



United States
Environmental
Protection
Agency

Environmental Management Systems

Prioritizing Environmental Issues—DRAFT

Every company that actively manages its environmental impacts has a method for prioritizing them. Smaller companies with few environmental issues may do this very informally, whereas large companies can have more complicated, systematic methodologies. If your company already has an EMS, you probably fall somewhere between these extremes.

The DfE program offers a simple but systematic approach to prioritizing environmental issues (or, in EMS lingo, identifying your significant environmental aspects). The key to this approach involves developing a number of categories by which to evaluate the issues you face. The steps below describe this approach in more detail.

Step 1: Choosing criteria for evaluating significance

Step 2: Evaluating your environmental aspects according to these criteria

Step 3: Determining which aspects are significant

Step 1: Choosing Criteria for Evaluating Significance

Let's say that one of your environmental aspects is using energy and another is using a hazardous chemical at a particular point in the production process. If you were asked which was more significant, you would need more information to respond. How much energy is used and where does it come from? What is the chemical? How is it handled? How is it disposed of?

But even if you had this information on hand, it might still be hard to prioritize without additional guidelines. You might say that using the energy has a more significant impact because it impacts the climate, whereas your colleague might say that using the chemical has a significant impact because it causes some risk to your workers, even if it is disposed of properly.

You and your colleague are actually evaluating the same two environmental aspects with different criteria. What you first need to do is to choose a set of criteria to use in evaluating your aspects. The criteria you select should reflect the values, policies, and situation of your company; for this reason, it's helpful to have a team of managers and employees develop them.

You can use the list of suggested criteria below as a starting point, modifying it to fit your company's needs.

Suggested Criteria of Significance

- Impact on local environment
- Impact on worker health and safety
- Toxicity of chemicals
- Regulatory concerns
- Impact on natural resources (air, water, land)
- Impact on global environment (e.g., ozone depletion, climate change)
- Impact on operational efficiency
- Impact on resource productivity

Step 2: Evaluating Your Environmental Aspects According to These Criteria

Now that you've selected the criteria that are important to you, it's time to apply these criteria to the list of aspects you identified through process mapping (see the "Process Mapping Approach" document). Create a spreadsheet or table with your criteria as the columns and your environmental aspects as the rows, as in the example below. Make the heading of the final column "Significant?".

The next step is to evaluate each aspect according to your criteria. You can use a numerical scoring system or a graphical one based on the "Consumer Reports" system, as in the table below. Since some of your aspects may represent *potential* environmental impacts, you should base your judgement both on the **severity** of the potential impact and the likelihood, or **frequency**, of its occurrence. For example, storing a very hazardous chemical has a high *potential* environmental impact but (hopefully) a low probability of causing an *actual* environmental impact through a spill.

Consumer Reports System					
Symbol	H	M-H	M	M-L	L
Environmental Impact Category	Highest	Med.-High	Medium	Med.-Low	Lowest

Particularly for evaluating the toxicity and associated risk of particular chemicals, you may want to look for more specific information. DfE is developing some suggested approaches to risk evaluation to help with this task (a risk guide will soon be available from the EMS pages on the DfE Web site at www.epa.gov/opptintr/dfe/).

The key is to remember that you are not making absolute judgements. Instead, use your best knowledge, and that of your colleagues, to evaluate your environmental aspects *relative* to one another.

Criteria → Aspect	Environmental Impact (local)	Worker H&S Impact	Toxicity of Chemicals	Regulatory Concerns	Significant?
"Removing Ink" Process in Screen Reclamation (part of Screen Printing)					
Use of ink remover	M-L	M-H	H	M-H	
Water use	M	M-L	L	L	

Generation of wastewater effluent (contains ink remover, ink traces)	M-L	M-H	M-H	M-H	
Emission of air contaminants	M-H	M	H	M	

Note: For the sake of legibility, this table uses only four criteria of significance. You should use as many as your company decides are appropriate.

Step 3: Determining Which Aspects Are Significant

Now it's time to fill in that final column in your table to identify which aspects are significant. Because you will focus your EMS on these aspects, it is important to make these decisions as a team. There is no "right" way to determine significance, although many companies choose a combination of systematic evaluation and gut feeling.

Continuing the screen printing example, one way to determine significance is to say that any aspect that has two H's (with two M-H's equal to one H, and two M's equal to one M-H) is significant.

Criteria → Aspect	Environmental Risk (local)	Worker H&S Risk	Toxicity of Chemicals	Regulatory Concerns	Significant?
"Removing Ink" Process in Screen Reclamation (part of Screen Printing)					
Use of ink remover	M-L	M-H	H	M-H	Y
Water use	M	M-L	L	L	N
Generation of wastewater effluent (contains ink remover, ink traces)	M-L	M-H	M-H	M-H	N
Emission of air contaminants	M-H	M	H	M	Y

In this hypothetical example, the use of the ink remover and the emission of air contaminants were both found to be significant, largely due to the toxicity and volatility of the ink remover. (The

next step in the EMS process is to develop environmental objectives, taking significant environmental aspects into account.)

Alternative Methodologies

If reducing risks to workers were a top priority to your company, you could amend your methodology to include any aspect with an H for "Worker H&S" as significant. Additionally, if you have a gut feeling that a particular aspect is very important to address even if its score isn't enough to classify it as "significant," go with your gut feeling.

Remember that you are making *relative* judgements about significance. As long as you've identified your most important aspects as "significant" and have left the most trivial ones off your list, you have a great starting point. You can modify this list from year to year, as your processes change and you work to achieve continuous improvement.