3-Page Jumpstart: How To Create a Waste Inventory

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Why this is important: You want to reduce waste and make money from the waste you do generate. A Waste Inventory is the foundation for you to set priorities for reduction efforts and your highest potential ROI... your roadmap to find the money!

Goal for this step: Record the "What" and "How much" for each wastestream
Just like a good Gemba walk in Lean manufacturing, the goal at this point is to observe carefully, to understand what you see, and to measure it. Don't assume that you know why that waste is there… just "see what you are looking at," and record it.

When you record the "What" and "How much" of your wastes in a Waste Inventory, you have a way to identify specific targets for savings in the next steps.

What to expect: It can take a little time to do right, but it is the most important step for understanding how much your plant can save (or make) from waste reduction. The next, (easy) step is to "show them the money" and get buy-in for your waste minimization program... that happens when we start putting scrap values next to each waste in the Inventory.

What you might need: If you don't currently segregate and measure your major wastestreams, you may want to set aside a few drums or gaylords in a "staging area" so you can segregate and measure. If possible, the easiest and most accurate place to measure is probably at the point of generation.

How to perform a Waste Inventory:

Step 1: Download the Waste Minimization Savings Calculator.
You can record your measurements wherever works for you (hopefully not a paper napkin!), but we'll be using the Excel-based Waste Minimization Savings Calculator, available for free at http://www.wastemin.com/discuss/index.php?threads/the-waste-minimization-savings-calculator-walkthrough-video-and-beta-download.102/ It captures all of the information you need, and performs all of the conversions and calculations for you (as well as creating management summaries and more).

Step 2: Gather any invoices or totals from your waste management vendors.
If you don't currently segregate and measure your wastes separately, your hauling tonnage will give you a feel for the totals and help you to check your measurements

later. For example, if we measure the major wastestreams and are still "short" 3 tons of the hauler's total waste numbers, we might want to check our numbers and take a closer look at the "minor wastes" we didn't measure individually.

Step 3: Do a walkthrough (and dumpster dive) to identify your wastestreams.
This step will be a little different for every facility, but take a walk and note every wastestream you see. You probably don't have to literally dive into the dumpster, but you'll want to pay special attention to dumpsters, waste collection areas and off-feeds to make sure you're recording those wastes. You may be able to identify many of these from your desk, but a walkthrough is great to jog your memory and help you make sure you didn't overlook anything.

Don't forget to record wastes that are already recycled internally or as part of the manufacturing process! Many facilities lose sight of how much waste is already avoided or diverted by in-line processes... this is very useful information to capture how much you already save from your waste minimization efforts.

Information to note during your walkthrough:

- **What is the waste?** Ex: "Virgin cardboard scrap" or "6061 aluminum chip"
- **What is the process that is creating that waste?** Ex: "CNC milling"
- **What is currently happening to that waste?** Ex: "Veolia dumpster"

As you record these wastes and collect the information, it may not be a bad idea to take a picture, as well. As you prepare the inventory, you will then have a visual reference to remind you of each waste, and where it was located.

Step 4: Record your wastes and create your plan for how to measure each.
Now, you want to enter those wastes into the Waste Minimization Savings Calculator (or wherever you will be recording)... this will act as your checklist for measurement.

For each waste, you want to think about how you want to measure it accurately over a period of time. Each waste will be a little different: You may already segregate waste cardboard in a gaylord, and you just need to weigh the gaylord at the beginning and end of the week. If you have ten wastes and they're all going into one dumpster, you're probably going to want to set aside and label a couple gaylords or drums, and let your team know that "...for the next X days, waste A needs to go into the drum labeled 'Waste A.'" and so on.

At the end of the day, your savings calculations will only be as good as the waste measurements you collect. So, if you're OK with ballpark estimates for some wastes

now, just remember that your savings will be estimates, too (and you'll probably have to sharpen your pencil later when you talk to management!)

Step 5: Communicate, communicate and communicate some more.
If you haven't already, now is the time to get your team together and ask if you've missed anything, if there are other places a waste is stored, or if they have any ideas. Even if you are doing all of the measurements, you could think you're weighing all of the cardboard, when someone has a pile in their area you didn't know about. These are the types of errors that can corrupt your measurements.

Step 6: Measure each wastestream.
Now that you have identified your wastes and how you plan to measure, it's time to execute. You don't have to do all the measurements for your waste inventory at the same time. It can be one a week, one a day... or whatever works for your facility.

The question you need to answer for each waste is:
How much of this waste was created, and how long did it take to create it?

For example:
- "1096 lbs of 6061 aluminum chip in 10 workdays"
- "55 gallons of waste Stoddard solvent per month"
- "3 cu yd of dried sludge per hour"

The goal is to get a measurement sample that represents "normal" production conditions. The more variation you see in waste creation rates, the longer you'll probably want to measure that waste to get a reliable number. On the other hand, if you have a stamping process that runs at one speed and creates exactly 320lbs of waste per shift, you will only need to confirm that measurement is accurate.

Step 7: Convert measurements into a usable form for calculations.
At this point, you will have a complete list of measurements for your wastestreams, but you will also have a variety of units (lbs, tons, gals, etc) over different timeframes (hour, month, week). For the sake of calculating savings and tracking the progress of your waste minimization plan over time, you're going to want to convert those measurements to an annual basis and use the same units whenever possible. You can calculate yourself, one at a time via google unit convertor... or, they can be done automatically by the Waste Minimization Savings Calculator mentioned earlier.

Next step: **Getting to the Savings and Setting Priorities for Your Waste Minimization Program**