



Report on the accuracy of manufacturer-reported recycling targets and use of national sales data

Wisconsin Department of Natural Resources Waste and Materials Management Program
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Wisconsin's electronics recycling law [s. 287.17(10)(cm), Wis. Stats.] requires the DNR to evaluate the accuracy of the sales weight information manufacturers provide on their annual E-Cycle Wisconsin registrations, and to determine whether the sales weights (and thus the recycling targets) should instead be based on national sales data.

The electronics recycling law is based on a product stewardship approach, under which manufacturers fund collection and recycling programs for their products. Under the law, manufacturers of TVs, computers, computer monitors, desktop printers and e-readers must register the brands they sell to households and schools in Wisconsin, and recycle a number of pounds of electronics each year based on their sales. Manufacturers currently self-report their sales weight when they renew their E-Cycle Wisconsin registration each year.

Manufacturer reporting method

As of December 2011, we are well into the third year of the E-Cycle Wisconsin program (Year 1 was a truncated "year" running from January through June, 2010, to align the program year with the state's fiscal year). Electronics manufacturers have therefore submitted three sets of sales data for covered electronic devices sold to Wisconsin households and schools during a prior 12-month period. A manufacturer's recycling obligation (target) for each program year is based on that sales weight. Table 1 shows how targets have been calculated for each program year.

Table 1: Summary of manufacturer recycling target calculations

Program year	Date data submitted	Time period for target calculation	Target formula
1 (January to June 2010)	February 2010	July 1, 2007 to June 30, 2008	[sales weight 2007 to 2008] x 0.8 x 0.5
2 (July 2010 to June 2011)	September 2010	July 1, 2008 to June 30, 2009	[sales weight 2008 to 2009] x 0.8
3 (July 2011 to June 2012)	September 2011	July 1, 2009 to June 30, 2010	[sales weight 2009 to 2010] x 0.8

To determine sales weight, the law allows manufacturers to use actual Wisconsin sales data, estimated sales in Wisconsin based on national sales data, or a combination of estimated and actual sales. On the registration form, manufacturers report the total Wisconsin sales weight for the relevant time period and indicate whether the weight is based on actual sales, estimated sales or both. Upon request, manufacturers must provide the DNR with additional details of how they calculated the sales weight.

National sales data

The DNR has taken a number of steps during each registration period to evaluate the accuracy of sales weight information submitted by manufacturers. One of the key steps has been to purchase national sales data and use it to verify manufacturer-reported data. The DNR has worked with a non-profit organization, the National Center for Electronics Recycling (NCER) to purchase and format national sales data for each of the time periods listed in Table 1. NCER has provided a similar service to several other states, including Minnesota.

The data have come from two market research firms, iSuppli and International Data Corporation (IDC), and are available for anyone to purchase. NCER receives the data in spreadsheets, converts them from units sold to pounds, multiplies national totals by Wisconsin's share of the national population (1.84 percent in 2010), and compiles totals for each manufacturer.

Several limitations in these national datasets may create differences with actual sales data.

First, many manufacturers are lumped into an "Others" category, meaning there is no way to tell how much each individual manufacturer sold. In the most recent data DNR purchased, 27 of the 66 manufacturers with Wisconsin recycling targets, or 41 percent, were in this "Others" category.

Second, the data come in the form of units sold. NCER has developed estimated weights by device type and size category (e.g., LCD TVs over 40") to calculate the estimated sales weight. These unit weight factors are based on estimates manufacturers use in Washington state and additional research by NCER, and are adjusted each year to be as accurate as possible. They are averages, however, and may not be accurate for every manufacturer's products.

Third, for TVs and computer monitors, the unit sales are not broken out by customer category (home, education, business, etc.). NCER has estimated that 95 percent of TV sales and 60 percent of monitor sales are to households and K-12 schools. For laptops, PCs and printers, NCER is able to purchase data for the home and education categories specifically, but the education category mixes college/university sales (not covered by Wisconsin's law) with the K-12 school sales covered by Wisconsin's law.

Fourth, because the estimates are based on national sales, they do not reflect regional differences in product distribution. For example, if a manufacturer sells its printers or laptops primarily through a particular chain of retail stores and those stores are concentrated in certain regions of the country, it may not be accurate to assume Wisconsin sales were proportional to national sales based on population.

All of these limitations mean that, while NCER strives to create the most accurate and consistent estimates possible, there are many legitimate reasons for discrepancies between manufacturer-supplied sales data and third-party national sales data.

Evaluation of manufacturer-reported targets

Using the national sales data spreadsheets provided by NCER, DNR staff have compared weights submitted by manufacturers to the estimated sales weights calculated from national sales data, when available, to assess the percent difference between the two numbers for larger manufacturers and the actual difference for very small manufacturers (where a small difference in the number of units sold could add up to a big percentage difference).

Beginning with the September 2011 registration, we also compared sales weights submitted by manufacturers for the current program year with what was submitted during previous program years, to look for large changes or errors (e.g., submitting the same number twice because of confusion over the relevant time period).

In the case of large differences, we followed up with manufacturer to be sure they used sales information from the correct year and got more details on how the manufacturer calculated its sales weight, including the average weights of products used. We also asked about factors such as a distribution chain

concentrated in a certain part of the country or whether more sales may be to a certain market segment (household, primary or secondary education, business) than anticipated in the national sales estimates.

Based on these efforts, we have concluded that:

- Manufacturers seem to be making an honest effort to compile complete and correct sales data as required under Wisconsin's law.
- For most manufacturers, especially larger companies with a wide array of covered devices, this is a challenging task. The numbers are supposed to reflect total sales, but a manufacturer's products may be sold through many different avenues, including directly from the manufacturer, through retail stores and over the Internet. Some products may first go to distributors or brokers. Many manufacturers report that it is a challenge to isolate data specific to Wisconsin.
- In many cases, the average weight estimates used for device types and size categories may not be accurate for the most popular models. For example, the average weight of a manufacturer's printers may be 20 pounds, but it may sell many more 15-pound printers than 25-pound printers.

Looking beyond our approach

Prior to Wisconsin's law taking effect, DNR staff began working with manufacturers, colleagues in other states with electronics recycling laws, and two national non-profit organizations (National Center for Electronics Recycling and Electronics Recycling Coordination Clearinghouse) to gain a better understanding of how both manufacturer and national sales weight estimates are calculated and how recycling targets are set in different states.

Among other states with electronics recycling laws that include manufacturer recycling targets based on sales data/market share, there are several methods for setting the targets:

- Indiana and Minnesota are very similar to Wisconsin, requiring manufacturers to submit their sales weight and having the agency do a check using national sales data.
- Connecticut uses national sales data to determine manufacturers' market share and financial contribution for electronics recycling each year.
- New Jersey uses TV manufacturers' market share to determine each manufacturer's portion of an overall, weight-based state recycling target.

The DNR's E-Cycle Wisconsin coordinator is a member of a market share workgroup within the Electronics Recycling Coordination Clearinghouse (ERCC), a non-profit created as a forum for coordination and information exchange among state agencies implementing electronics recycling laws and all affected stakeholders. This workgroup is examining ways to:

- reduce the states' costs for purchasing national sales data; and
- explore alternative systems, such as having manufacturers report sales data directly to ERCC or NCER, which could compile a secure database for states to use. This could reduce the administrative burden on both manufacturers and states by simplifying the reporting and target-setting processes.

Recommendations for establishing recycling targets

1. Continue for now with the current system of having manufacturers submit their sales weights to determine recycling targets. Because so many manufacturers/brands are not broken out individually in the national sales data the DNR is able to purchase at this time, it would be impractical for us to set targets for all manufacturers using these data. Using these data for named manufacturers but not for those in the "others" category could be confusing and contentious.

2. Continue to check manufacturers' submitted sales weights against figures from national sales data and previous sales weights submitted by the manufacturers. Follow up in cases of large differences or significant year-to-year changes.

3. Continue to work with fellow ERCC members to improve the system of setting manufacturer recycling targets. This work will focus on increasing the accuracy and completeness of data from market research firms and reducing the cost of data purchases. In the longer term, support the development of a different, national system for collecting and verifying this information.