| Subject	Focus on Energy Evaluation
	Updating Industry Classification for Participants in Business Programs
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As part of its evaluation of Focus's business programs (BP), the evaluation team tracks the rate of participation, program-to-date, for each county in Wisconsin. One such estimate is the per-business avoided cost of energy for each county. A separate estimate is made for commercial and industrial programming. These statistics are published in each semiannual report (SAR).

To arrive at an estimate that accurately reflects the programs' efforts, however, the denominator in the estimate is not the total number of businesses within a county but rather the total number of businesses among economic sectors or industries that are *targeted* by Focus. Thus, the participation rate is adjusted to the strategy used by Focus to reach out to businesses. Focus does not target industries indiscriminately but attempts to garner participation where the greatest savings potential resides. It is important that the evaluation of the participation rate reflect this reality.

The identification of targeted industries is accomplished *ex post facto*, by counting the total number of business program participants by industry, statewide. Industries that cross a threshold relative either to the percentage of total participants or the number of participants compared to the size of the industry in the state are deemed to be targeted industries. To make this assignment, all BP participants must be assigned to an industry.

In preparation for the second 2009 SAR, the focus evaluation team has recalculated participation rates. In the process, it has made a number of changes to the way target industries are identified.

- In the past, we allocated participants to industries on the basis of the Standard Industrial Classification (SIC) system. In the future, we will use the North American Industry Classification System (NAICS).

- In the past, we have sought to exclude from the tally of business participation regions

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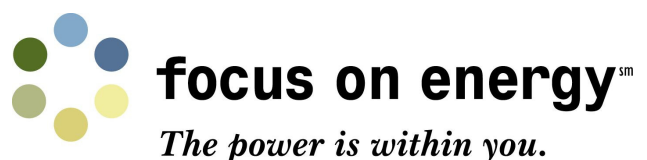
of the state that are outside the Focus territory. Since the Focus territory now encompasses more than ninety percent of the state, and the process of allocating businesses was fraught with potential error, we will no longer make this distinction.

This memo gives further detail on these changes. It also provides summary statistics on the distribution of participants statewide by industry. County-level participation rates will be provided in the next SAR.

From SIC to NAICS

A change in industrial classification schemes has been undertaken by the federal government, and coordinated with Mexico and Canada, in order to address structural changes in the North American economy. As the economy shifted from a goods basis to a service basis, the SIC scheme strained to adapt. The SIC had been developed in the 1930s, organized around the end-product of industrial activity; NAICS is organized by similar raw material inputs, similar capital equipment, and similar processes.[1] NAICS accommodates emerging industries more readily than SIC, and it is more precise because it uses a six-digit scheme in contrast to the SIC's four-digits. Also, NAICS is to be updated every five years; SIC had been updated only every ten to fifteen years and was last updated in 1987.

Although the process of shifting classification schemes began in 1991 and the first version of NAICS was promulgated in 1997, the SIC has had a tremendous amount of momentum because of its longevity and the desire to retain continuity for data series. Indeed, even certain government departments and agencies, such as the US Securities and Exchange Commission, continue to use the SIC codes. Data continuity has been the primary reason for retaining SIC for Focus evaluations. In the past eight years, however, SIC has become increasingly archaic. The evaluation team has determined that the time to make the transition has come.

The NAICS system is a hierarchical number system from two to six digits. Adding digits adds precision to the industrial categorization. Thus, the classification "11" is for all agricultural production, while "111" is for agricultural crop production and "112" is for agricultural animal production. We classified Focus participants at the three-digit level. This currently includes ninety-eight different classifications.

Assignment of NAICS Codes

The assignment of three-digit NAICS codes to businesses is a multi-step process. We first developed a list of all BP customers, using project data from WECC for program activity through December 2007, the WISeerts database for program activity beginning January 2008, and rebate data from WECC for data about recipients of measure rebates.

In developing our list of customers, we made an effort to identify a single business entity at a single address. Sometimes this included multiple records across different years or different

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[1] See Bureau of Labor Statistics, Monthly Labor Review: "Introducing the North American Industry Classification System (NAICS)," July 1998, Vol. 121 Number 7. http://www.bls.gov/mlr/1998/07/rpt1full.htm.

program activities. WECC has developed unique identification codes for program participants; but our review of the data indicated that sometimes a single business has been given multiple IDs, sometimes businesses do not have an ID, and sometimes an ID pertains to a corporate or regional headquarters rather than an individual business address. We considered the unique-ID/business-name/street-address combination as the unit of analysis. This does create a percentage of duplicate records, for the reasons stated above and because of differences in the spelling of business names and street addresses. This problem was minor for the WECC and WISeerts data; however, the rebate data had many more problems with duplicate records. To give but one example, there are distinct eight distinct unique-ID/business-name/street-address combinations for the Concourse Hotel in Madison. Where possible, we collapsed duplicates in processing the data; for instance, records with identical last names and street addresses were combined; but the size of the file precluded complete elimination. Visual inspection of the data indicated three duplicates within the first 1,000 records of a sorted customer list that excluding rebate data. A different sort may have revealed additional duplicates, but we believe this estimate is reasonably close to real number. Initial inspection of sorted rebate data indicated 27 likely duplicates within the first 1,000 records. We considered these acceptable rates and did not attempt to further collapse the rebate data for this analysis.

Using this procedure, we identified 72,581 distinct businesses that have participated in Focus since program inception. Table 1 shows the number of BP Focus participants, by data source.

Table 1. Number of Unique Business Program Customers, By Data Source

Data Source	Number of Customers
WECC rebate table	46,111
WECC main table	13,726
WISeerts database	12,744
Total	**72,581**

The first step in assigning NAICS codes to businesses, once a dataset of distinct participants was established, was to send records to a commercial service, Marketing Systems Group, to have NAICS codes appended to all businesses they could identify. After applying these new NAICS codes to our customer list, we identified a large number of undefined records. We then reviewed the current WISeerts and previous WECC fields "Business Type" being applied to each record to help improve our match results. We applied logical name matching using the Business Name and matching keywords to the NAICS code to code remaining unclassified records. Finally, records from WECC's rebate database that were still unclassified but were indicated to have participated in BP Agriculture programs were assigned to a general agriculture NAICS code. Table 2 shows the number of records classified, by information source, in the order in which the information was applied.

Table 2. Number of Records Classified, by Information Source

NAICS Source	Number of Records	Percentage of Records
Commercial NAICS append	37,853	52%
WECC business type	1,550	2%
WISeerts business type	1,684	2%
Manual update	2,162	3%
Rebate BP-Agriculture	2,271	3%
Unclassified	27,061	37%
Total	**72,581**	**100%**

The number of unclassified businesses, at 37 percent of the total, is of concern. It is important to recognize, however, that the majority of these unclassified records, 92 percent, originate from the WECC rebate dataset. A large portion of these records are tagged only with personal names rather than business names. These are difficult to classify. Table 3 shows the number and percentage of unclassified records by data source. Note that introduction of the WISeerts database in 2008 has significantly improved the quality of data with respect to industrial classification.

Table 3. Percent Unclassified Records, by Data Source

Data Source	Percent Unclassified Records
Rebate	54%
WISeerts	3%
WECC	13%
Total	**37%**

Beginning in 2009, WECC began to promote CFLs by paying merchants a per-lamp incentive to reduce the cost of CFLs at the checkout without customers submitting rebate forms. Some of these *buydown* CFLs undoubtedly went to businesses. There is no record, however, of which businesses received them or where the businesses are located. To estimate an allocation of these rebates to industries and locations we use information from the eighteen-month contract period from July 2007 to December 2008. We allocated beneficiaries of 2009 buydown promotions in the same proportion as recipients of CFL rebates in the earlier period. We assigned these businesses to the county where the CFLs were purchased. From this procedure, we estimate an additional 14,548 BP participants through the buydown initiative. This is likely to overstate participation to the extent there is no way to eliminate double counting of businesses that receive Focus benefits through both the buydown promotion and other initiatives.

Identification of Targeted Industries

We identify industries in the commercial and industrial sectors as targeted industries when the number of participating businesses passes one percent of total sector customers. We also compare sector participation rate with the statewide economic census. Industries that are over-represented by one percentage point relative to the state census are considered targeted

industries. In the current analysis, all industries meeting the second standard also meet the first standard.

Table 4 shows the number of program participants within industries targeted by industrial sector programs. These twenty-four NAICS classifications comprise 62 percent of industrial program participants.

Table 4. Industrial Program Participation, by NAICS Classification

2002 NAICS Code	Meaning of 2002 NAICS Code	Census Percentage	Industrial Programs Participants	Industrial Programs Percentage
111	Crop Production	17.9%	49	1.1%
236	Construction of Buildings	2.2%	57	1.3%
238	Specialty Trade Contractors	4.9%	135	3.0%
311	Food Manufacturing	0.4%	235	5.2%
312	Beverage and Tobacco Product Manufacturing	0.0%	87	1.9%
316	Leather and Allied Product Manufacturing	0.0%	64	1.4%
321	Wood Product Manufacturing	0.3%	111	2.5%
322	Paper Manufacturing	0.1%	228	5.0%
323	Printing and Related Support Activities	0.4%	145	3.2%
326	Plastics and Rubber Products Manufacturing	0.2%	193	4.3%
327	Nonmetallic Mineral Product Manufacturing	0.2%	51	1.1%
331	Primary Metal Manufacturing	0.1%	118	2.6%
332	Fabricated Metal Product Manufacturing	0.9%	742	16.4%
333	Machinery Manufacturing	0.5%	250	5.5%
336	Transportation Equipment Manufacturing	0.1%	68	1.5%
337	Furniture and Related Product Manufacturing	0.2%	61	1.3%
339	Miscellaneous Manufacturing	0.3%	55	1.2%
423	Merchant Wholesalers, Durable Goods	1.9%	381	8.4%
424	Merchant Wholesalers, Nondurable Goods	0.9%	181	4.0%
444	Building Material and Garden Equipment and Supplies Dealers	0.9%	84	1.9%
445	Food and Beverage Stores	1.0%	78	1.7%
541	Professional, Scientific, and Technical Services	5.1%	92	2.0%

2002 NAICS Code	Meaning of 2002 NAICS Code	Census Percentage	Industrial Programs Participants	Industrial Programs Percentage
811	Repair and Maintenance	1.9%	67	1.5%
921	Executive, Legislative, and Other General Government Support	0.7%	48	1.1%
	Total sector participants		**4,522**	

Table 5 shows the number of program participants within industries targeted by commercial sector programs. These twenty NAICS classifications comprise 63 percent of commercial program participants.

Table 5. Commercial Program Participation, by NAICS Classification

2002 NAICS Code	Meaning of 2002 NAICS code	Census Percentage	Commercial Programs Participants	Commercial Programs Percentage
111	Crop Production	17.9%	1,721	2.1%
112	Animal Production	16.6%	3,175	3.8%
236	Construction of Buildings	2.2%	991	1.2%
238	Specialty Trade Contractors	4.9%	1,274	1.5%
423	Merchant Wholesalers, Durable Goods	1.9%	1,262	1.5%
441	Motor Vehicle and Parts Dealers	1.2%	1,385	1.7%
444	Building Material and Garden Equipment and Supplies Dealers	0.9%	2,101	2.5%
445	Food and Beverage Stores	1.0%	1,137	1.4%
453	Miscellaneous Store Retailers	1.1%	850	1.0%
531	Real Estate	1.9%	1,726	2.1%
541	Professional, Scientific, and Technical Services	5.1%	1,842	2.2%
611	Educational Services	0.6%	3,883	4.7%
621	Ambulatory Health Care Services	3.5%	1,525	1.8%
624	Social Assistance	1.7%	901	1.1%
711	Performing Arts, Spectator Sports, and Related Industries	0.3%	3,235	3.9%
721	Accommodation	0.7%	2,167	2.6%
722	Food Services and Drinking Places	5.5%	1,023	1.2%
811	Repair and Maintenance	1.9%	1,117	1.3%
813	Religious, Grantmaking, Civic, Professional, and Similar Organizations	2.8%	3,831	4.6%
	Total sector participants		**82,940**	

The Change in Participation by Utilities

For previous SARs, the evaluation team has estimated the rate of participation on a county basis, comparing the number of targeted participants within each county to the total number of businesses in the targeted industries. In counties that were only partially within the Focus territory, we estimated the percentage of total and participating businesses within each industry that fell within the territory. This estimation process, although a reasonable approach given the availability of information, was subject to significant error. In recent months, as more utilities have begun participating in Focus, the area of Wisconsin that is outside the Focus territory has decreased to around ten percent of the state. Beginning with the upcoming SAR, we will no longer attempt to carve out a set of extra-territorial total and participating businesses. It now seems a tally of the entire state is prone to less error than the former method.