Washington State Department of Ecology - Industrial Footprint Project

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	Base year
ENV2	Air Quality	Formaldehyde emissions	Pounds per air dried ton of production			0	Base year
ENV3	Air Quality	Chloroform emissions	Pounds per air dried ton of production			0	Base year
ENV4	Air Quality	NOx emissions	Pounds per air dried ton of production			0	Base year
ENV5	Air Quality	SOx emissions	Pounds per air dried ton of production			0	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	Base year
ENV8	Air Quality	Total emissions compared to permit limit	Ratio of emissions to permit limit			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	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	Base year
ENV12	Air Quality	Lead emissions	Pounds per air dried ton of production			0	Base year
ENV13	Air Quality	Mercury emissions	Pounds per air dried ton of production			0	Base year
ENV14	Air Quality	Acetaldehyde emissions	Pounds per air dried ton of production			0	Base year
ENV15	Air Quality	Propionaldehyde emissions	Pounds per air dried ton of production			0	Base year
ENV16	Air Quality	Hydrochloric acid emissions	Pounds per air dried ton of production			0	Base year
ENV17	Air Quality	Barium emissions	Pounds per air dried ton of production			0	Base year
ENV18	Air Quality	Manganese emissions	Pounds per air dried ton of production			0	Base year
ENV19	Energy Consumption	Net consumption of purchased electricity and fuel	Consumption in megajoules minus sales in megajoules			0	Base year
ENV20	Energy Consumption	Energy used/sold from cogeneration	Megajoules from cogeneration per air dried ton of production			0	Base year
ENV21	Energy Consumption	Intensity of energy used per unit production	Gigajoules consumed from all sources per air dried ton of production			0	Target

ID	Category	Metric	Definition				Value	Type
ENV22	Energy Consumption	Percent of energy use from renewable sources	Raio of megajoules from renewable sources to total megajoules consumed				0	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				0	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	Target
ENV26	Raw Materials	Average percent of recycled fiber content in products	Weighted average of recycled content in products				0	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	Target
ENV28	Regulatory Compliance	Percent of monitoring period in compliance	Percent				0	Target
ENV29	Regulatory Compliance	Percent of time below permit limits	Percent				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				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				0	Base year
ENV32	Water Intensity	Net water consumption	Cubic feet of water used from non-recycled sources, less total outflow				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				0	Base year
ENV35	Water Quality	Discharged BOD as percent of permit limit	Annual average pounds per air dried unit of production				0	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	Base year
ENV37	Water Quality	Adsorbably Organic Halide (AOX) output	Annual average pounds per air dried unit of production				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	Target

Target or permit limit	Type of target	Raw score	Indicators	Equal weight factor	Equal weight score	Assigned weight	Weighted indicators	Assigned weight factor
	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	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	0	1	0.026315789	0	2	1	0.023255814
	Minimize	0	1	0.026315789	0	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	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	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	0	1	0.026315789	0	2	1	0.023255814
	Maximize	0	1	0.026315789	0	2	1	0.023255814
12.16	Minimize	100	1	0.026315789	2.631578947	3	2	0.046511628

100	Maximize	0	1	0.026315789	0	3	2	0.046511628
100	Maximize	0	1	0.026315789	0	1	0.5	0.011627907
100	Maximize	0	1	0.026315789	0	2	1	0.023255814
100	Maximize	0	1	0.026315789	0	2	1	0.023255814
	Maximize	0	1	0.026315789	0	2	1	0.023255814
0.5	Minimize	100	1	0.026315789	2.631578947	1	0.5	0.011627907
100	Maximize	0	1	0.026315789	0	3	2	0.046511628
100	Maximize	0	1	0.026315789	0	2	1	0.023255814
	Maximize	0	1	0.026315789	0	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	0	1	0.026315789	0	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:**	7.894736842	**Sum:**	43	**Sum:**

Final weighted score	Comments
0	Assuming this is not a permited pollutant so no target is currently available.
0	Assuming this is not a permited pollutant so no target is currently available.
0	Assuming this is not a permited pollutant so no target is currently available.
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	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.
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 permited pollutant so no target is currently available.
0	Assuming this is not a permited pollutant so no target is currently available.
0	Assuming this is not a permited pollutant so no target is currently available.
0	Assuming this is not a permited pollutant so no target is currently available.
0	Assuming this is not a permited pollutant so no target is currently available.
0	Assuming this is not a permited pollutant so no target is currently available.
0	Assuming this is not a permited pollutant so no target is currently available.
0	Assuming this is not a permited pollutant so no target is currently available.
0	Using base year for now.
0	Using base year for now.
4.651162791	Industry best target, as determined by John Talberth.

0	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	Assuming target is 100% for now.
0	Assuming target is 100% for now.
0	Using base year for now. Need to reasearch target.
1.162790698	Industry best target, as determined by John Talberth.
0	Assuming target is 100% for now.
0	should drop time above limits, focus on time below.
0	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	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.
6.976744186	

Washington State Department of Ecology - Industrial Footprint Project

Footprint Worksheet - Social Domain

Identifier	Aspect	Indicator	Units of measurement	2006	2007	fractional change	Type of scoring	Target or permit limit
SOC1	Community Involvement	Volunteerism for local education	Hours per employee			0	Base year	
SOC2	Community Involvement	Volunteerism for community benefit	Hours per employee			0	Base year	
SOC3	Community Involvement	Number of social awards	Number			0	Assigned	
SOC4	Environmental Nuisance	Number of odor complaints	Number			0	Assigned	
SOC5	Environmental Nuisance	Intensity of operational traffic	Truck vehicles miles traveled per air dried ton of production			0	Base year	
SOC6	Health and Safety	OSHA Compliance	1 for confirmed compliance without any fines, 0 otherwise			0	Assigned	
SOC7	Health and Safety	Safety incidents, injuries, accidents	Incidents per 100 employees			0	Base year	
SOC8	Health and Safety	Wellness programs and benefits	Dollars per employee			0	Base year	
SOC9	Health and Safety	Trained incident responders	Number per 100 employees			0	Base year	
SOC10	Health and Safety	Emergency and safety planning	1 for plan on file, 0 otherwise			0	Assigned	
SOC11	Human Rights	Demographic diversity	Index of representational equity from IRE calculation below (beginning in cell D28), scored on a scale of 0 to 1, where 0 = perfect match with US diversity	#DIV/0!	#DIV/0!	#DIV/0!	Base year	0
SOC12	Employee Relations	Benefits for family leave	1 for all classes of benefits provide, 0 otherwise			0	Assigned	
SOC13	Employee Relations	Workplace satisfaction	1 if employee satisfaction survey is used, 0 if otherwise			0	Assigned	
SOC14	Employee Relations	Wage distribution gap	Ratio of highest paid employee to lowest paid employee			0	Base year	
SOC15	Employee Relations	Labor representation	Percent			0	Target	100
SOC16	Employee Relations	Workforce turnover rate	Ratio of total number of employees resigning, fired, or laid off to average workforce			0	Base year	
SOC17	Employee Relations	Employee training	Total training hours per employee			0	Base year	
SOC18	Employee Relations	Benefits beyond compliance	Dollars per employee			0	Base year	
SOC19	Employee Relations	Labor relation incidents	Incidents per 100 employees			0	Base year	
			IRE Calculation (SOC11)	2006	2007	U.S. shares	Mill shares 06	Mill shares 07
			White Non-Hispanic			0.664	#DIV/0!	#DIV/0!
			Black			0.128	#DIV/0!	#DIV/0!
			Asian			0.044	#DIV/0!	#DIV/0!
			Native American			0.01	#DIV/0!	#DIV/0!
			Hispanic			0.148	#DIV/0!	#DIV/0!

		Pacific Islander			0.002	#DIV/0!	#DIV/0!
		Other			0.004	#DIV/0!	#DIV/0!
		Sum	0	0			Sum
	Sum/2=IRE						Sum/2=IRE

Type of target	Raw score	Indicators	Equal weight factor	Equal weight score	Assigned weight	Weighted indicators	Assigned weight factor	Final weighted score	Comments
Maximize	0	1	0.052631579	0	2	1	0.054054054	0	
Maximize	0	1	0.052631579	0	2	1	0.054054054	0	
Maximize	0	1	0.052631579	0	1	0.5	0.027027027	0	
Minimize	100	1	0.052631579	5.263157895	3	2	0.108108108	10.81081081	
Minimize	0	1	0.052631579	0	1	0.5	0.027027027	0	
Maximize	0	1	0.052631579	0	3	2	0.108108108	0	
Minimize	0	1	0.052631579	0	3	2	0.108108108	0	Need to develop long term target, perhaps from industry best reported in sustainability plans.
Maximize	0	1	0.052631579	0	1	0.5	0.027027027	0	
Maximize	0	1	0.052631579	0	2	1	0.054054054	0	Need to develop long term target. Does not make sense to base score on continual increases.
Maximize	0	1	0.052631579	0	2	1	0.054054054	0	
Minimize	#DIV/0!	1	0.052631579	#DIV/0!	2	1	0.054054054	#DIV/0!	IRE calculation below. Assumes racial/ethnic omposition similar to that of the U.S.A.. Perhaps county level distribution would be a better target. Base year used for now. 0 is the most desireable target. Need to devleop a scoring protocol when a target is 0.
Maximize	0	1	0.052631579	0	1	0.5	0.027027027	0	
Maximize	0	1	0.052631579	0	2	1	0.054054054	0	
Minimize	0	1	0.052631579	0	1	0.5	0.027027027	0	Need to develop long term target.
Maximize	0	1	0.052631579	0	2	1	0.054054054	0	Assumes target is 100% for now.
Minimize	0	1	0.052631579	0	2	1	0.054054054	0	Need to develop long term target.
Maximize	0	1	0.052631579	0	2	1	0.054054054	0	Need target for this from American Society of Training and Development.
Maximize	0	1	0.052631579	0	1	0.5	0.027027027	0	Need to develop long term target.
Minimize	0	1	0.052631579	0	1	0.5	0.027027027	0	Need to develop long term target.
	Sum:	19	Sum:	#DIV/0!	Sum:	18.5	Sum:	#DIV/0!	
Abs(x-y) 06	Abs(x-y) 07								
#DIV/0!	#DIV/0!								
#DIV/0!	#DIV/0!								
#DIV/0!	#DIV/0!								
#DIV/0!	#DIV/0!								
#DIV/0!	#DIV/0!								

#DIV/0!	#DIV/0!							
#DIV/0!	#DIV/0!							
#DIV/0!	#DIV/0!							
#DIV/0!	#DIV/0!							

Washington State Department of Ecology - Industrial Footprint Project

Footprint Worksheet - Economic Domain

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			0	Base year
ECON2	Economic Impact	Regional economic impact - tax revenue	Million dollars per air dried ton of production			0	Base year
ECON3	Economic Impact	Regional economic impact - jobs	Number per air dried ton of production			0	Base year
ECON4	Regional Economy	Percent of revenue regionally (goods)	Percent			0	Base year
ECON5	Regional Economy	Percent of purchases procured regionally (services, including utilities)	Percent			0	Base year
ECON6	Economic Impact	Net capital investment in facility	Ratio of capital investment (spread over years) to depreciation, replacement and maintenance			0	Target
ECON7	Community Involvement	Total spending on habitat conservation/restoration	Dollars			0	Base year
ECON8	Community Involvement	Contributions to charities and non-profit organizations	Dollars			0	Base year
ECON9	Community Involvement	Contributions to local education	Dollars			0	Base year
ECON10	Economic Development	Reycled/reused market creation	Dollars			0	Base year
ECON11	Jobs	Average compensation including benefits	Dollars			0	Base year
ECON12	Jobs	Percent of total jobs at family wage level	Percent			0	Target
ECON13	Jobs	Percent of total jobs providing benefits	Percent			0	Target
ECON14	Customer Satisfaction	Claims paid including returns	Value of claims paid per million dollars in sales			0	Base year

Target or permit limit	Type of target	Raw score	Indicators	Equal weight factor	Equal weight score	Assigned weight	Weighted indicators	Assigned weight factor
	Maximize	0	1	0.071428571	0	3	2	0.090909091
	Maximize	0	1	0.071428571	0	3	2	0.090909091
	Maximize	0	1	0.071428571	0	3	2	0.090909091
	Maximize	0	1	0.071428571	0	3	2	0.090909091
	Maximize	0	1	0.071428571	0	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	0	1	0.071428571	0	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	0	1	0.071428571	0	3	2	0.090909091
100	Maximize	0	1	0.071428571	0	3	2	0.090909091
100	Maximize	0	1	0.071428571	0	3	2	0.090909091
0	Minimize	0	1	0.071428571	0	2	1	0.045454545
		Sum:	14	**Sum:**	0	**Sum:**	22	**Sum:**

Final weighted score	Comments			
0				
0				
0				
0				
0				
0	Recommend simple scoring here: negative = 0, positive = 50, incrase from base year = 100.			
0				
0				
0				
0				
0				
0	Assuming target is 100%			
0	Assuming target is 100%			
0	Base year used for now. 0 is the most desireable target.			
0				