

Establishing and Measuring Environmental Goals

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As companies are becoming more socially conscious, safety professionals are often assigned the environmental responsibilities as well as the safety responsibilities. Socially conscious companies are listening to the American people and their stock holders who want clean and efficient operations that are protective of the environment. Many companies are finding that not only can they protect the environment but they can also save money in the process. This creates a win-win situation in which the company operations are analyzed for environmental performance and a cost savings is realized by reducing waste. Creating waste cost time and money and not to just get rid of the waste but to even produce the waste from the start.

There are several Environmental Management Systems (EMS) with the most notable one being ISO 14001. ISO 14001 is designed to help companies manage their environmental responsibilities to all applicable regulations through an effective EMS. Whether a company chooses to pursue ISO 14001 or create an EMS system of their own instead, a system to manage the companies' environmental responsibilities is important. Having a system in place is important whether it's a system for production, quality, safety or the environment. When a company chooses to use an EMS, the company has taken the first step to addressing environmental affairs in a proactive way. First, the company should have an environmental policy. This is an overall document that explains what the company intends to do from an environmental standpoint. The environmental policy statement should show management commitment, be easy for employees and the public to understand and reflect the company vision and values. The environmental policy is that management commitment. Always read and understand your operating permits; know what you can and cannot reduce from an environmental liability standpoint. This article will introduce the reader to establishing and measuring environmental goals using the SMART acronym. The reader will also understand the importance of communicating progress to employees and management as well as what to do if an environmental goal is not achieved.

There is no magic bullet with establishing and measuring environmental goals. Your company culture along with management commitment will dictate a lot of what environmental

goals are chosen. I have found that there is no right or wrong method to choose the goals but they generally fall into five categories. The first category is to choose environmental goals by a scoring system from the list of aspects/impacts from ISO 14001 (if applicable) or a custom tailored environmental management system (EMS). By choosing items from the aspects/impacts analysis, the company is trying to reduce their environmental liability as much as possible. Using a scoring system is a good way to prioritize your efforts since a company cannot tackle all the environmental liability reduction efforts at the same time. Part of this category can also include any findings from internal environmental audits. Correcting these findings is very important and it's also important to make sure the same circumstances (or lack thereof) happen again. The second category is employee involvement. Employees work the process (manufacturing, assembly line, warehouse, fuel dispensing operations, etc.) all day; they see the waste and how to avoid it. Employees will also embrace the environmental goal more if it comes from them and not some corporate guy that nobody sees or interacts with. Always thank employees for their suggestions even if they are not used. It is very important to close the loop so employees understand why their goal was not chosen so they are still part of the process. It is very frustrating when someone asks for your help and then they choose not to use it anyway. An employee generated environmental goal might involve using the captured stormwater for the process instead of using city water. Saving money and at the same time, reducing the company's environmental liability by reducing the volume of stormwater that is treated and released. Always read and understand your permits to ensure you are not breaking any regulations by trying to minimize costs. The third category is community involvement. Asking for community involvement can be tricky. Some companies are operating in communities where they are valued while others are operating in communities want the company just to close doors and leave town. This category may only have goals with aesthetics involved such as painting the plant or planting trees/shrubs to make the area more attractive. A community environmental goal such as, remove the boiler and associated 10,000 gallon diesel tank is probably not possible due to your manufacturing process and/or the associated cost. As with the employee involvement strategy, close the loop on the community involvement if your company chooses not to implement the proposed environmental goal. The fourth category and my personal choice are to examine the process. In this category, a team of employees from different departments is formed to examine the companies operating process. Employees are asked to perform "treasure hunts" and look for waste along with steps to take in reducing the waste. Waste is a very broad term and no idea should be discarded until examined by the team. One of these environmental goals may look at the disposal practices from excess drums and wooden skids. It costs time and money to cut up excess drums and skids and dispose as solid waste. It also costs money to dispose of the solid waste (usually measured in pounds of refuse removed from site via dumpster). The team researched the problem and found a local skid and drum reclaimer. The reclaimer was contacted and would come to the plant on a weekly basis and take away any skids or empty drums from the designated location. Time and money (as well as the added safety precautions to ensure the drum is cleaned and can be cut up safely) were eliminated along with taking care of a constant housekeeping issue. The fifth and final category is to follow the money. This is purely a cost reduction exercise. Basically, gather the bills and look at what the company spends the most money on and then reduce that cost. One example of this might be to install occupancy sensors in offices and seldom used areas of the plant to help reduce electrical costs. While not a bad strategy, the company may work hard at reducing bills and still have the same level of environmental liability.

The key to setting environmental goals is prevention of pollution along with a reduction of environmental liability and cost savings. Many goals (environmental, as well as personal

goals) fall short because there is a need to change but a tool to gauge the measurement is not used along with the environmental goal not being specific enough. Some companies have very vague and general environmental goals such as “we’ll do better next year” or “we will use less city water next year”. Using the acronym “SMART” in establishing and creating environmental goals is a very good method for developing good solid goals:

S Specific
M Measurable
A Attainable
R Realistic
T Team/Timely/Tangible

Environmental goals are like any other goals such as those found in production and quality; they must have a champion. The goal champion can be a specific person or a team. All goals have to be driven as change is sometimes an unknown and scary animal. It’s always easier to deal with the animal you know as opposed to the animal you don’t know.

Environmental goals must be specific and measurable to be effective. To ensure your chosen goals are specific in your environmental goal setting, ask yourself the five “W” questions:

Who: Who is on the team?
What: What do I want to accomplish?
Where: Identify a location (can be an area of the plant or entire plant).
When: Establish a time frame (starting and ending).
Why: Develop specific reasons, purpose or benefits of accomplishing the goal.

The “why” part of the five “Ws” is very important to focus on. The team will have company employees, as well as supervisors and managers ask why they should help with the environmental goals. It’s very important that the chosen environmental goals have a benefit to the company and if it doesn’t then employees will think “what’s the point.” It will be very hard to have employees work for the sake of working, make sure the team can answer “why.”

Having specific goals will show a well thought out plan and measurement system. Having goals important to others is important to help with employee buy in. Without management and employee buy in, the team will make progress but probably not meet or exceed the environmental goal. As long as the team can answer the questions above, you will have a specific goal. (<http://www.topachievement.com/smart.html>) A specific goal may sound something like “ABC Industrial will reduce paper usage in printer/copiers by 25% by Dec. 31st 2012 by setting the copier mode to always print double sided, reinforce with the workforce to only use printers/copiers when necessary. ” A general or non-specific goal may sound something like “ABC Industrial will reduce paper usage by 25% ” A specific goal sets into motion a plan to achieve sub-steps along the way with a specific ending date and goal measurement. One of the sub-steps in this example would be have the IT department set all devices using paper to print double sided and to also train employees to only print when they absolutely have too. Another sub-step may also be to ensure that printed paper is charged to individual departments and tracked by person. While this may seem a little harsh, the person can have extra attention to ensure they are onboard with the goal.

The next part is to ensure the goal is measurable. By measuring the goal, the team is establishing criteria to measure goal progress. “Ask yourself questions such as:

- How many?
- How much?

How will I measure my progress and know when I’m done (or falling behind schedule?)” (www.topachievement.com/smart.html) This step is to make sure you can even measure the goal before you make it. It will be difficult to quantify the gallons of water saved per widget produced if you don’t have a way to measure your baseline water use first. Make sure the company can measure the goal progress per a fixed unit and not a floating baseline such as dollars saved per widget produced. A fixed unit goal can sound like “amount of (electricity (kW), gallon of water, hazardous waste produced, or lb. of solid waste produced) per widget produced.” This way the company can measure your progress even if the cost of waste disposal, water and electricity increases. This ratio may have to be tailored so that a number has significance. A couple should be afraid to take the ratio and times by a 100 or even a thousand to make the number easier to understand. The ratio is not diluted but made so the everyday employee can interpret and understand the data more easily.

The next is to make sure the company can attain the environmental goal. The goal has to be agreed too and it’s a goal the company is willing and able to meet. Education and training of the workforce is very important because employees want to help achieve the goal but they must know how they fit into the puzzle.

The environmental goal has to be realistic. A goal of zero waste (hazardous or solid) is great but may not be possible given the manufacturing process and engineering controls. A 10% or even a 50% reduction can be realistic as long as the company puts the systems in place to ensure it can meet the goal.

The “T” in the SMART acronym can stand for several things as long as it’s clear. The first “T” is a timely goal or in other words, the goal is grounded in a time frame. Goals using a time frame should have words such as “by May 15, the company will” or “No later than 31 Dec. 2012, the company will reduce electricity use by ??K/w.” The second “T” is for tangible. A tangible goal is some change that can be seen, felt or heard. This form of a goal can be difficult if the end result or standard is not known or vague. Avoid using vague language like; ABC Industrial will improve housekeeping in order to paint the plant by (blank date). Almost everyone will have a different definition of clean and feel they met the goal, but only the goal owner will truly know the standard they are looking for. Make sure you clearly communicate expectations so employees know how to succeed. The third “T” is for team. This is a team goal. Words such as; The production team will (fill in the blank). Team goals almost always require employees from multiple departments.

Now that we have talked about establishing goals, let’s discuss the measurement of environmental goals. Ideally, the goals are communicated to employees and the department managers can explain to their employees how the environmental goal affects them and what they can do to contribute to goal success. Next, ensure a system is in place to communicate the progress of the goals and the status of the goals. The environmental goals chosen above in this example will pay for themselves over a given period of time. The payback time period can range depending on the goals. The payback is not always in the form of money. For example, the

facility is planting 30 pine saplings along the north fence. This carbon footprint reducing measure can be measured and included as part of the company’s annual report or just might be a nice footnote to include in keeping good community relations.

Measuring environmental goals can be done via software or a good old fashioned spreadsheet. It need not be fancy but meet the company’s needs. If using a spreadsheet, ensure employees entering data know how to do this and automate the formula process to cut down on errors. The measurement of environmental goals can be quantitative or qualitative. A quantitative measurement method is a level of known measurement. It typically has a dial or gauge and is accurate. Quantified data can be found in the form of water meters, electricity meters, vehicle miles per gallon and pounds of paper, copper or aluminum recycled.

Whereas a qualitative measurement method is a something that is not an absolute number but a change (for the better) can be seen. Housekeeping, fixing water leaking and removing excess drums/totes/wooden pallets are common in the category.

Exhibits 1 and 2 show some examples of SMART environmental goals:

Area	Goal	% Change	Personnel	Measurement
Water	Decrease use of water	10% decrease	Plant Manager, Smith, Accountant	Water bill Gallons/widget produced
Carbon footprint reduction	Plant 20 pine samplings along North Fence	50% Increase	Smith, EHS Intern	Count Trees
Fuel consumption	Increase fleet fuel efficiency (install governors on trucks)	5% increase	EHS Intern, Smith, Fleet Manager	Fuel bill Diesel/miles driven
Paper	Reduce paper usage in copiers	25% Decrease	Plant Manager, IT Intern	Count paper used in copier
Water	Install water meter on groundwater pump	Actual installation	Plant Manager, ABC Mechanical	Actual installation, start measuring groundwater use for baseline reduction

Area	Baseline Goal	Final Goal	Personnel	Measurement
Electricity	Decrease use of electricity – baseline 2.8 Kw/widget	2.3 Kw/widget	Plant Manager, Smith, Accountant	Power Bill Kw/widget produced
City water	Decrease use of water – baseline 8 gal./widget	5 gal./widget	Smith, EHS Intern	Water Bill Gal./widget produced
Improve site aesthetics	Power wash and paint plant	Freshly painted plant	Smith	Before and after photos
Solid waste	Decrease solid waste to landfill – baseline 10 lbs./widget	5 lbs./widget	Smith	Solid waste bill Lbs./widget produced

Exhibits 1 and 2. Examples of SMART goals.

Communicating the environmental goal progress is very important. Some companies will call this metrics whereas others may call the same thing a key performance indicator (KPI). Whatever the name, communicate progress using already established methods. This helps with buy in and the environmental goals are not seen as something new and scary. The metrics or KPI's should be communicated on a regular basis (i.e., monthly). This helps to keep the spotlight on them while also making sure that a lack of progress is not known until it's too late. Communicating progress helps to align employees and set expectations as well as accountability. Someone always has to own the goal and drive it.

The method of communication is also important. I like to have the employees direct supervisor cover the environmental goals so employees see it's being measured along with talking about any roadblocks to goal attainment. While ideally, the employees supervisor should communicate progress, this may not be possible given some 24/7 operations and have a fragmented department so email or company newsletter may be used. Posting the progress in a common area (drivers room, break room, etc.) will give it additional coverage, it may not be seen by the employees since employees are sometimes bombarded with messages and this is just another metric that's lost in the noise. Exhibit 3 is a common simple spreadsheet used for tracking electricity, water and diesel fuel usage:

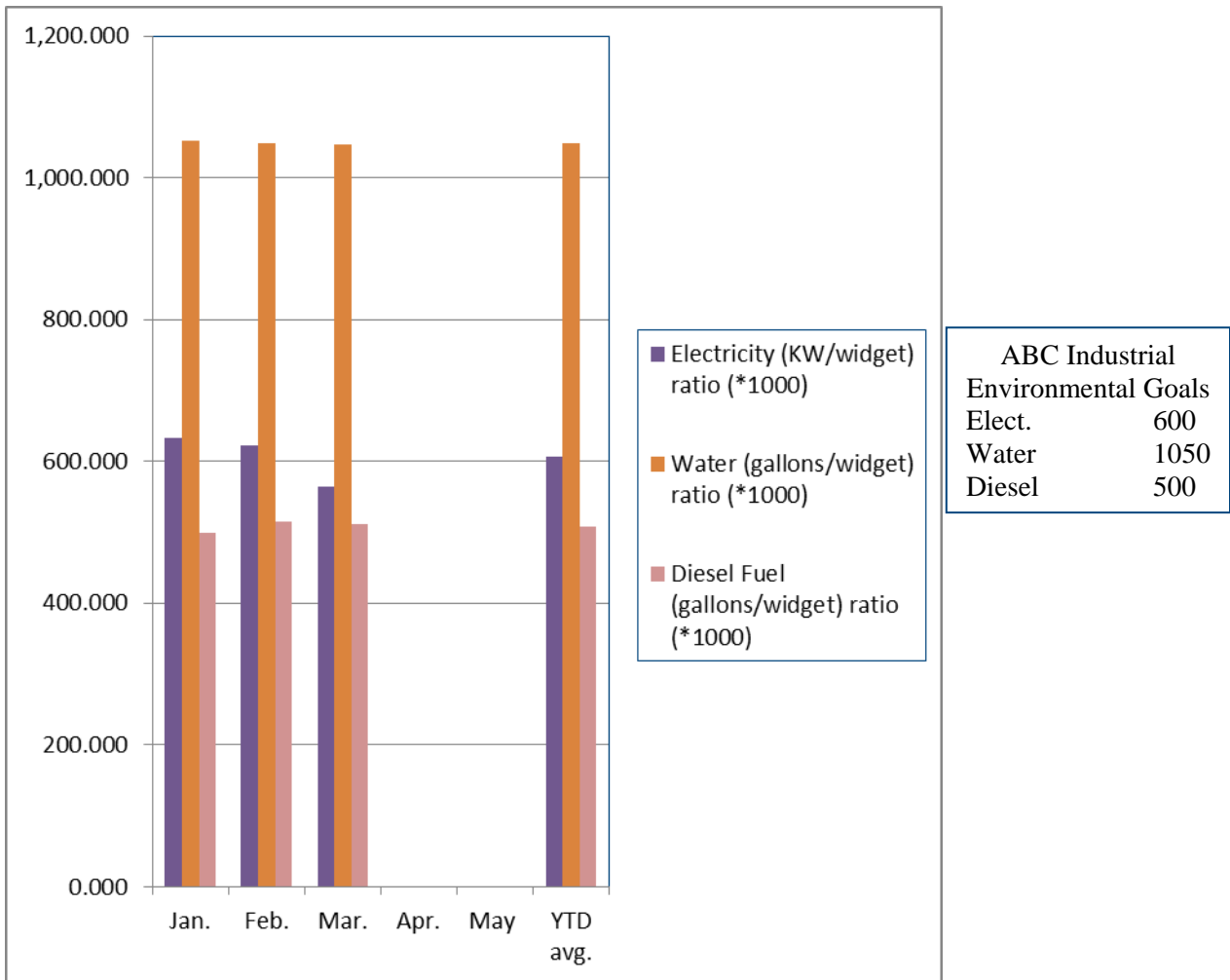


Exhibit 3. Spreadsheet for tracking electricity, water and diesel fuel usage

In the spreadsheet in Exhibit 3, a quick glance will tell you that the diesel fuel usage for January was met but this is the only goal met on the spreadsheet. Environmental goals can be a monthly goal or an overall average taken at the end of a specific period of time (i.e., yearly). Either goal is good but it must be made clear to the workforce.

But what if the company doesn't make their environmental goals? Go back and examine the steps the group took to achieve the environmental goal. There will be times when your goals were a little too ambitious and that's OK as long as you tried hard to achieve them. Track your progress at least weekly and meet as a group on a monthly or quarterly basis. Adjust the game plan as necessary. Discuss options with the group and chart a new path as the situation dictates. The company may also find that after several years of setting environmental goals that a difficult goal to achieve might be a 2% reduction in something. As the company examines the processes and ratchet things down, the environmental goals will be more difficult to achieve. Capitalize on incremental goal achievement. If the company goal is to reduce paper usage by 25% and at the 6-month mark; the goal measurement indicates a 20% reduction, communicate the goal status to the

employees and also don't be satisfied with a 25% reduction if 30% is attainable. Let the data speak for itself.

Conclusion

In conclusion, today's safety professionals are being asked to take on more and more environmental responsibilities. This article explained establishing and measuring environmental goals using the SMART acronym, communicating progress and finally what to do if a company does not attain an environmental goal. The attainment of environmental goals will pay off in dividends and not just monetarily but by the good nature the company projects by operating as environmentally friendly as possible and as a good neighbor to the community. Attitudes are infectious and soon others will want to help in achieving of environmental goals.

References

Ayers, D. "Environmental Aspects and Impacts—A system for identifying priorities and setting goals." *Professional Safety*. March 2010: 26-31

Top Achievement. 2007. *Creating Smart Goals*. Retrieved September 9, 2008, from Top Achievement Web Site: <http://www.topachievement.com/smart.html>