	Base year
ENV18	Air Quality	Manganese emissions	Pounds per air dried ton of production	0.0152	0.0148	-0.026315789	Base year
ENV19	Energy Consumption	Net consumption of purchased electricity and fuel	Consumption in megajoules minus sales in megajoules	3169286000	3094956000	-0.023453232	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	20.35	19.88	-0.023095823	Target

ENV22	Energy Consumption	Percent of energy use from renewable sources	Ratio of megajoules from renewable sources to total megajoules consumed	90	91	0.0111111111	Target
ENV23	Environmental Management	Index of EMS levels	0, 1, or 2	1	2	1	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	90.1	91.51	0.015649279	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	72	65	-0.0972222222	Target
ENV26	Raw Materials	Average percent of recycled fiber content in products	Weighted average of recycled content in products	41	40	-0.024390244	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	1.25	1.22	-0.024	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	51.9	49.6	-0.044315992	Base year
ENV31	Waste Disposal	Percent landfilled to total tons	Ratio of tons of waste sent to landfill to total tons of waste generated	47.8	50.1	0.048117155	Base year
ENV32	Water Intensity	Net water consumption	Cubic feet of water used from non-recycled sources, less total outflow	426164282	418081726	-0.018965822	Base year
ENV33	Water Intensity	Raw water intake per unit production	Cubic meters of raw water intake per air dried ton of production	2737	2685	-0.018998904	Target
ENV34	Water Intensity	Temperature difference between incoming and outgoing water	MMBTU/day	2187034	1943653	-0.111283592	Base year
ENV35	Water Quality	Discharged BOD as percent of permit limit	Annual average pounds per air dried unit of production	1.65	1.13	-0.315151515	Base year
ENV36	Water Quality	Total Suspended Solids (TSS) discharged as percent of permit limit	Annual average pounds per air dried unit of production	3.49	2.22	-0.363896848	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	22	22	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	1	0.026315789	0	2	1	0.023255814
	Minimize	3.002309469	1	0.026315789	0.079008144	2	1	0.023255814
	Minimize	0	1	0.026315789	0	2	1	0.023255814
	Minimize	17.18585929	1	0.026315789	0.452259455	2	1	0.023255814
	Minimize	37.55238894	1	0.026315789	0.988220761	2	1	0.023255814
	Minimize	4.548540394	1	0.026315789	0.119698431	2	1	0.023255814
	Minimize	6.567920171	1	0.026315789	0.172840005	2	1	0.023255814
	Minimize	0	1	0.026315789	0	3	2	0.046511628
	Minimize	35.29411765	1	0.026315789	0.92879257	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	4.583213153	1	0.026315789	0.120610872	2	1	0.023255814
	Minimize	1.630434783	1	0.026315789	0.042906178	2	1	0.023255814
	Minimize	3.846153846	1	0.026315789	0.101214575	2	1	0.023255814
	Minimize	2.222222222	1	0.026315789	0.058479532	2	1	0.023255814
	Minimize	0	1	0.026315789	0	2	1	0.023255814
	Minimize	2.631578947	1	0.026315789	0.069252078	2	1	0.023255814
	Minimize	2.345323205	1	0.026315789	0.061719032	2	1	0.023255814
	Maximize	17	1	0.026315789	0.447368421	2	1	0.023255814
12.16	Minimize	100	1	0.026315789	2.631578947	3	2	0.046511628

100	Maximize	0.0035	1	0.026315789	9.21053E-05	3	2	0.046511628
100	Maximize	100	1	0.026315789	2.631578947	1	0.5	0.011627907
100	Maximize	91.51	1	0.026315789	2.408157895	2	1	0.023255814
100	Maximize	65	1	0.026315789	1.710526316	2	1	0.023255814
	Maximize	100	1	0.026315789	2.631578947	2	1	0.023255814
0.5	Minimize	40.98360656	1	0.026315789	1.078515962	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	1.89658222	1	0.026315789	0.049910058	3	2	0.046511628
15	Minimize	0.558659218	1	0.026315789	0.014701558	1	0.5	0.011627907
	Minimize	11.12835923	1	0.026315789	0.292851559	2	1	0.023255814
	Minimize	31.51515152	1	0.026315789	0.829346093	2	1	0.023255814
	Minimize	36.38968481	1	0.026315789	0.957623285	2	1	0.023255814
	Minimize	0	1	0.026315789	0	2	1	0.023255814
100	Maximize	22	1	0.026315789	0.578947368	1	0.5	0.011627907
	Sum:		38	Sum:	27.35251594	Sum:	43	Sum:

Final weighted score	Comments
0	Assuming this is not a permitted pollutant so no target is currently available.
0.06982115	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.
0.399671146	Using base year for now. Need to convert permit limit into a target per ton of production.
0.873311371	Using base year for now. Need to convert permit limit into a target per ton of production.
0.105780009	Using base year for now. Need to convert permit limit into a target per ton of production.
0.15274233	Using base year for now. Need to convert permit limit into a target per ton of production.
0	Using base year for now.
1.641586867	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.
0.106586352	Assuming this is not a permitted pollutant so no target is currently available.
0.037917088	Assuming this is not a permitted pollutant so no target is currently available.
0.089445438	Assuming this is not a permitted pollutant so no target is currently available.
0.051679587	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.
0.06119951	Assuming this is not a permitted pollutant so no target is currently available.
0.0545424	Using base year for now.
0.395348837	Using base year for now.
4.651162791	Industry best target, as determined by John Talberth.

0.000162791	Assuming target is 100% for now.
1.162790698	Need to directly assign score based on 0, 1 or 2. For now, assuming 1, 50, and 100.
2.128139535	Assuming target is 100% for now.
1.511627907	Assuming target is 100% for now.
2.325581395	Using base year for now. Need to reasearch target.
0.476553565	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 develop a scoring protocol when a target is 0.
0.088213127	Modify scoring so negative = 100. Otherwise, base year.
0.006496037	Industry best target, as determined by John Talberth.
0.258799052	Using base year for now.
0.7329105	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.
0.84627174	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.
0.255813953	Assuming 100% for now. Need to develop target.
27.78648076	

0.004	0.004								
0.602	0.6011525								
0.301	0.3005763								

Washington State Department of Ecology - Industrial Footprint Project							
<i>NPI 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	47.8	47.97	0.003556485	Base year
ECON2	Economic Impact	Regional economic impact - tax revenue	Million dollars per air dried ton of production	3.21	3.23	0.00623053	Base year
ECON3	Economic Impact	Regional economic impact - jobs	Number per air dried ton of production	806	798	-0.009925558	Base year
ECON4	Regional Economy	Percent of revenue regionally (goods)	Percent	17.1	17.12	0.001169591	Base year
ECON5	Regional Economy	Percent of purchases procured regionally (services, including utilities)	Percent	10.2	10.17	-0.002941176	Base year
ECON6	Economic Impact	Net capital investment in facility	Ratio of capital investment (spread over years) to depreciation, replacement and maintenance	0.43	0.75	0.744186047	Target
ECON7	Community Involvement	Total spending on habitat conservation/restoration	Dollars	0	500	0	Base year
ECON8	Community Involvement	Contributions to charities and non-profit organizations	Dollars	46099	49128	0.065706414	Base year
ECON9	Community Involvement	Contributions to local education	Dollars	10385	11308	0.08887819	Base year
ECON10	Economic Development	Recycled/reused market creation	Dollars	59679925	62673741	0.05016454	Base year
ECON11	Jobs	Average compensation including benefits	Dollars	79942	80976	0.012934377	Base year
ECON12	Jobs	Percent of total jobs at family wage level	Percent	98.72	98.68	-0.000405186	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	1778	1310	-0.263217098	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	98.68	1	0.071428571	7.048571429	3	2	0.090909091
100	Maximize	100	1	0.071428571	7.142857143	3	2	0.090909091
0	Minimize	26.32170979	1	0.071428571	1.880122128	2	1	0.045454545
	Sum:		14	Sum:	80.35726498	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						
8.970909091	Assuming target is 100%					
9.090909091	Assuming target is 100%					
1.196441354	Base year used for now. 0 is the most desireable target. Need to develop a scoring protocol when a target is 0.					
87.44007772						