

# **The Annual Report of the Recycling Public Advisory Council**



**Presented to the  
Honorable Jack Markell, Governor of Delaware  
and the  
145th Delaware General Assembly**

**November 2010  
(Ninth Edition)**



# The Annual Report of the Recycling Public Advisory Council

November 2010 (Ninth Edition)

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**Production of this Document Funded by:**

The Department of Natural Resources and Environmental Control

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## *Executive Summary*

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This report covers recycling activities since November 2009 and recycling measurement for calendar year 2009. With the passage of Senate Bill 234 (SB 234), the Recycling Public Advisory Council (RPAC) has been reformed. The newly appointed RPAC has 16 Members and has met since August 2010. In addition to its historical activities the RPAC is diligently working with all stakeholders to help implement the requirements of SB 234 in timeframes required. A more detailed discussion of these efforts follows.

### **Recycling Legislation**

On June 8, 2010, Senate Bill 234 was signed into law. This legislation:

- requires the implementation of substantial residential and commercial recycling programs by a date certain,
- establishes aggressive waste diversion goals,
- transitions Delaware out of a problem-plagued beverage container deposit system, and
- establishes a temporary bottle fee that will provide startup funding for the recycling programs that result from this legislation.

This new recycling system is referred to as “universal recycling” and will substantially improve recycling in Delaware, creating jobs, extending useful landfill life, saving resources, reducing greenhouse gas emissions, and conserving energy. The former RPAC worked to support the passage of Senate Bill 234 and the new RPAC is currently working to transition Delaware into the new system.

### **Recycling Grants and Loans Programs**

A major and current focus of the RPAC is working with the Department of Natural Resources and Environmental Control (DNREC) on developing grant and loan guidelines. At the time of the printing of this report, DNREC and RPAC have reviewed the draft guidelines and they have been distributed to stakeholders for comment. Completion of the guidelines is anticipated in December 2010.

### **Recycling Diversion**

The former RPAC had developed an objective, scientific, and auditable methodology for calculating recycling rates in Delaware that is consistent with the U.S. Environmental Protection Agency’s guidelines. The current RPAC continues to measure recycling diversion and to maintain that methodology. A summary of the recycling rates produced using the aforementioned methodology is shown in Table 4.3 below:

**Table 4.3 Recycling Rate Summary Table**

	Residential				Commercial				Total			
	2006	2007	2008	2009	2006	2007	2008	2009	2006	2007	2008	2009
<b>Diverted Recyclables (tons)</b>	122,448	206,856	185,460	175,349	125,962	116,540	132,542	148,288	248,410	323,396	318,002	323,637
<b>Landfilled MSW (tons)</b>	419,602	405,495	377,632	340,103	403,878	389,490	363,511	328,250	823,479	794,984	741,143	668,353
<b>Total Municipal Solid Waste =</b> Diverted Recyclables + Landfilled MSW	542,050	612,351	563,092	515,452	529,840	506,030	496,053	476,538	1,071,889	1,118,380	1,059,145	991,990
<b>Percent Diverted Recyclables</b>	22.6%	33.8%	32.9%	34.0%	23.8%	23.0%	26.7%	31.1%	23.2%	28.9%	30.0%	32.6%

## Recommendations

The RPAC's recommendations to Governor Markell and the General Assembly include steps they can take to increase the recyclables diversion rate:

1. Educate citizens on the economic and environmental benefits of recycling.
2. Implement a comprehensive recycling program for state offices and schools.
3. Stay the course with the implementation of Universal Recycling as required by Senate Bill 234.

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## *1.0 Purpose*

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This is the Annual Report of the Recycling Public Advisory Council (RPAC). The purpose of the report is to fulfill requirements of 7 Del. C., §6058, which directs the RPAC to prepare an annual report addressing the following:

1. the status of attainment of the recycling goals specified in 7 Del. C., §6056;
2. an accounting of the recycling grants and loans programs and recommendations for future funding of the programs;
3. an assessment of the activities of both the DNREC and the Delaware Solid Waste Authority (DSWA) in achieving the goals specified in 7 Del. C., §6056;
4. an objective, auditable accounting of recycling rates for total solid waste, municipal solid waste, and residential solid waste; and
5. such other recommendations as the RPAC shall deem appropriate.

Senate Bill 234 is attached to this report as Appendix A. A list of the current RPAC members can be found in Appendix B.

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## 2.0 Background

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### 2.1 Benefits of Recycling

There is more to recycling than feeling good about the environment. It also has tremendous economic value. Recycling:

- **Provides over 10 times more jobs than landfilling**
- **Extends the useful life of municipal landfills**
- **Reduces emissions of greenhouse gases**
- **Saves energy**
- **Conserves natural resources**
- **Reduces environmental damage from industrial, residential, and commercial waste**
- **Teaches environmental stewardship to individuals**

For further detail and supporting documentation please reference *The Sixth Annual Report of the Recycling Public Advisory Council*, visit the RPAC website, or contact the Division of Waste and Hazardous Substances.

The Recycling Economic Information Study, which RPAC assisted, was completed in early 2009. This report is available on the Northeast Recycling Council's website, [www.nerc.org](http://www.nerc.org). An important note is that the Delaware recycling, reuse, and remanufacturing industry has a \$346 million direct positive impact on our State's economy.

### 2.2 Recent Recycling Efforts in Delaware

The Cherry Island Landfill permit was renewed in 2006 with language that required the DSWA to ban yard waste from entering the landfill no later than January 1, 2007. After dozens of community meetings, a legislatively mandated delay in the ban, and the opening of three community yard waste demonstration sites, DNREC and the DSWA began enforcement of the ban on January 24, 2008.

House Bill 159 (HB 159) was introduced in 2007. In May of 2008, HB 159 passed in the House of Representatives but was defeated in the Senate in June of 2008. HB 159 would have encouraged recycling via a comprehensive recycling grants program while discouraging disposal via a \$3 per ton assessment on landfilling.

Starting in January of 2008, Kent County provided recyclables collection service to residents serviced in their trash districts. The County administers a contract for trash collection in a large percentage of unincorporated areas within the County. Single-stream recyclables collection was



added to the contract, increasing the number of participating households in Delaware by over 11,000.

In early 2008, the DSWA converted their recyclables collection programs to single-stream. Participants no longer need to separate traditional recyclables (i.e. glass bottles, cans, plastic bottles, mixed papers) by material type. As a result, recycling is more convenient and therefore more people will participate. Other entities, including waste haulers, have also offered single-stream recyclables collection service.

House Bill 201 was passed by the General Assembly on the last day of session in June of 2009. It essentially repealed the Delaware Beverage Container Law (or Bottle Bill), removing the deposit and redemption system related to beverage containers. However, Governor Markell vetoed House Bill 201 in July of 2009 on the grounds that it would have a negative impact on recycling with no viable alternative.

A large, new compost facility broke ground near the Port of Wilmington in May of 2009. Peninsula Compost Company, LLC completed construction of the Wilmington Organic Recycling Center in December 2009. It has the capacity to compost 160,000 tons of food and yard waste annually.

In February 2010, Governor Markell signed Executive Order 18. This Executive Order set goals in the following categories for the executive branch of state government: energy conservation/efficiency, LEED green building practices, renewable energy, reduced transportation impacts, recycling diversion (75%), and environmentally preferable purchasing.

The Delaware Solid Waste Authority updated its Statewide Solid Waste Management Plan in April 2010. It calls for many waste reduction strategies, several of which require action from government and businesses.

The composting operation of Blue Hen Organics near Frankford, Sussex County was approved in April 2010. The facility accepts up to 50,000 cubic yards of yard waste and wood waste annually.

On June 8, 2010, Senate Bill 234 was signed into law. This legislation passed after significant input from many stakeholders and coordination from the Governor's Office. It will transition Delaware out of a weak beverage container deposit system into a strong, comprehensive recycling system.

In July of 2010, the DSWA and DNREC agreed to permit conditions that restrict yard waste at the Central Solid Waste Management Center (Sandtown Landfill) and the Southern Solid Waste Management Center (Jones Crossroads Landfill). Starting January 1, 2011, those facilities will no longer accept yard waste mixed with trash.

A background of previous recycling efforts in Delaware can be found in Appendix F.

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## 3.0 *RPAC Activities*

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The RPAC is focusing its efforts on items called for by Senate Bill 234. This includes providing recycling grant and loan guidance, establishing recycling industry reporting guidance, and measurement and reporting of the amount and percent diversion of recyclables from landfills. A year prior to the printing of this report, the former RPAC had made recommendations to the Governor and General Assembly and their response has been positive: Senate Bill 234 has passed, the Governor issued Executive Order 18, and Delaware's other two municipal solid waste landfills will soon have yard waste bans in effect.

### **3.1 *Senate Bill 234***

In early 2010, Governor Markell laid out a comprehensive recycling framework. This framework, paralleled with significant stakeholder involvement, led to the passage of Senate Bill 234. The former RPAC worked to support Senate Bill 234 as a means of significantly improving recycling in Delaware. This legislation implements a number of changes related to recycling in Delaware including transitioning out of weak beverage container deposit system, establishing a significant (but temporary) recycling grants and loans program, requiring waste haulers to provide recycling collection, allowing the DSWA to remove itself from the curbside recycling business, and requiring recycling businesses to report data in order to improve recycling measurement and reporting. The RPAC, DNREC, and the DSWA are collaborating efforts to educate the public of these changes.

### **3.2 *Measurement and Methodology***

Prior to the formation of the current RPAC, a Measurement and Methodology Sub-Committee developed a methodology for measuring recycling diversion rates based upon EPA guidelines. An objective and auditable approach to recycling measurement and reporting was also developed. The Sub-Committee work continues in the current RPAC and has resulted in the fourth Measurement and Methodology Report (included as section 4.0 of this report). Most importantly, these Measurement and Methodology Reports establish a uniformly accepted approach that will make past, present, and future recycling measurements consistent and comparable.

As mentioned earlier, the RPAC and DNREC are developing guidance for the recycling industry to report information as directed by state law (7 Del. C., §6056). The RPAC is using, and has used, a consultant to collect recycling data. Because reporting was not previously required, the Measurement and Methodology Report is limited to the best possible estimate. This new reporting system will generate the fullest and most accurate spectrum of data that will result in a better overall measurement of recycling in Delaware. The first reporting year with the new data collection will be 2011 which means the data will first be reported by the RPAC in 2012.

### ***3.3 Recycling Markets***

Paul Bickhart (RPAC Member representing the recycling industry) and Michael Parkowski (DSWA) have key industry contacts providing information on the sale of collected recyclables. They have educated the RPAC on the status of recycling markets to better understand current industry circumstances. In late 2008, the markets for recycled commodities declined sharply in response to the national and global economies. Later in 2009 prices very slowly started to improve. The outlook continues to be positive in 2010, however, some fluctuations are occurring in some commodities.

### ***3.4 Other Activities***

The RPAC, DNREC, and the DSWA are coordinating education of the public on the transition into universal curbside recycling, better yard waste diversion, DSWA's departure from curbside recycling, the transition out of beverage container deposits, recycling industry reporting requirements, and the availability of a new recycling grant and loan program. Educating the public is of very high importance to the RPAC. Outreach is a necessary part of any successful program. Citizens might not know why they should recycle or how to participate. The RPAC has developed a Subcommittee to help plan a framework for outreach. This Subcommittee has advised general steps forward for DNREC and the DSWA but will continue to help hone in on the necessary details. While the RPAC does not provide recycling services, they want to facilitate and encourage recycling among citizens.

The RPAC is committed to helping Delaware find better waste management practices. Regular meetings provide insight into a variety of topics. Discussions and presentations over the past year have included zero waste concepts, the Beverage Container Law (a.k.a. Bottle Bill), the Delaware Solid Waste Authority's draft statewide solid waste management plan, the Governor's universal recycling framework, and recycling legislation (SB 234).

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## *4.0 Measurement and Methodology Report*

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Under Executive Order 90, the RPAC was directed to use the U.S. Environmental Protection Agency's definitions of "recycling" and "municipal solid waste" and also to develop an "objective and auditable accounting of recycling rates for total solid waste, municipal solid waste, and residential solid waste." In response to this directive, the RPAC created the Methodology and Measurement Subcommittee comprising members of the RPAC, DSWA, and DNREC. Pursuant to this directive, the M&M Subcommittee produced a methodology which was developed via an open and transparent process, recorded in such a way that it could be easily understood by members of the general public, and which was fully endorsed by each organization represented on the Council. This methodology has been consistently employed by the RPAC to analyze recycling data since CY2006 so that meaningful trends and comparisons could be established. For extensive information on this methodology please see the 2006 report and appendices.

It should be noted that with the addition of additional responsibilities in August 2010, the Measurement and Methodology Subcommittee's name has been changed to the Measurement and Reporting Subcommittee and will be referred to as such hence forth.

### ***4.1 Data Collection***

The M&R Subcommittee obtained data from two sources for CY2009.

- DSWA: The Authority collects "hard data" on diverted recyclables and also on landfilled material; They weigh all materials, recyclable and otherwise, coming into their possession and this information is reported to the RPAC. See Appendix D.
- Third Party Consultant (DSM): DSM Environmental Services, Inc. was contracted to collect data on recyclable materials which are not collected or handled by DSWA. An example of this would be residential recyclables collected by a private hauler and delivered directly to a Materials Recovery Facility. DSM uses a combination of written surveys, phone and face-to-face interviews, and physical spot inspections of vehicle loads. See Appendix E.

The RPAC has worked closely with DSM and the DSWA to insure that both the Authority's and DSM's methodology for data gathering are consistent with EPA guidelines and that there is no double counting of recycling activities. The survey work by DSM has been funded by the DSWA for CY 2009 but program management has been the responsibility of the RPAC.

### ***4.2 Diversion Rate Calculation***

The waste stream can be broken down into two primary categories: Municipal Solid Waste (MSW) and non-Municipal Solid Waste. Put simply, MSW is what most of us think of when we think of "trash" even though it contains a high percentage of valuable resources. The EPA's guidance for calculating recycling rates limits "recycling" to the category of MSW. Additional

detail regarding definitions of recycling can be found in our 2006 report and in EPA document # EPA530-R-97-011, “Measuring Recycling...”.

Determining the percent diversion of recyclables from Delaware’s solid waste stream involves the following calculation:

$$\text{Diversion rate of recyclables (\%)} = 100 \times \frac{\text{MSW recyclables, tons diverted}}{\text{MSW recyclables, tons diverted} + \text{MSW, tons landfilled}}$$

The methodology developed by the RPAC pursuant to Executive Order 90 calculates not only the total MSW landfilled tonnage and percent diverted recyclables from MSW, but also the same information exclusively for the residential sector and the commercial sector.

Therefore we also divided the total MSW recyclables data, and total MSW landfilled data, into the portion deriving from the residential sector and the portion deriving from the commercial sector. It should be noted that it is often difficult to determine whether a material was generated by the commercial or residential sector. This allocation, demonstrated in Table 4.3, was developed based upon a comprehensive waste composition studies conducted in 2006 and 2007 and the best judgment of DSM and the members of the M&R Subcommittee.

### 4.3 Recycling Rates

Since CY2006 the RPAC has employed an objective, scientific, and auditable methodology for calculating recycling rates in Delaware that is consistent with the U.S. Environmental Protection Agency’s guidelines. A summary of the recycling rates produced using the aforementioned methodology is shown in Table 4.3 below:

Table 4.3 Recycling Rate Summary Table												
	Residential				Commercial				Total			
	2006	2007	2008	2009	2006	2007	2008	2009	2006	2007	2008	2009
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<b>Total Municipal Solid Waste = Diverted Recyclables + Landfilled MSW</b>	542,050	612,351	563,092	515,452	529,840	506,030	496,053	476,538	1,071,889	1,118,380	1,059,145	991,990
<b>Percent Diverted Recyclables</b>	22.6%	33.8%	32.9%	34.0%	23.8%	23.0%	26.7%	31.1%	23.2%	28.9%	30.0%	32.6%

\*Note: Note that in CY2008, 15,855 tons of single stream recyclables were erroneously attributed to commercial recyclables that should have been attributable to the residential recyclables category. The CY2008 Diverted Recyclables figures reported here have been updated to reflect this correction.

### 4.4 Understanding the Data – CY2009

Despite a struggling economy, CY2009 saw a small increase in diverted recyclables vs CY2008 while landfilled MSW continued to decrease, yielding a net increase in diverted recyclables of 2.6% and a statewide average diversion rate of 32.6%. Detailed recycling data can be found in Appendix C of this report.

The decrease in MSW disposal tonnage in CY2009 was expected and is easily explained by the current state of the economy; Consumption in general was down in CY2009. The continued diversion of yard waste from the landfill also appears to be a contributing factor.

The sluggish economy was also evidenced by small decreases in a number of recyclable material categories including: newspaper, cardboard, office paper, glass, textiles, oil filters and white goods. However, this decrease in these categories was more than offset by substantial increases in single stream recyclables, yard waste, electronics, food waste, and automotive tire recycling.

#### ***4.5 Correction of Historical Data – CY2008***

As indicated in the note for Table 4.3 it was necessary to correct the CY2008 data to reassign 15,855 tons of single stream recyclables which were erroneously attributed to the commercial sector that should have been attributable to the residential sector.

*M&R Committees Note:* It must be understood that despite every effort to consistently collect the best data available, the reported recycling rate should only be viewed as an approximation of recycling activities in Delaware. The majority of the data collected is voluntarily submitted and the accuracy is dependent upon the yearly participation of hundreds of recyclers in Delaware. The M&R committee is very pleased that this reporting methodology has now been applied consistently for four years but cautions that in order to reliably identify long-term trends in recycling activities, a data set covering a longer time period is required.

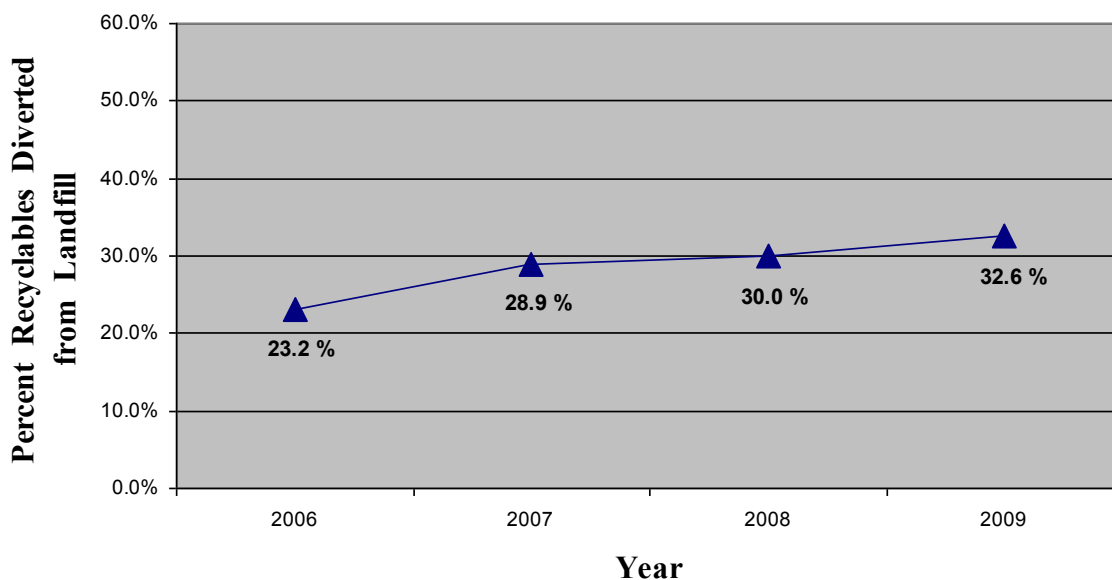
#### ***4.6 Status of the Recycling Goals***

The passage of Senate Bill 234 into law established diversion goals of 50% for MSW and 72% for all solid waste by 2015. The diversion rates of recyclables for CY2009 were 34% for residential solid waste, 31.1% for commercial solid waste, and 32.6% for the total municipal solid waste stream. To reach the goal of 50% by 2015, this will require an average annual increase in recycling diversion of 4.7%.

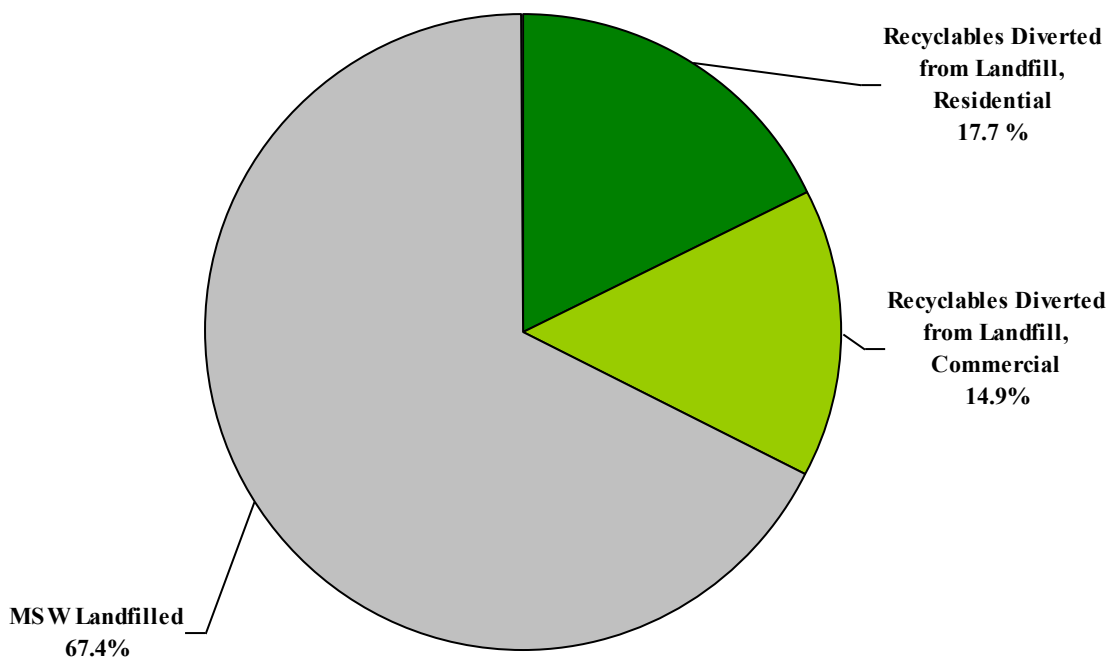
By maintaining a consistent methodology, reasonably accurate and meaningful trend line analysis can be developed over a period of years. This will require continued analysis and reporting, but it will enable the tracking of progress toward the state's goals.

The RPAC has not yet established a methodology for collecting and analyzing data for the total waste stream. This is a very significant undertaking and the RPAC plans on approaching it with the same degree of thoughtfulness, thoroughness, and transparency employed for the development of the MSW methodology.

**Chart 4.6(a): Municipal Solid Waste in Delaware  
Percent Diversion of Recyclables**



**Chart 4.6(b): Disposition of Delaware MSW**



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## 5.0 *Recycling Grants and Loans Program*

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Senate Bill 234 establishes the Recycling Grants and Low Interest Loan Program (7 Del. C., §6054 and 7 Del. C., §6055). This program is designed to help implement

(1) recyclables collection programs (especially residential programs); and

(2) other recycling initiatives (especially the recycling of commercial waste).

DNREC is directed to commence the Recycling Grants and Low Interest Loan Program in calendar year 2011 and offer it at least annually until 2014. The RPAC has been assisting DNREC in developing guidelines and procedures for administering the Program. At the time of the printing of this report, these draft guidelines have been distributed to stakeholders for comment. Final guidelines are expected to be released near the end of the year.

Future reports will contain an assessment of funding for the Program and grant and loan summaries.



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## *6.0 DNREC Activities*

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DNREC's activities conducted in support of waste minimization and attaining the waste diversion goals included providing support to the RPAC, operating three yard waste demonstration drop-off sites, implementing recycling legislation, conducting outreach including technical assistance and education designed to increase diversion, and coordinating yard waste disposal bans into the permits of municipal solid waste landfills.

### ***6.1 Support to the RPAC***

In fulfillment of its responsibilities under Senate Bill 234, and previously under Executive Order No. 90, DNREC continues to work diligently to provide support to the RPAC. The tasks that DNREC carried out in this area included, but were not limited to:

- making meeting arrangements for all RPAC meetings;
- preparing and distributing agendas and minutes for all RPAC meetings;
- publicizing the RPAC meetings, reports, and efforts;
- coordinating the development of the Recycling Grants and Loans Program;
- participating in all Subcommittees including the Reporting and Measurement Subcommittee responsible for establishing recycling reporting requirements and an agreeable recycling measurement methodology for Delaware;
- drafting and/or producing pertinent products or documents for RPAC meetings and Subcommittees; and
- preparing the RPAC's Annual Report including printing and distribution.

### ***6.2 Implementing Recycling Legislation***

DNREC has been involved with Senate Bill 234 from the beginning. As a bill that was supported by the Governor's Office, DNREC provided invaluable input and feedback and also played an important role helping to educate stakeholders. Now that the Senate Bill 234 has passed, DNREC continues educational efforts while implementing the tasks required by the bill. DNREC is heavily affected by the main components of the bill. They have met with waste haulers, municipalities, and the DSWA to coordinate the transition into universal recycling. They have been in many discussions with retailers, distributors, manufacturers, and consumers to facilitate the transition out of the beverage container deposit system. DNREC has also diligently worked to establish the recycling grants/loans program. Significant work still remains to be done, but DNREC certainly has invested significant staff time and resources to support and carry out the comprehensive recycling legislation that is Senate Bill 234.

### ***6.3 Public Education and Outreach***

DNREC conducted or participated in many activities to increase public awareness of recycling opportunities and benefits. DNREC distributed outreach materials and information at public events such as the Delaware State Fair, Coast Day, school presentations, and community presentations. The outreach focused on the opportunities and benefits of recycling and waste reduction. As a result of these activities, tens of thousands of Delaware residents were educated on a variety of recycling issues.

DNREC has also provided technical assistance to countless individuals and organizations that have recycling related questions or need help with programs or ideas such as schools, not-for-profit organizations, and businesses.

DNREC continues to improve and augment the recycling information resources available on its website and in its handouts. All of RPAC's Annual Reports, recent meeting minutes and agendas, several studies, information on the universal recycling legislation, and other information on recycling and composting can be found on the DNREC recycling website ([www.awm.delaware.gov/Recycling/Pages/Recycling.aspx](http://www.awm.delaware.gov/Recycling/Pages/Recycling.aspx)) and the DNREC-maintained RPAC website ([www.awm.delaware.gov/Info/Pages/RPAC.aspx](http://www.awm.delaware.gov/Info/Pages/RPAC.aspx)). DNREC also has developed and updated critically important websites dedicated to yard waste ([www.dnrec.delaware.gov/yardwaste](http://www.dnrec.delaware.gov/yardwaste)) and the bottle bill transition ([www.awm.delaware.gov/Recycling/Pages/BottleBill.aspx](http://www.awm.delaware.gov/Recycling/Pages/BottleBill.aspx)).

### ***6.4 Supporting the Diversion of Yard Waste***

The bulk of DNREC's yard waste diversion efforts have been the operations and maintenance of three temporary community yard waste demonstration sites. The DART Mid-County site is located near Bear, the Polly Drummond Hill Road site is located near Newark, and the Brandywine Hundred site was located North of Wilmington. The sites were created for residents to bring yard waste from their own yards for free. The yard waste is periodically ground into mulch and removed by the contractor at a major cost-savings to the Department. There is no dedicated funding source for these sites, however the General Assembly has directed DNREC to keep these sites open for another year. While these sites divert approximately 10,000 tons of material from entering the landfill, several other private alternatives exist that are available to the public and divert much more material.

Following direction, DNREC permanently closed the Brandywine Hundred site on June 27, 2010. DNREC is exploring the option of an alternative site in the Brandywine Hundred area but in the interim Holland Mulch (Edgemoor) has agreed to accept yard waste from homeowners for free. Efforts are underway to privatize operations of the two remaining sites.

The enforcement of the Cherry Island Landfill yard waste ban has been in place for about two years and individuals and businesses have adjusted well. It is estimated that as much as 50,000 tons of yard waste were diverted from the Cherry Island Landfill in 2009 as a result of the yard waste ban. Banning yard waste has effectively diverted a useful material from entering the landfill while fostering local jobs and businesses. Yard waste bans are now incorporated in permits for DSWA's central and southern landfills effective January 1, 2011.

DNREC also continues to work with groups such as the University of Delaware Cooperative Extension and the Delaware Center for Horticulture to educate residents on composting and other alternatives. DNREC readily presents yard waste management information and options to community and interest groups.

### ***6.5 Other Activities***

For the past several years, DNREC has worked with the Delaware State Fair, Inc. and the DSWA to implement a recycling program during the Delaware State Fair. Over 22,000 pounds of cardboard and beverage containers have been collected to date. Coca-Cola, a sponsor of the Delaware State Fair, took over the collection of the beverage containers in 2009 and expanded their recycling collection in 2010. DNREC believes that this recycling program is not only a great opportunity to divert recyclables, but also a great opportunity to show the public that recycling works. The other large special events in Delaware, including the NASCAR race events and Punkin Chunkin, should be looked at as opportunities to increase waste diversion.

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## *7.0 DSWA Activities*

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### ***7.1 RECYCLE DELAWARE***

#### Drop Off Center Program

The DSWA continues to operate over 180 recycling drop off centers conveniently located throughout Delaware. The drop off center program continues to be one of the most successful and cost-effective voluntary drop-off programs in the nation. Delaware residents can drop off single stream recycling as well as used motor oil, oil filters, corrugated cardboard and textiles. In CY09, approximately 21,892 tons of recyclables were received at the drop off centers. The materials collected at the centers are taken to the Delaware Recycling Center (DRC) and Milford Recycling Center, where they are prepared for market.

#### Single Stream Curbside Recycling Program

In 2009 the DSWA single stream curbside recycling program continued to grow, reaching a high of just under 50,000 customers throughout Delaware. The worldwide collapse of the recycling markets made for uncertain times for many recycling programs across the country. DSWA made the decision to continue the single stream collection program and to pay high prices to make sure all of the single stream material collected went to recycling facilities. In CY 2009 DSWA collected and received a total of 36,887 tons of single stream recyclables that all went to recycling markets.

#### Electronic Goods Recycling Program

In CY09, 2,023 tons of electronic goods were recycled through DSWA's electronic goods collection program. DSWA has twenty-four (24) electronic good drop centers located throughout Delaware. DSWA provides free collection of electronic goods to government agencies and schools each month.

#### Household Hazardous Waste (HHW) Program

In FY09, DSWA held seven (7) HHW events throughout the state. A total of 3,353 vehicles dropped of household hazardous waste and electronic goods. The total amount of HHW collected at all events totaled 190,066 pounds.

#### Yard Waste

The DSWA developed the curbside Pay-As-You-Throw (PAYT) program, where residents pay \$1.00 for each bag of yard waste they put out at the curb. DSWA collects the bags and recycles the material using the Gore Composting System. This program is available to all Delaware residents and has been a success with over 100,000 bags sold in 2009. For CY09 DSWA collected and received 7,259 tons of yard waste that was mulched and composted.

### Oil Filter and Waste Oil Recycling Programs

In CY09, DSWA collected 398 tons of oil filters and 1,279 tons of motor oil from over 700 service stations and businesses throughout the state and from over 60 RECYCLE DELAWARE centers. On average, 1.4 million oil filters are sold annually in Delaware; DSWA collects over 1.2 million of those oil filters.

### DSWA Contact Information

DSWA encourages citizens of Delaware to contact them if they are in need of environmental information concerning any DSWA program or facility. DSWA provides a Citizens' Response Line, (800-404-7080) which answers approximately 150 calls a day from residents. In addition, DSWA's website ([www.dswa.com](http://www.dswa.com)) provides even more information for Delaware residents. These resources provide valuable information and keep the personal touch that has helped to establish DSWA as a leader in the environmental community.

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## *8.0 Recommendations*

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The RPAC's recommendations to Governor Markell and the General Assembly include steps they can take to increase the recyclables diversion rate:

1. Educate citizens on the economic and environmental benefits of recycling.
2. Implement a comprehensive recycling program for state offices and schools.
3. Stay the course with the implementation of Universal Recycling as required by Senate Bill 234.

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## *Appendix A. Senate Bill 234*

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SPONSOR: Sen. McBride & Rep. Mulrooney, Sens. Blevins, Bunting,  
Cloutier, Katz, McDowell, Simpson, Peterson, Bushweller,  
& Sorenson, Reps. Keeley, Kovach, Kowalko, Miro,  
Ramone, Schooley, Viola, D.P. Williams, Jaques, & D.E.  
Williams

DELAWARE STATE SENATE

145th GENERAL ASSEMBLY

SENATE BILL NO. 234  
AS AMENDED BY  
SENATE AMENDMENT NOS. 1 & 3

AN ACT TO AMEND TITLES 7 AND 30 OF THE DELAWARE CODE RELATING TO RECYCLING AND  
BEVERAGE CONTAINERS.

1 WHEREAS, recycling conserves valuable natural resources, energy, landfill capacity, landfill disposal costs,  
2 greenhouse gas emissions and litter, creates jobs and promotes a conservation ethic; and

3 WHEREAS, Delaware's recycling rate is below that of the nation and surrounding states; and

4 WHEREAS, tipping fees at Delaware Solid Waste Authority landfills are scheduled to increase July 1, 2010 as a  
5 result of the need for new landfill space and it is in the interest of all Delawareans to minimize the need for future landfill  
6 capacity and the associated costs by reducing the flow of waste to landfills;

7 BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF DELAWARE (Three-fifths of all members  
8 elected to each house thereof concurring therein):

9 Section 1. Amend "Subchapter III. Beverage Containers" in Chapter 60 of Title 7 by striking it in its entirety and  
10 substituting in lieu thereof the following:

11 "Subchapter III. Solid Waste Recycling

12 §6051. Findings; intent.

13 In furtherance of the determination long established in §6450 of Title 7 that "the reduction of solid waste disposal  
14 and recovery of usable materials from solid waste are matters of extreme importance in minimizing the environmental  
15 impact of solid waste disposal through landfilling" and that it "is in the public interest to develop a comprehensive  
16 statewide system of recycling and resource recovery which maximizes the quantity of solid waste materials which can be

recovered, reused, or converted to beneficial use” the General Assembly hereby makes the following findings and declares the following intent with respect to the establishment of this Subchapter. In order to establish a comprehensive statewide system of recycling, wherein recycling is maximized and the necessary economies of scale are realized, every residence and business must have access to recycling programs that are both convenient and cost effective. It is the intent of the General Assembly, in full recognition that the establishment of a comprehensive statewide recycling program has long been sought, that said program shall be accomplished by modification of the existing beverage container law and the establishment of Universal Recycling inclusive of the prescribed recycling programs, requirements and goals that follow. As such, liberal interpretation in favor of accomplishing the stated goals and objectives shall be exercised.

§6052. Definitions.

Notwithstanding any definitions in Chapters 60 or 64 of Title 7 to the contrary, the following words and phrases shall have the meaning ascribed to them in this Subchapter unless the context clearly indicates otherwise.

- (a) ‘Authority’ means the Delaware Solid Waste Authority.
- (b) ‘Beverage’ means any mineral waters (but not including naturally sparkling mineral waters), soda waters or any other carbonated beverage not containing alcohol that is commonly known as a “soft drink” and any beer, ale or other malt beverage containing alcohol.
- (c) ‘Beverage container’ means any airtight non-aluminous container containing less than 2 quarts of a beverage under pressure of carbonation.
- (d) ‘Dealer’ means any person who engages in the sale of beverages in beverage containers to a consumer and shall include groups of retailers or retail chains.
- (e) ‘Multi-family’ means 3 or more attached structures, such as condominiums or apartments, generally intended for occupancy by individuals or families and where centralized community trash disposal and collection services are typically provided..
- (f) ‘Municipal Solid Waste’ means wastes such as durable goods, nondurable goods, containers and packaging, food scraps, organic yard waste and miscellaneous inorganic waste from residential (i.e. household), commercial, institutional and industrial sources such as appliances, automobile tires, old newspapers, clothing, disposal tableware, office and classroom paper, wood pallets, and cafeteria wastes. Municipal solid waste does not include solid wastes from other sources such as construction and demolition debris, auto bodies, municipal sludges, combustion ash and industrial process wastes.
- (g) ‘On-premises sales’ means sales transactions in which beverages are purchased by a consumer for immediate consumption within the area under the control of the dealer.



- (h) ‘Organic yard waste’ means plant material resulting from lawn maintenance and other horticultural gardening and landscaping activities and includes grass, leaves, prunings, brush, shrubs, garden material, Christmas trees and tree limbs up to 4 inches in diameter.
- (i) ‘Recyclable Material’ or ‘Recyclables’ means any material or group of materials that can be collected and sold or used for recycling.
- (j) ‘Recycling’ means the process by which solid wastes are separated for use as raw materials, products or replacement of products, including the reuse of organic yard waste, but does not include the incineration of materials for energy.
- (k) ‘Residential Waste’ means the solid waste generated in occupied single-family and multi-family structures. Also referred to as ‘Household Waste.’
- (l) ‘Single Stream’ means a system in which all fibers (including but not limited to paper, cardboard, etc.) and containers (including but not limited to plastic, glass and metal) are commingled for collection into one container instead of being sorted into separate commodities and multiple containers.
- (m) ‘Single-family’ means either a detached structure (i.e. a house) surrounded by open space or attached structures, such as town or row homes, generally intended for occupancy by a family and where individual trash collection services are typically provided for each structure.
- (n) ‘Source Separated’ means recyclable materials, including single stream recyclables, are segregated at the point of generation and kept apart from the waste stream by the generator thereof for the purpose of collection and recycling.

§6053. Universal Recycling.

The goal of Universal Recycling is to create an economy of scale wherein a dramatic increase in Delaware’s diversion of recyclables occurs in the most cost effective manner achievable while simultaneously creating job opportunities and significantly reducing Delaware’s rate of waste disposal.

Universal Recycling shall be implemented in accordance with the following provisions:

(a) Effective no later than September 15, 2011, the Authority shall cease providing curbside recycling services, including yard waste collection, and all persons providing solid waste collection services in the State of Delaware shall also provide:

(1) Single stream curbside recycling collection services to all of their Delaware single-family residential customers, including delivery of a container for the purpose of storage and collection of recyclables that is adequately sized for the customers use such that recycling is encouraged and disposal of recyclables is

discouraged; and the recyclables collection service shall be provided at a frequency of not less than once every other week.

(2) Source separated recycling collection services to dealers who provide on-premise sales, including delivery of a recyclables container that is adequately sized for the premise being served and a frequency of recyclables collection that shall preclude the recycling containers from overflowing and otherwise causing a nuisance.

(3) All single-family residential and on-premise sales customers with a single charge for the collection of waste and recyclables on their “waste services” bill that is inclusive of the combined waste and recycling collection service costs. Local governments that do not presently bill separately for the costs of waste collection are exempt from this requirement.

(4) Notification to all customers that the single stream recycling service will be provided and instructions on participation prior to September 15, 2011.

(b) Effective no later than January 1, 2013, all persons providing solid waste collection services in the State of Delaware shall provide:

(1) Single stream recycling collection services to all of their Delaware multi-family residential customers, including providing the multi-family complex with an appropriately sized and centrally located recyclables collection container(s) for the complex being served and ideally in the same proximity as the complex’s waste disposal containers. Local governments may require multi-family complex owners to provide their own recyclable collection containers consistent with local requirements.

(2) Notification to the multi-family complex management that the single stream recycling service, including instructions on participation, will be provided.

(3) A frequency of recyclables collection that shall preclude the recycling containers from overflowing and otherwise causing a nuisance.

(4) Written justification to the Department for not providing multi-family recycling collection services where the physical constraints of the site prevent the placement of both trash and recycling containers. Exclusion from multi-family recycling is subject to Department review and approval.

(c) Owners of multi-family complexes must, at least once per calendar year, provide residents with instructions on participating in the complex’s recycling program.

(d) The Recycling Public Advisory Council shall issue a report to the Governor and the General Assembly no later than November 1, 2012 with recommendations regarding the implementation of Universal Recycling in the

commercial sector. It is the express requirement of this legislation that Universal Recycling be adopted by the commercial sector and that all commercial businesses actively participate in a comprehensive recycling program no later than January 1, 2014.

(e) Persons who choose to transport and deliver the solid waste and recyclables they generated on their own property for proper disposal or to a recycling facility of their choice respectively shall not be affected by this subchapter and may continue in this practice.

(f) Nothing shall impair the ownership of recyclable materials by the generator unless and until such materials are placed at curbside or similar location for collection and recycling, and nothing in this chapter shall be construed to prevent any person from collecting, transporting, processing, and marketing recyclable materials in competition with other persons in the same business, including the Authority, provided that the requirements of this Subchapter are satisfied.

(g) Persons engaging in the collection, transportation, processing, or marketing of source separated recyclable materials shall conduct such activities in a manner that the source separated recyclable materials enter the marketplace and are otherwise not disposed via a landfill or by incineration.

#### §6054. Delaware Recycling Fund.

(a) There shall be established in the State Treasury and in the accounting system of the State a special fund to be known as the Delaware Recycling Fund ("the Fund").

(b) The following revenue shall be deposited into the Fund:

(1) As specified in 30 Del. C. §2912, the Recycling Fee on the sale of beverage containers;

(2) On the last day of each month, the State Treasurer shall credit the Fund with interest on the average balance in the Fund for the preceding month. The interest to be paid to the Fund shall be that proportionate share, during such preceding month, of interest to the State as the Fund's and the State's average balance is to the total State's average balance;

(3) Any other revenue appropriated or transferred to the account by the General Assembly; and

(4) Repayment of low interest loans.

(c) The Fund shall be used by the Secretary for the exclusive purpose of funding specific activities designed to enhance the state's recycling rate and the diversion of recyclables that would otherwise be land disposed. The Fund may be expended only:

- (1) To fund the Recycling Grants and Low Interest Loan Program referenced in §6055 of this subchapter. Annual funding for the Recycling Grants and Low Interest Loan Program shall be dependent on revenue generated by the Fund;
- (2) To pay the limited and reasonable cost of the Department and the Recycling Public Advisory Council to study, evaluate and report on the status and potential for recycling various components of the solid waste stream, with emphasis on those aspects of municipal solid waste and commercial waste necessary to achieve the diversion goals established in §6056 of this subchapter;
- (3) To pay the Department's limited and reasonable costs for administering this Subchapter. No greater than 10% of the revenue deposited into the Fund shall be used by the Department for administering this subchapter without approval of the Joint Finance Committee and shall include but not be limited to: promoting the Recycling Grants and Low Interest Loan Program, Universal Recycling, zero waste principles, development of reporting requirements and related recycling initiatives; and
- (4) To pay the Division of Revenue for the costs of administering 30 Del. C. §2912.
- (d) The Department shall commence the Recycling Grants and Low Interest Loan Program in calendar year 2011 and offer the Program at least annually thereafter until 2014.
- (e) The revenue from the Fund and its disbursement via the Recycling Grants and Low Interest Loan Program shall be subject to audit and the recipient of any such funding shall agree to the audit and cooperate with the auditor as a condition of receiving funding.
- (f) No expenditures shall be made from the fund for any grants or loans pursuant to §6055 without the approval by the Controller General and Director of the Office of Management and Budget of a plan for revenues and expenditures for the period between December 1, 2010 and September 15, 2011.
- §6055. Recycling Grants and Low Interest Loan Program.
- (a) There is hereby established a competitive Recycling Grants and Low Interest Loan Program (the "Program") to assist persons engaged in the business of collecting, transporting, processing, or marketing recyclable materials with the implementation of:
- (1) source separated recyclables collection and processing programs with emphasis on start-up costs for residential single-stream recyclables collection; and
- (2) start-up costs for initiatives which result in the recycling of solid waste materials which would otherwise be land disposed, with emphasis on commercial waste.

The Program shall be administered by the Department, and monies from the Program shall be paid based on approved grant and loan requests. The Department shall be entitled to disburse grant and loan monies for the documented costs of implementing the collection or processing of recyclable materials. The Department shall be entitled to adopt guidelines and procedures for administering the Program and determining eligibility for receipt of funding pursuant to §6054 of this Chapter. Such procedures shall include provisions for repayment of loans to the Department and may include a rebate program for costs based on, including but not limited to, a prorated share of household customers in a recycling program that may have been in existence prior to creation of this law. The Department shall solicit the commentary of the grant eligible stakeholders during development of the grant guidelines and procedures. The Program shall be funded by monies made available under the provisions of §6054.

(b) The Recycling Public Advisory Council, after the receipt of comments by grant and loan eligible stakeholders, shall make recommendations annually to the Department regarding the programmatic priorities for awarding Program funds under this Subchapter. The Recycling Public Advisory Council shall provide recommendations regarding the categories and priorities for grants and loans that reflect an informed and representative view of the most urgent and important areas where grant funding will provide the most benefit to the State of Delaware balancing current needs with those of future generations.

(c) The Department shall review all grant and loan applications and award grants and loans taking into consideration the Recycling Public Advisory Council recommendations. In those cases where the Department's funding decisions differ significantly from the Recycling Public Advisory Council recommendations, the Department shall report to the Recycling Public Advisory Council the justification for such differences.

(d) Any person providing solid waste collection services that is a recipient of a grant or low interest loan from the Delaware Recycling Fund shall not, as a result of implementation of Universal Recycling, increase rates charged for solid waste collection between such time as they make application for the grant until March 15, 2013.

#### §6056. Adopting Diversion Goals and Reporting Requirements

It is the intent of the General Assembly that implementation of the requirements of this Subchapter reduce the amount of non-hazardous solid waste currently deposited in landfills in this State by maximizing the recovery of recyclable materials. In order to do so, it will be necessary for the State of Delaware to embrace the Zero Waste Principles of designing and managing products and processes to systematically avoid and eliminate the volume and toxicity of waste and materials, conserve and recover all resources, and not incinerate or bury them. In that spirit, the following Interim Waste Diversion Goals are established with the understanding that as more data and information regarding the implementation of Universal Recycling become available, the goals leading up to

January 1, 2020 may be modified by the Department as circumstances dictate; however, the January 1, 2020 goals may not be modified without the approval of the General Assembly:

Table 1. Interim Zero Waste Diversion Goals <sup>1</sup>		
Date by which goal is to be achieved	Solid Waste Diverted from disposal	Municipal Solid Waste Diverted from disposal
January 1, 2015	72%	50%
January 1, 2020	85%	60%
<sup>1</sup> By weight		

(a) In order to effectively measure the diversion rates being achieved, all persons, including persons who collect, process or market recyclables, with the exception of those specified in §6053(e), must report to the Department on a calendar year basis, no later than February 15th of the following year, the type and quantity of recyclables managed, the method of recycling collection used (single or multiple streams), and the location of the recycling facilities used pursuant to reporting guidance developed by the Department and the Recycling Public Advisory Council. Said reporting guidance shall be developed pursuant to the solicitation of stakeholders responsible for reporting, shall take into account the need for confidentiality of the information reported and shall be finalized no later than December 1, 2010. The first recycling report shall cover calendar year 2011 and shall be due no later than February 15, 2012.

(b) In order to ensure that the waste diversion goals specified in Table 1 above are achieved by the dates specified, the Department, in cooperation with the Recycling Public Advisory Council, shall assess progress and recommend to the Governor and General Assembly any additional mechanisms necessary including but not limited to: which waste streams must be diverted from disposal, the parties responsible for ensuring the identified waste streams are diverted from disposal, the date by which the diverted waste streams must be diverted from disposal, implementation of Pay As You Throw, Extended Producer Responsibility, incentive based recycling, waste bans and related requirements. Such assessment shall be completed, inclusive of any draft legislation determined necessary, and submitted to the General Assembly no later than November 1, 2014 as part of the RPAC annual report.

#### §6057. Beverage Containers – Findings, intent, prohibitions

(a) The General Assembly hereby finds that beverage containers are a valuable recyclable material and a major source of non-degradable litter in this State and that the collection and disposal of this litter and solid waste constitutes a great financial burden for the citizens of this State; and that, in addition to this unnecessary expenditure of tax moneys, such litter unreasonably interferes with the enjoyment of life and property by our citizens; and that the practice of littering and disposal of a recyclable material is not

- 220 compatible with previously adopted policies of the State in regard to proper use and protection of our  
221 natural resources.
- 222 (b) It is the intent of the General Assembly to increase recycling significantly, inclusive of beverage  
223 containers, thereby conserving valuable natural resources, removing the blight of litter on the landscape  
224 of the State caused by the disposal of beverage containers and other packaging, and reduce the increasing  
225 costs of litter collection and disposal.
- 226 (c) Prohibitions – No beverage shall be sold or offered for sale in this State:
- 227 1. In containers connected to each other with plastic rings or similar devices which are not classified by  
228 the Department as biodegradable, photodegradable or recyclable.
- 229 2. In a beverage container which is not recyclable or refillable.
- 230 §6058. Establishment, composition and responsibility of the Recycling Public Advisory Council
- 231 (a) There is hereby established a Recycling Public Advisory Council (the “Council”). The Council shall be  
232 composed of sixteen (16) members who shall be appointed by the Governor as follows:
- 233 1. One member from the Department;
- 234 2. One member from the Authority;
- 235 3. One member representing county governments, with such member being recommended by the  
236 Delaware Association of Counties;
- 237 4. One member representing municipal governments, with such member being recommended by  
238 the Delaware League of Local Governments;
- 239 5. One member representing the recycling industry;
- 240 6. One member representing the waste hauling industry;
- 241 7. Two members, one representing the Soft Drink Industry and one representing the Alcohol  
242 Beverage Industry representing the beverage industry;
- 243 8. One member representing the Delaware State Chamber of Commerce;
- 244 9. One member representing the Delaware Restaurant industry; and
- 245 10. Five members representing community-based or public-interest groups.
- 246 11. One member representing the Delaware Food Industry Council.
- 247 (b) Members of the Council, except for those appointed pursuant to subparagraphs 1 and 2 of subsection (a)  
248 above, shall serve for terms up to three (3) years and may not serve more than two consecutive terms but may  
249 again serve after one year off of the Council. Members shall be appointed for staggered terms so that no more

than five (5) appointments shall expire in any one calendar year. Members may be reimbursed for travel to and from meetings. The Governor shall appoint a Chairman from among the sixteen members. Actions of the Council shall be approved by a majority vote of the Council. At least nine (9) members of the Council shall constitute a quorum. The Council may adopt by-laws as it deems appropriate to serve the purposes of this Subchapter.

(c) The Recycling Public Advisory Council shall:

1. Advise the Department and the Authority on all aspects of recycling;
2. Advise the Department in developing criteria for the Recycling Grants and Low Interest Loan Program and selection of applications as well as provide an annual assessment of the revenue needed to satisfy the grant requirements;
3. Maintain, in conjunction with the Department and the Authority, a methodology for measuring recycling rates;
4. Provide advice and recommendations regarding the recycling outreach and education programs conducted by the Authority and/or the Department;
5. Report to the Governor and the General Assembly annually by November 1 of each year on the status of recycling activities in Delaware. Said report shall include, but not be limited to the following:
  - a. Status of attainment of the recycling goals specified in 7 Del. C. §6056;
  - b. An accounting of the recycling grants and loan program and any recommendations for future funding of the grants and loan program;
  - c. An assessment of the activities of both the Department and the Authority in achieving the recycling goals specified in 7 Del. C. §6056;
  - d. An objective, auditable accounting of recycling rates for total solid waste, municipal solid waste, and residential solid waste;
  - e. Such other recommendations as the Council shall deem appropriate; and
  - f. Use the definitions of “recycling” and “municipal solid waste” as stated by the United States Environmental Protection Agency in its document EPA530-R-97-011 dated September 1997. The Council shall be able to adopt changes to these definitions.

(d) The Department, in concert with the Authority and the Council, shall:

1. Monitor the State’s recycling initiatives and measure Delaware’s achievements toward attainment of the recycling goals specified in 7 Del. C. §6056;



2. Design and implement public educational efforts aimed at increasing public awareness of recycling opportunities;
3. Provide technical assistance to local entities to assist them in increasing their recycling rates; and
4. Provide administrative support to the Council.

§6059. Enforcement, civil and administrative penalties

(a) Whoever violates this Subchapter, or any rule or regulation promulgated there under, or any order of the Secretary, shall:

1. For the first conviction, be fined not less than \$100 nor more than \$500 for each day of violation;
2. For each subsequent conviction for the same offense within a 10 year period, be fined not less than \$500 nor more than \$1,500 for each day of violation;
3. In his or her discretion, the Secretary may endeavor by conciliation to obtain compliance with all requirements of this Subchapter. Conciliation shall be giving written notice to the responsible party (i) specifying the complaint, (ii) proposing a reasonable time for its correction, (iii) advising that a hearing on the complaint may be had if requested by a date stated in the notice, and (iv) notifying that a proposed correction date will be ordered unless a hearing is requested. If no hearing is requested on or before the date stated in the notice, the Secretary may order that the correction be fully implemented by the proposed date or may, on his or her own initiative, convene a hearing, in which the Secretary shall publicly hear and consider any relevant submission from the responsible party as provided in § 6006 of this Title.

(b) Any person whose interest is substantially affected by any action of the Secretary may appeal to the Environmental Appeals Board, in accordance with §6008 of this Title."

Section 2. Amend § 6451, Title 7 of the Delaware Code, by inserting therein the following new paragraph:

“(6) ‘Organic yard waste’ means plant material resulting from lawn maintenance and other horticultural gardening and landscaping activities and includes grass, leaves, prunings, brush, shrubs, garden material, Christmas trees and tree limbs up to 4 inches in diameter.”.

Section 3. Amend § 6452, Title 7 of the Delaware Code by inserting in line 2 of paragraph (8) between the words “environment” and “for” the following, “including but not limited to used oil & filters, batteries, household hazardous wastes, electronic wastes, etc., as long as economically sustainable in the judgment of the Authority” , by striking the word “and” at the end of paragraph (9) thereof; by striking the period as it appears at the end of paragraph (10) thereof and substituting in lieu thereof a semi-colon; and by inserting therein the following new subsections:

“(11) The implementation of a source separated recycling system that balances the need for drop-off recycling centers with public and private sector implementation and expansion of curbside recycling programs except where a municipal government implements curbside recycling within its jurisdiction, the Authority may, after consultation with the local municipality, remove the drop off sites located within the same jurisdiction with the goal of maintaining at least one existing drop-off recycling center in each municipality until January 1, 2014; and

(12) Providing at no cost to those persons required to provide curbside recycling services pursuant to §6053 of Title 7 the Authority’s unneeded wheeled recycling carts on the basis determined by the Authority for the purpose of minimizing the costs associated with the implementation of Universal Recycling when the Authority ceases providing curbside recycling services in accordance with §6053(a) of Title 7.

Section 4. Amend Chapter 64, Title 7 of the Delaware Code, by striking §6454 thereof in its entirety and by substituting in lieu thereof the following:

“§6454. Recycling Centers.

(a) Implementation of efficient and cost-effective recycling programs will require that Delaware have access to facilities capable of processing source separated recyclables. Where the private sector has developed extensive recyclables processing capability and where unique programs that provide incentives to the general public to recycle that are not available to Delaware residents, the Department and the Authority shall encourage and work with the private sector to establish private facilities for recyclables and recycling incentive programs in Delaware. The Authority shall accept recyclables from municipalities and non-municipal persons at no cost under such contractual terms and conditions as mutually agreed. Additional materials may be accepted at the source separated recycling center subject to the approval of the Authority. The Authority shall receive recyclable materials for transfer to the processing facility at locations designated by the Authority. It shall be the responsibility of the Authority to ensure that processing and/or transfer facilities for managing source separated collected recyclables are in operation in each County. It shall also be the responsibility of the Authority to transport or arrange for the transport of source separated recyclables from the Authority’s transfer stations or landfills to a processing facility.”.

Section 5. Amend Chapter 64, Title 7 of the Delaware Code, by striking § 6455 thereof in its entirety and substituting in lieu thereof the following:

“§6455. Public Education and Promotion of Recycling, Composting and other Waste Reduction Programs.

The Authority, in cooperation and consultation with the Department, shall initiate and conduct public outreach and education programs on the cessation of its curbside recycling program and modification to its drop off and organic yard waste programs, as well as continuing education on the purposes and value of source separated recycling and resource recovery. The intent of these educational programs shall be to maximize the diversion and recovery of recyclable materials and organic yard waste, whether it was generated by the commercial or residential sector. Such program may be conducted in conjunction with similar efforts of private industry, municipalities, public interest groups, the Department and the Recycling Public Advisory Council. The program may include the use of public advertising."

Section 6. Amend Section 2909(j) of Chapter 29 of Title 30 of the Delaware Code by deleting the word "and" between the numerals "2905" and "2906" and substituting therefore a comma "," immediately after the numerals 2905 and by inserting immediately after the numerals "2906" and before the first occurrence of the word "of" the word and numerals "and 2912".

Section 7. Amend Chapter 29 of Title 30 of the Delaware Code by adding a new Section 2912 thereto as follows:  
"§ 2912. Beverage container retailer license requirement; license fee; Recycling Fee on beverage container sales.

(a) In addition to any license required under § 2304, § 2905, § 2906 or § 2908 of this title, any person desiring to engage in business in this State as a retailer to sell beverages in beverage containers shall obtain a registration upon making application to the Division of Revenue at no additional cost.

(b) For taxable periods beginning after November 30, 2010 and at such time as the Delaware Recycling Fund reaches a cumulative total of \$22,000,000 or ending December 1, 2014, whichever comes first, in addition to the registration required by subsection (a) of this section, every retailer of beverages in beverage containers, excluding on-premise sales, shall pay a Recycling Fee at the rate of \$0.04 per beverage container sold at retail during any month. Such fee shall be due on the twentieth day of the following month. The monthly returns shall be accompanied by a certified statement on such forms as the Department of Finance shall require in computing the fee due. Each retailer of beverages in beverage containers may list, as a separate line item on an invoice, the amount of the fees due under this subsection.

(c) As used in this section:

(i) The term 'retailer' shall have the meaning ascribed to that term in § 2901(8) of this title and shall include persons licensed under § 2304, § 2905, § 2906 or § 2908 of this title.

(ii) The term 'beverage' shall mean any mineral waters (but not including naturally sparkling mineral waters), soda waters or any other carbonated beverage not containing alcohol that is commonly known as a "soft drink" and any beer, ale or other malt beverage containing alcohol.

(iii) The term 'beverage container' shall mean any airtight nonaluminous container containing less than 2 quarts of a beverage under pressure of carbonation.

(d) The fees provided by this section shall be remitted to the Division of Revenue on forms issued by the Director of Revenue and subject to such regulations and requirements as shall be prescribed by the Director of Revenue. The Director of Revenue shall deposit the additional fee provided in this section to the credit of the special fund described in §6054 of Title 7. The Division of Revenue shall enter into an agreement with the Department of Natural Resources and Environment Control authorizing the Division of Revenue to charge such fund an amount reasonably determined by the Division of Revenue to be the cost of administering the fees described in this section."

This section shall sunset December 1, 2014.

Section 8. This Act shall become effective on December 1, 2010.

Section 9. Post-Effective Date Refund Procedures.

(a) From December 1, 2010 until January 31, 2011, a dealer shall accept from a consumer any empty beverage container of the kind, size and brand sold by the dealer, and pays the consumer the refund on the appropriately labeled returnable beverage container. A dealer may refuse to refund deposits on beverage containers which are broken, or unclean, or not empty. Such dealer may refuse to accept beverage containers from any person who attempts to return 120 or more containers at the same time, or within a 1-week period. On and after February 1, 2011, no dealer shall have any liability to or with respect to any consumer that relates to the deposit on any beverage container.

(b) From December 1, 2010 until February 28, 2011, a dealer upon redeeming beverage containers shall be reimbursed by the manufacturer or distributor of such beverage containers in an amount which is at least 20 percent of the deposit returned to the consumer in addition to the refund. On and after March 1, 2011, no manufacturer or distributor shall have any liability to or with respect to any dealer or consumer that relates to the deposit on any beverage container.

(c) For purposes of this section, terms shall have the definitions given in subchapter III, Chapter 60 of Title 7, and:

(1) "Consumer" means any person who purchases a beverage in a beverage container for final use or consumption.

396 (2) "Deposit" means the sum paid to the distributor by the dealer or to the dealer by the consumer when  
397 beverages are purchased in returnable beverage containers, and which is refunded when the beverage container is returned.

398 (3) "Distributor" means any person who engages in the sale of beverages in beverage containers to a  
399 dealer including any manufacturer who engages in such sale.

400 (4) "Manufacturer" means any person who bottles, cans, packs or otherwise fills beverage containers for  
401 sale to distributors or dealers.

402 (5) "Refund" means the sum, equal to the deposit that is given to the consumer or the dealer or both in  
403 exchange for empty returnable beverage containers.

404 (6) "Returnable beverage container" means a beverage container for which a refund or equal value is  
405 payable upon return, whether such container is refillable or not. This definition and this subchapter shall not apply to any  
406 beverage container which is capable of containing 64 or more ounces of beverage.

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## *Appendix B.*

### *Recycling Public Advisory Council Members*

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Brock J. Vinton II, RPAC Chairman – Representing community-based or public-interest group  
Citizens Solid Waste Solutions Commission

Paul R. Bickhart – Representing the recycling industry  
Recycling Express of Delaware, Inc.

Pasquale S. Canzano – Representing the Delaware Solid Waste Authority  
CEO, Delaware Solid Waste Authority

Richard C. Cecil – Representing the Delaware Association of Counties  
Executive Director, Delaware Association of Counties

Marjorie A. Crofts – Representing the Dept. of Natural Resources and Environmental Control  
Director, Division of Waste and Hazardous Substances

George Danneman – Representing the soft-drink industry  
Delaware Beverage Association

Richard A. Fleming – Representing community-based or public-interest group  
Delaware Nature Society

Michael Fusca – Representing the alcohol beverage industry  
Standard Distributing Company

Thomas Houska – Representing the waste hauling industry  
Waste Management, Inc.

Basil Kollias – Representing the Delaware Chamber of Commerce

Wallace Kremer – Representing community-based or public-interest group  
Delaware Environmental Alliance for Senior Involvement

Carrie Leishman – Representing the restaurant industry  
Delaware Restaurant Association

Julie Miro Wenger – Representing the Delaware Food Industry Council

Duncan Smith – Representing community-based or public-interest group  
Indian River School District

Kyle Sonnenberg – Representing the Delaware League of Local Governments  
City of Newark

Patricia Todd – Representing community-based or public-interest group  
League of Women Voters of Delaware

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## *Appendix C. Recycling Measurement Data*

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*Diverted Recyclables Spreadsheet (see next page)*

RPAC ANNUAL REPORT - CALENDAR YEAR 2009																
Tons of Diverted "EPA-Recyclables" in MSW - Source of Data: DSWA and DSM																
"Recyclables" means "those materials recovered from the solid waste stream and transported to a processor or end user for recycling." (EPA530-R-97-011)																
CATEGORIES OF RECYCLABLES		DSM RECYCLABLES SURVEY DATA			DSWA RECYCLABLES – WEIGHED UPON RECEIPT									TOTAL RECYCLABLES COLLECTED FOR PROCESSING (TONS)		
		Delaware Businesses (DSM Report, Appendix) **			(DSWA Report, Appendix)											
		Tons of Recyclables			"%R" is Percent Residential; "%C" is Percent Commercial											
		RESIDENTIAL	COMMERCIAL	TOTAL	Drop-off Containers *			Other Collections *			Curbside Collection *			Res'l	Comm'l	Total
				Tons (Total)	%R	%C	Tons (Total)	%R	%C	Tons (Total)	%R	%C				
Category 1. Diverted "EPA-Recyclables" - MSW materials classified by EPA as "recyclables", diverted from landfill (CY2008)																
PAPER	ONP (old newspapers)	0	2,728	2,728	0	90	10	0	100	0	0	100	0	0	2,728	2,728
	OCC (old corrugated containers)	0	55,984	55,984	2,933	90	10	4,064	0	100	0	100	0	2,640	60,341	62,981
	Mixed Paper	0	9,218	9,218	0	90	10	0	0	100	0	100	0	0	9,218	9,218
	Sorted Office Paper	0	6,359	6,359	0	0		0						0	6,359	6,359
	Undeliverable Mail from Post Office	0	0	0	0			148	50	50				74	74	148
PACKAGING	Clear Glass	0	0	0	0	90	10	0	100	0				0	0	0
	Brown Glass	0	0	0	0	90	10	0	100	0				0	0	0
	Green Glass	0	0	0	0	90	10	0	100	0				0	0	0
	Mixed Glass	2,850	0	2850	0			81	100	0	0	100	0	2,931	0	2,931
	Plastic Bottles	0	27	27	0	90	10	0	90	10	0	100	0	0	27	27
	Aluminum Cans	0	171	171	0			0			0			0	171	171
	Pallets, mulched	0	1,954	1,954	0			0						0	1,954	1,954
	Shrink Wrap	0	2,178	2,178	0			0						0	2,178	2,178
	Plastic Grocery Bags and Film	0	0	0	0	90	10	0						0	0	0
VEHICLE WASTE	Oil Filters	195	39	234	0			398	90	10				553	79	632
	Automotive Lead-Acid Batteries	0	0	0	0			0	100	0				0	0	0
	Lead Acid Batteries	1,917	383	2,300	0			0						1,917	383	2,300
	Tires	14,988	3,747	18,735	0			0						14,988	3,747	18,735
SPECIAL WASTE	Carpet and Textiles	0	0	0	63	90	10	0						57	6	63
	Carpet	0	15	15	0			0						0	15	15
	Textiles	3,155	0	3,155	0			0						3,155	0	3,155
	Fluorescent Bulbs	0	33	33	0			0						0	33	33
	Electronics	0	449	449	0			0						0	449	449
	Electronic Goods	0	0	0	1,778	90	10	245	90	10				1,821	202	2,023
	Other Batteries		3.5		0			0						0	3.5	4
AG & FOOD WASTES	Fats, Oil, Grease	0	8,826	8,826										0	8,826	8,826
	Food waste	0	9,812	9,812										0	9,812	9,812
GREEN WASTE,	Leaf and Yard Waste	60,747	5,139	65,886				5,758	50	50	1,501	100	0	65,127	8,018	73,145
	Trees and Branches	47,362	5,919	53,281										47,362	5,919	53,281
	Clean Wood (e.g. trees, stumps), mulched	0	0	0										0	0	0
METALS	Aluminum & Steel Cans			0	0	90	10					100	0	0	0	0
	White Goods	0	18,174	18,174				1,270	90	10				1,143	18,301	19,444
	Ferrous			0										0	0	0
	Non-Ferrous, All Other			0										0	0	0
	Durables, mixed (e.g. small appliances)			0										0	0	0
SINGLE STREAM	A collected mixture of multiple categories of recyclables; includes City of Wilmington collection	4,950	0	4,950	18,805	90	10	7,563	0	100	11,707	100	0	33,582	9,444	43,025
Subtotals, Category 1 (Tons)		136,164	131,159	267,319	23,579			19,527			13,208			175,349	148,288	323,637
* NOTE: Drop-off containers commonly known as "Igloos". "Other Collections" are mostly materials delivered to landfill sites by individuals and businesses, not commercial waste haulers. Percentage estimates based on a 2003 DSM study.																
** DSM Report: "State of Delaware Assessment of Municipal Solid Waste Recycling For Calendar Year 2009"																



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## *Appendix D. DSWA Measurement Report*

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### **DELAWARE SOLID WASTE AUTHORITY**

Pasquale S. Carzano, PE., BCEE  
Chief Executive Officer

Richard P. Watson, PE., BCEE  
Chief Operating Officer

October 15, 2010

**Board of Directors**

Richard V. Pryor  
Chairman  
Ronald G. McCabe  
Vice Chairman  
Theodore W. Ryan  
Timothy P. Sheldon  
Tonda L. Parks  
Gerard L. Esposito  
Gregory V. Moore, PE.

Brock J. Vinton II  
DNREC - DAWM  
89 Kings Highway  
Dover, DE 19901

Dear Mr. Vinton,

The Delaware Solid Waste Authority (DSWA) has enclosed the recycling and facility information requested by the Methodology and Measurement Committee for calendar year 2009. There are two tables that contain the information that was requested. The first table is the recycling data for all DSWA activities in calendar year 2009. The second table shows the tonnage of material processed at all of its solid waste management facilities in calendar year 2009. Please feel free to contact me if you need any further information or clarification on the data presented by DSWA.

Sincerely,

Michael D. Parkowski  
Manager of Business Services and Governmental Relations  
Delaware Solid Waste Authority

C:\My Documents\MDP\2010\MM\Coverletter09.doc

1128 S. Bradford Street, P.O. Box 455, Dover, Delaware 19903-0455  
Phone: (302) 739-5361 Fax: (302) 739-4287

CITIZENS' RESPONSE LINE: 1-800-404-7080 [www.dswa.com](http://www.dswa.com)

CATEGORIES OF RECYCLABLES		DSWA RECYCLABLES -- WEIGHED UPON RECEIPT (DSWA CY 2009) "%R" is Percent Residential; "%C" is Percent Commercial									
		Drop-off Containers			DSWA Facilities			Curbside Collection			% C
		Tons (Total)		% R	% C	Tons (Total)	% R	Tons (Total)	% R	% C	
PAPER	ONP (old newspapers)										
	OCC (old corrugated containers)	2,933	90	10		4,064	0	100			
	Mixed Paper										
	Undeliverable Mail from Post Office					148	50	50			
PACKAGING	Clear Glass										
	Brown Glass										
	Green Glass										
	Mixed Glass					81	100	0			
	Plastic Bottles										
VEHICLE WASTE	Plastic Grocery Bags and Film										
	Oil Filters					398	90	10			
	Motor Oil	1,279	90	10							
SPECIAL WASTE	Carpet and Textiles	63	90	10							
	Electronic Goods	1,778	90	10		245	90	10			
GREEN WASTE	Leaf and Yard Waste										
METALS	Aluminum & Steel Cans					5,758	50	50	1,501	100	
	White Goods					1,270	90	10			
SINGLE STREAM	"Mixed recyclables": collected mixture of different categories of recyclables.	18,805	90	10		7,563	90	10	11,707	100	

<b>DSWA Waste Handling and Landfilling Activities</b>	
<b>CY 2009 by Facility</b>	
<b>Cherry Island Landfill</b>	
Asbestos Friable	704
Asbestos Non-Friable #1	290
Asbestos Non-Friable #2	382
C&D Debris	22,858
Household Batteries	67
MSW	406,565
12th Street MSW	13
Tires	204
Transfer Pine Tree	0
Yard Waste Rejects	134
<b>Total</b>	<b>431,217</b>
<b>CSWMC/ Sandtown Landfill</b>	
Asbestos Non-Friable #2	26
C&D Debris	38,075
MSW	73,807
Shredded Tires	11
Tires	223
Transfer from Milford	49,654
Transfer from Pine Tree	68,491
Yard Waste Rejects	2
<b>Total</b>	<b>230,289</b>
<b>SSWMC/ Jones Crossroads Landfill</b>	
Asbestos Non-Friable #2	18
C&D Debris	62,846
MSW	75,647
Shredded Tires	33
Sludge	514
Tires	320
Transfer from RT 5	83,241
Yard Waste Rejects	2
<b>Total</b>	<b>222,621</b>

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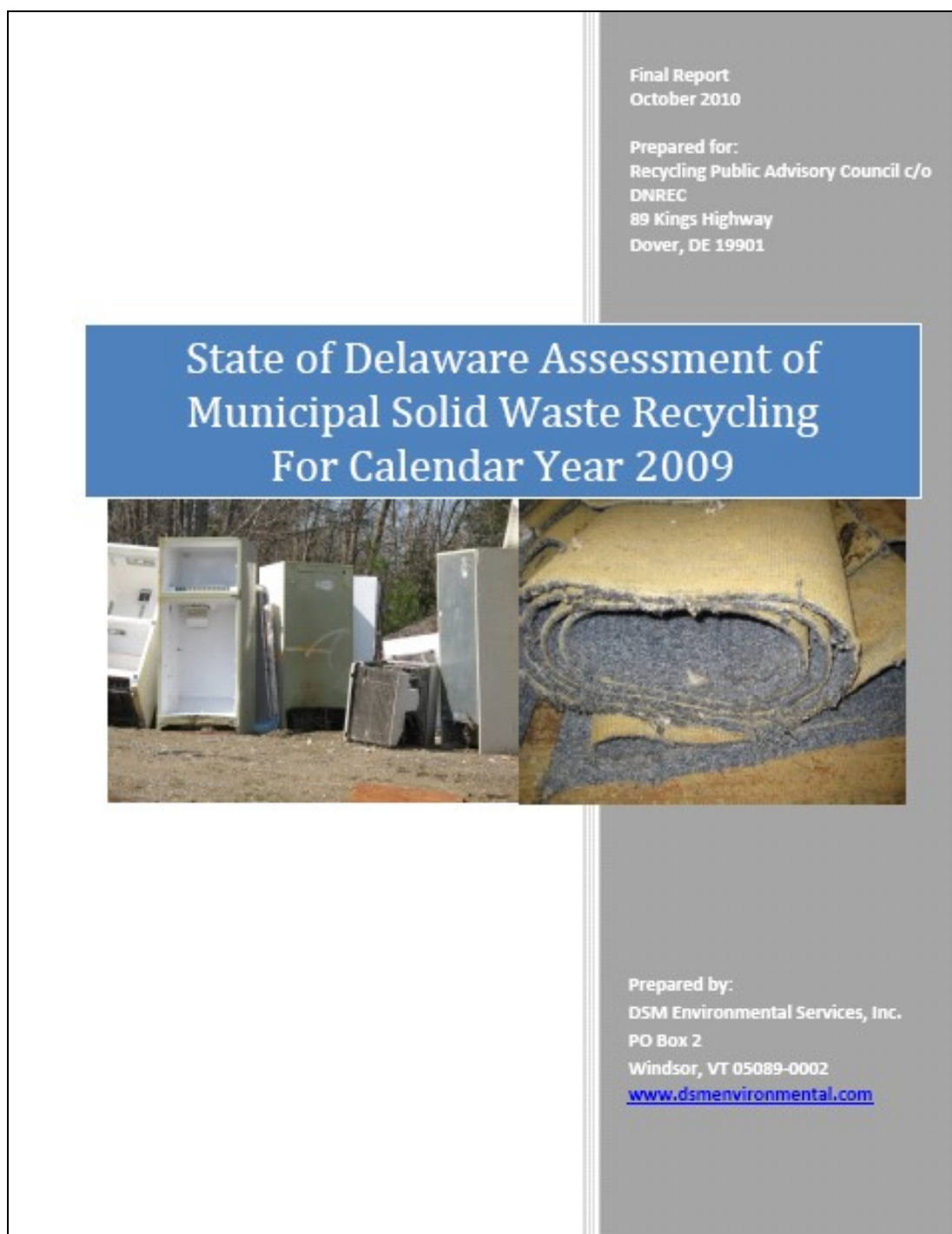
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## *Appendix E. DSM Measurement Report*

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This appendix contains selections from the report shown below. An online version of the full report can be found on the RPAC website ([www.awm.delaware.gov/Info/Pages/RPAC.aspx](http://www.awm.delaware.gov/Info/Pages/RPAC.aspx)).



## Results

DSM has chosen to report the 2009 results side-by-side with the 2008 results to enable comparison. Table 2 below presents DSM's best estimate of quantities of materials recovered for recycling or beneficial use by major material category in calendar year 2009, allocated between included and excluded MSW categories as defined by EPA, as well as totals reported in 2008.

**Table 2: Comparison of Material Recycled, CY 2009 and 2008**

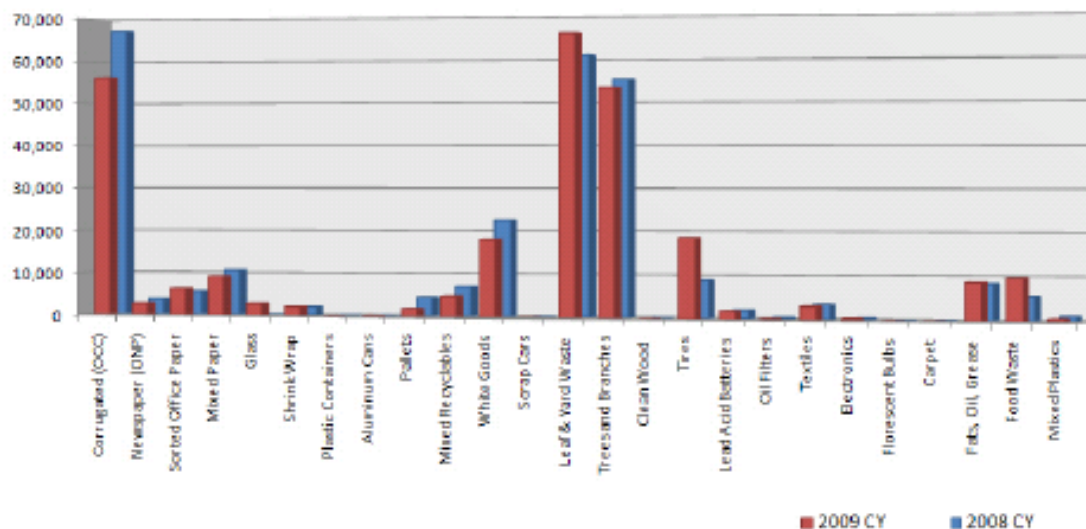
Material Category	2009 CY		2008 CY		Difference	
	Total (tons)	MSW (tons)	Total (tons)	MSW (tons)	Total (tons)	MSW (tons)
<b>Paper</b>						
Corrugated (OCC)	55,984	55,984	67,191	67,191	-11,207	-11,207
Newspaper (ONP)	2,729	2,729	3,735	3,735	-1,007	-1,007
Sorted Office Paper	6,359	6,359	5,496	5,496	863	863
Mixed Paper (1)	9,218	9,218	10,509	10,509	-1,290	-1,290
<b>Subtotal:</b>	<b>74,290</b>	<b>74,290</b>	<b>86,930</b>	<b>86,930</b>	<b>-12,641</b>	<b>-12,641</b>
<b>Packaging</b>						
Glass (2)	2,850	2,850	23	23	2,827	2,827
Plastic Film/Shrink Wrap (3)	2,178	2,178	1,983	1,983	195	195
Plastic Containers	27	27	23	23	4	4
Aluminum Cans	171	171	49	49	122	122
Pallets (4)	1,954	1,954	4,465	4,465	-2,511	-2,511
Mixed Recyclables (5)	4,950	4,950	7,044	7,044	-2,094	-2,094
<b>Subtotal:</b>	<b>12,129</b>	<b>12,129</b>	<b>13,585</b>	<b>13,585</b>	<b>-1,456</b>	<b>-1,456</b>
<b>Scrap Metals</b>						
White Goods	18,174	18,174	22,485	22,485	-4,311	-4,311
Aluminum	1,158	unknown	1,305	unknown	-147	unknown
Ferrous	113,824	unknown	142,913	unknown	-29,090	unknown
Non-ferrous	12,315	unknown	39,330	unknown	-27,014	unknown
Scrap Cars	6,323	0	8,351	0	-2,028	0
<b>Subtotal:</b>	<b>151,795</b>	<b>18,174</b>	<b>214,389</b>	<b>22,485</b>	<b>-62,594</b>	<b>-4,311</b>
<b>Green Waste</b>						
Leaf and Yard Waste	65,886	65,886	60,986	60,986	4,900	4,900
Trees and Branches	53,281	53,281	55,247	55,247	-1,966	-1,966
Clean Wood	0	0	280	0	-280	0
<b>Subtotal:</b>	<b>119,167</b>	<b>119,167</b>	<b>116,513</b>	<b>116,233</b>	<b>2,653</b>	<b>2,933</b>
<b>Vehicle Waste</b>						
Tires (6)	22,737	18,735	10,148	8,815	12,589	9,921
Lead Acid Batteries	1,917	1,917	1,992	1,992	-75	-75
Oil Filters	195	195	321	321	-126	-126
<b>Subtotal:</b>	<b>24,849</b>	<b>20,847</b>	<b>12,461</b>	<b>11,128</b>	<b>12,387</b>	<b>8,719</b>
<b>Special Wastes</b>						
Textiles (7)	3,155	3,155	3,305	3,305	-150	-150
Other Batteries	3.48	3.48	0.41	0.41	3.07	3.07
Electronics	449	449	295	295	154	154
Fluorescent Bulbs	38	38	34	34	4	4
Carpet	15	15	15	15	0	0
<b>Subtotal:</b>	<b>3,662</b>	<b>3,662</b>	<b>3,649</b>	<b>3,649</b>	<b>13</b>	<b>13</b>
<b>Ag and Food Wastes</b>						
Fats, Oil, Grease	8,826	8,826	8,393	8,393	433	433
Food Waste	9,812	9,812	5,650	5,650	4,163	4,163
<b>Subtotal:</b>	<b>18,638</b>	<b>18,638</b>	<b>14,042</b>	<b>14,042</b>	<b>4,596</b>	<b>4,596</b>
<b>Industrial Waste Recovery</b>						
Mixed Plastics	1,338	669	2,029	1,014	-691	-345
<b>Subtotal:</b>	<b>1,338</b>	<b>669</b>	<b>2,029</b>	<b>1,014</b>	<b>-691</b>	<b>-345</b>
<b>Total Recovery:</b>	<b>405,868</b>	<b>267,576</b>	<b>463,599</b>	<b>269,067</b>	<b>-57,731</b>	<b>-1,491</b>



**Table 2 Notes:**

- (1) Mixed Paper: All mixed paper reported was included as MSW even in cases where processors did not reveal sources. Undeliverable mail was handled by DSWA in CY 2008 but is now handled directly by the US Postal Service; however DSM was unable to confirm where undelivered mail was recycled and this quantity is not included in the 2009 totals.
- (2) Glass: Glass was handled by DSWA in CY 2008 but is now handled directly by beverage distributors; however incomplete data was reported from one distributor for CY 2009 so totals may be lower than actual glass recycling.
- (3) Plastic Film / Shrink Wrap: This category includes plastic bag recycling as most generators were unable to report on plastic bags separate from film and shrink wrap quantities.
- (4) Pallets: Only pallets composted or ground for mulch are included in the totals reported.
- (5) Mixed Recyclables: Single stream materials collected from Wilmington's curbside recycling program during CY 2009.
- (6) Tires: Roughly 4,002 of the 22,737 tons reported went to tire derived fuel, which is excluded from the EPA recycling rate. The balance went to end uses such as crumb rubber and engineered products including drainage material, landfill cell construction and playground surfacing, which is included in the EPA rate.
- (7) Textiles: Used clothing (including shoes) exported for recycling or reuse. The end uses change based on the condition and changing markets. The clothing is sorted into 4 color categories and sold as rags, or bagged as is and sold as clothing. No breakdown of the actual end use is available.

**Figure 1: Bar Graph of Comparison of Material Recycled, CY 2009 and 2008**



As illustrated by Table 2 and Figure 1, total recovery (exclusive of DSWA recycling activity) was down by 1,491 tons in 2009 when compared to 2008. This is the result of a number of factors described by material type below.

**Paper Recycling**

The economic downturn that occurred in 2008 continued into 2009 and continued to impact paper recycling (especially OCC). Processors and brokers reported that the decrease in OCC was primarily due to the economy although there was also a lag between the closing of the Confi-Shred facility and the reopening of that facility by All Star Shredding<sup>2</sup>, and DSM faced challenges in tracking some of the material that must have been recycled elsewhere during those months. DSM interviewed and surveyed

<sup>2</sup> Conversation with Rich Goldberg, All Star Shredding who indicated that Confi-Shred stopped accepting material for a portion of 2009 in anticipation of the change in ownership.

Rich Goldberg from All Star Shredding. All Star Shredding purchased Confi-Shred from Waste Management in 2009.

The majority of the newspaper decrease can be traced back to one confidential industrial survey. There was a slight increase in Sorted Office Paper, partially due to the rise of corporate commitment to report accurate recycling data on a state-by-state basis. Many recyclers reported a decrease in the annual amount of Mixed Office Paper they process. When asked about the decrease in MOP, recyclers speculated that it was the economy driving the tonnage numbers down.

#### ***Packaging Waste***

Recycling of packaging wastes are down by 1,456 tons. This decline is a function of two main factors. First, significantly lower pallet recycling was reported due to the lower tonnage of recycled pallets reported from the retail sector. When processors were asked why, they reported the continued economic downturn was the primary reason for the reduction in pallets delivered to their facilities.

Second, and more surprisingly, the City of Wilmington reported a loss of 2,052 tons of single stream material collected for recycling in CY 2009 which contributed to the total loss of 2,094 tons of single stream / mixed recyclables. Alfonso Ballard cited three reasons for the reduction: a decrease of contamination, a decrease in the households served -- many of which were large contributors to the contamination -- and a decrease in the amount of material set out per household (likely due to the economy). The City of Wilmington reduced contamination by training collectors to look for and electronically tag carts that were contaminated. Those carts identified were sent letters by Recycle Bank encouraging them to correct their behavior. After three occurrences, the cart was tagged for removal. Households served by recycling dropped by 2700 for 2009 down to 19,300 households (rounded). The amount of single stream material collected annually per household dropped from over 600 pounds per household to currently 480 pounds per household. However, the contamination rate is significantly lower as a result of this approach.

However packaging waste figures reported by DSM were posted by a change in the handling of glass for CY 2009. In the past, DSWA processed glass from beverage distributors for recycling. In CY 2009, distributors sent glass out of state for recycling increasing packaging waste reported by DSM by 2827 tons.

#### ***Scrap Metals***

All of the metal recyclers DSM spoke with reported a tough year in 2009 due to the economy. White goods were down by 4300 tons (rounded) which likely reflects consumers holding on to white goods and other appliances longer than usual. One scrap metal recycler was able to report aluminum cans separate from aluminum scrap metal. This difference in reporting contributed to the net increase of 122 tons of aluminum cans and contributed to the net decrease of aluminum scrap metal.

### ***Green Waste***

Blessings Greenhouse and Compost Facility's composition of compost feedstock has changed from 2008, while experiencing an overall decrease in throughput they reported an increase of 6530 tons of yard waste for 2009 over 2008. This difference contributed to a net increase of 4900 tons for Delaware yard waste for 2009.

However when looking at green waste as a whole, trees and branches decreased by nearly 2000 tons likely due to the economy and landscapers and tree companies having less tree and shrub work.

### ***Food Waste***

There was an increase in food waste recycling reported for 2009 due to one recycler reporting more material and a new facility coming on line. The Wilmington Organic Recycling Center (WORC) opened in December 2009 and will convert food waste, yard waste and other organic wastes into high value compost and organic soil products. This 28-acre facility has the capacity to process 160,000 tons of food and other organic wastes and expects to serve state, federal and municipal institutions, schools and universities, supermarkets, importers, restaurants and convenience stores, landscapers and contractors inside and outside of Delaware. They had just begun operations in 2009 and therefore only contributed a small portion of food waste to the Delaware totals estimated for 2009.

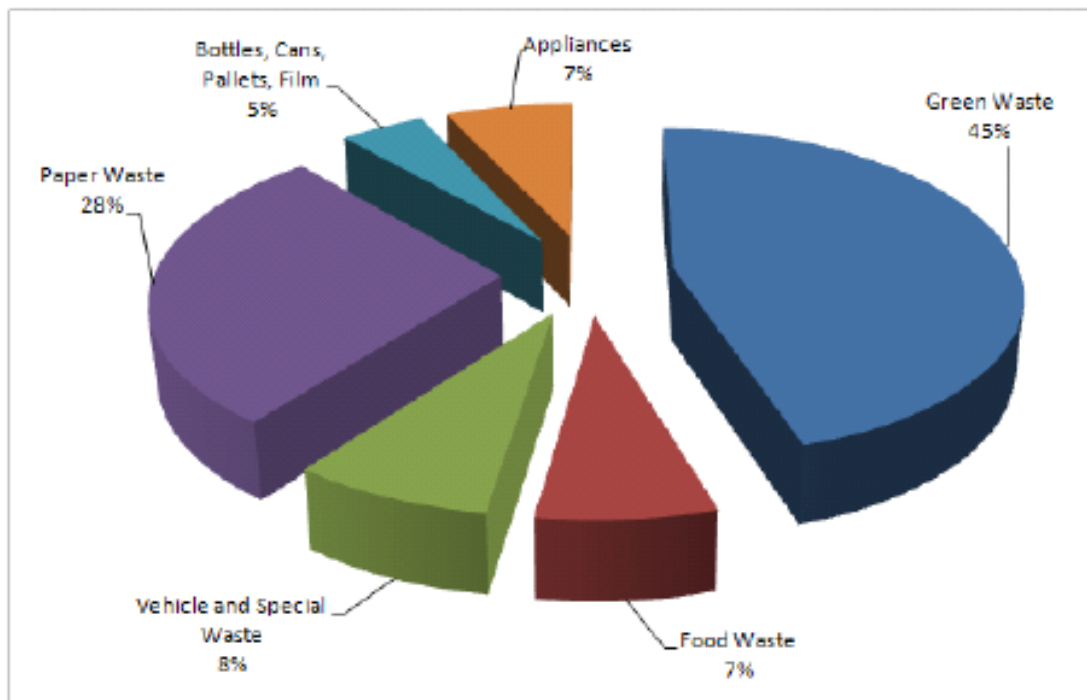
### ***Vehicle Waste***

The tons of tires recycled increased by 9,900 tons (rounded). This was due to a substantial increase in material used for landfill construction. Tire recyclers stockpile tires. Therefore, the tons of tires reported as recovered do not directly correlate with the amount of tires disposed in a given year in the state of Delaware.

Figure 2, below illustrates the breakdown of MSW materials recovery, by material type, for Delaware for 2009, exclusive of DSWA recycling activity.



**Figure 2: Materials Recovery by General Material Category  
Included in EPA Definition of MSW Recycling (State of Delaware, CY 2009)**



#### Residential vs. Commercial Recycling Activity

DSM estimated the percentage of each material recycled and classified as MSW that was from a residential as opposed to a commercial source. These allocations are shown in Table 3. In some cases, the source of the material was clear, however in other cases DSM was required to make our best professional judgment as to the source of the material. Since EPA does not attempt to quantify residential and commercial recycling separately, generally acceptable guidelines for allocation of materials recycling to the residential and commercial sector are not available.

However DSM has worked with RPAC to develop and agree upon acceptable allocations of materials recycling to the commercial and residential sectors. For example, all white goods are reported as residential recycling. Leaf and yard waste totals are allocated as 7.8% commercial with the balance residential consistent with the 2004 survey of yard waste generators and processors. Finally trees and branches are allocated as 11% commercial, and the balance residential, consistent with the same 2004 survey.

It should be noted when reading Table 3 that while significant amounts of newspaper, corrugated and mixed paper are generated by residential sources, these quantities are being reported to the M&M Subcommittee separately by DSWA, and the Wilmington single stream paper is reported under "packaging" as a separate category called "mixed recyclables" in Table 3.

**Table 3: Estimate of Residential vs. Commercial MSW Recycling Activity (CY 2009)  
Exclusive of DSWA Materials**

<b>Material Category</b>	<b>Residential (tons)</b>	<b>Commercial (tons)</b>	<b>Total MSW (tons)</b>
<b>Paper</b>			
Corrugated (OCC)	0	55,984	55,984
Newspaper (ONP)	0	2,728	2,728
Sorted Office Paper	0	6,359	6,359
Mixed Paper (1)	0	9,218	9,218
<b>Packaging</b>			
Glass (2)	2,850	0	2,850
Plastic Film / Shrink Wrap	0	2,178	2,178
Plastic Containers	0	27	27
Aluminum Cans	0	171	171
Pallets	0	1,954	1,954
Mixed Recyclables (3)	4,950	0	4,950
<b>Scrap Metals</b>			
White Goods	18,174	0	18,174
<b>Green Waste</b>			
Leaf and Yard Waste (4)	60,747	5,139	65,886
Trees and Branches (5)	47,362	5,919	53,281
Clean Wood	0	0	0
<b>Vehicle Waste (6)</b>			
Tires	14,988	3,747	18,735
Lead Acid Batteries	1,917	383	2,300
Oil Filters	195	39	234
<b>Special Wastes</b>			
Textiles (7)	3,155	0	3,155
Other Batteries	0	3.5	3.5
Electronics	0	449	449
Florescent Bulbs	0	38	38
Carpet	0	15	15
<b>Ag and Food Wastes</b>			
Fats, Oil, Grease	0	8,826	8,826
Food Waste	0	9,812	9,812
<b>Totals:</b>	<b>154,300</b>	<b>113,000</b>	<b>267,000</b>

**Table 3 Notes (Numbers may not add due to rounding):**

- (1) Includes some print overruns. DSM was unable to obtain data from the Delaware US Postal Service.
- (2) Incomplete glass recycling data was received from one distributor for CY 2009.
- (3) Single stream material from Wilmington curbside recycling program.
- (4) Leaf and Yard waste allocations were made using the same percentage used in previous DSM reports.
- (5) Tree waste allocations were made using the same percentage used in previous DSM reports.
- (6) Reported source of tires was 80% cars by one major tire recycler. Reported source of oil and oil filters is unknown. DSM assumed 80% of vehicle wastes recycled originated from households, and the balance from commercial vehicles.
- (7) Documented source of textiles is unknown, however DSM assumes most textiles came from residential sources. Also textiles reused are excluded under EPA but included here since reuse versus recycling cannot be determined.

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## *Appendix F. Background of Recycling Efforts in Delaware*

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The State of Delaware first began promoting recycling in 1975 with the passage of the Delaware Solid Waste Authority's enabling legislation. This led to the opening of the Delaware Reclamation Plant, which held the title of the largest recycling/reclamation project in the world for nearly 11 years. About 2.5 million tons of municipal solid waste and 0.5 million tons of sewage sludge were processed through this plant. This facility was shut down in 1993 and the plant was modified to operate as the Delaware Recycling Center which processes and markets all the recyclables from the 'RECYCLE DELAWARE' Drop-Off Program.

The next major milestone was the implementation of the Beverage Container Law in 1979 designed to prevent roadside littering.

In 1990, the statewide drop-off recycling program, known as 'RECYCLE DELAWARE', was established by the Delaware Solid Waste Authority. The DSWA currently operates over 140 'RECYCLE DELAWARE' centers and collects about 27,500 tons/year of recyclables. Included are brown, green and clear glass bottles, plastic bottles, newspaper and magazines, aluminum and steel cans (including aerosols), plastic grocery bags, textiles, motor oil and oil filters, corrugated cardboard, and household batteries (the batteries are not recycled, but disposed of properly).

Despite these recycling milestones, Delaware's former Governor, Thomas Carper, received frequent letters and phone calls from Delaware residents requesting implementation of curbside collection of recyclables. These requests spurred Governor Carper to call a meeting in late 1998 with representatives of the DNREC, the Delaware Economic Development Office (DEDO) and the DSWA to discuss the feasibility of implementing curbside collection of recyclables in Delaware. The result of this meeting was the issuance of Executive Order No. 60 establishing the Citizens' Work Group on Recycling to evaluate recycling in Delaware. The work group would also recommend ways to increase recycling in Delaware.

In the spirit of conservation and pursuant to the report "A Course of Action to Increase Recycling in the State of Delaware," which was developed by and contained the recommendations of the Citizens' Work Group on Recycling, Governor Thomas R. Carper signed Executive Order Eighty-Two which:

1. Established the goal of a thirty (30) percent diversion rate for recyclables from Delaware's residential solid waste stream.
2. Required the Department of Natural Resources and Environmental Control (DNREC), Division of Air and Waste Management (DAWM) to work in concert with the Delaware Solid Waste Authority (DSWA) and the Recycling Public Advisory Council (RPAC) to:
  - a) develop a method for measuring recycling,
  - b) establish a recycling grant program,
  - c) establish a public outreach and education program aimed at educating the general public and students on the value of recycling as well as to increase the recycling rate,
  - d) provide technical assistance to local entities to increase the recycling rate, and

- e) provide administrative support to the RPAC.
- 3. Established the nine (9) member RPAC and tasked the RPAC with:
  - a) advising DNREC and DSWA on all aspects of recycling,
  - b) advising DNREC on developing grant criteria,
  - c) advising DNREC and DSWA on outreach activities to increase recycling, and
  - d) developing an annual report due on December 1st of each year detailing the status of recycling activities within Delaware.

Governor Minner appointed the members of the RPAC early in her Administration and the first RPAC meeting was held on February 27, 2001. DNREC also hired an Environmental Scientist and a Community Relations Officer to assist the Council. The Environmental Scientist aided the Council in developing the method for measuring recycling and provided recycling technical assistance to Delaware's communities and local governments.

The RPAC contracted a study on residential curbside recyclables collection in New Castle County. The final report, titled "Evaluation of Enhanced Residential Waste and Recyclables Collection and Processing for New Castle County", was published in 2003 by DSM Environmental Services, Incorporated. The report concluded that curbside collection of recyclables could be done at least as, if not more, cost effectively than trash if the system is properly designed.

In early 2006, Senate Bill 225 (SB 225) was introduced in the Delaware Senate. It established a framework for a statewide curbside recycling system, established a Recycling Fund to help pay for recycling programs, banned yard waste from disposal (providing for development of yard waste management facilities), established statewide recycling goals, and established the RPAC. The Governor's Office, DNREC, DSWA, and the RPAC all supported SB 225. The Bill did pass the Senate with amendments but it was tabled in the House of Representatives.

In October of 2005, DNREC Secretary, John Hughes, established the Solid Waste Management Technical Working Group (SWMTWG) pursuant to a directive from Governor Minner. It was comprised of individuals with technical backgrounds, financial backgrounds, and/or experience with municipal solid waste management systems and technologies. The SWMTWG was tasked to perform a feasibility review of municipal solid waste management alternatives and to recommend a program or programs that would best serve Delaware's municipal solid waste management needs. In April of 2006, the SWMTWG produced a report that recommends the state implement effective source reduction and recycling programs and building a processing facility.

The Citizens Solid Waste Solutions Commission (CSWSC), an organized group of environmentally conscious citizens, also produced a report in 2006. They called for more convenient and cost-effective recycling programs, better processing facilities for recyclables and discards, opposition to incineration, and a more focused recycling agency than the DSWA. They argued that recycling is an issue of resource management rather than one of waste disposal.

The City of Wilmington initiated a single-stream curbside recycling trial for over 6,000 households in the Summer of 2006. The City has partnered with RecycleBank, a recycling company based in Philadelphia, to provide the service. RecycleBank provides wheeled recycling containers, retrofits Wilmington's trucks to service the containers and weigh the material, provides various data reports, and provides outreach and education about the program. Through the RecycleBank program, participating households can earn up to \$35 per month in RecycleBank Dollars which can be redeemed at stores of the customer's choosing. The incentive encourages residents to recycle and helps Wilmington to divert waste from the landfill. The recycling rate in Wilmington's trial areas

went from almost zero to about 35% in about six months. In 2007 the program was expanded citywide.

In September of 2006 Governor Minner signed Executive Order 90 (see Appendix A) which replaced Executive Order 82 and re-established the RPAC. The new Executive Order 90 increases the membership of the RPAC by two public members. It also increases the former recycling diversion rate goal from 30% of residential solid waste to 51% of municipal solid waste.

The Cherry Island Landfill permit was renewed in 2006 with language that required the DSWA to ban yard waste from entering the landfill no later than January 1, 2007. After dozens of community meetings, a legislatively mandated delay in the ban, and the opening of three community yard waste demonstration sites, DNREC and the DSWA began enforcement of the ban on January 24, 2008.

House Bill 159 (HB 159) was introduced in 2007. In May of 2008, HB 159 passed in the House of Representatives but was defeated in the Senate in June of 2008. HB 159 would have encouraged recycling via a comprehensive recycling grants program while discouraging disposal via a \$3 per ton assessment on landfilling.

Starting in January of 2008, Kent County provided recyclables collection service to residents serviced in their trash districts. The County administers a contract for trash collection in a large percentage of unincorporated areas within the County. Single-stream recyclables collection was added to the contract, increasing the number of participating households in Delaware by over 11,000.

In early 2008, the DSWA converted their recyclables collection programs to single-stream. Participants no longer need to separate traditional recyclables (i.e. glass bottles, cans, plastic bottles, mixed papers) by material type. As a result, recycling is more convenient and therefore more people will participate. Other entities, including waste haulers, have also offered single-stream recyclables collection service.

A large, new compost facility broke ground near the Port of Wilmington in May of 2009. Peninsula Compost Company, LLC is planning to open the facility by the end of 2009. It will have the capacity to process 160,000 tons of food and yard waste annually.

House Bill 201 was passed by the General Assembly on the last day of session in June of 2009. It essentially repealed the Delaware Beverage Container Law (or Bottle Bill), removing the deposit and redemption system related to beverage containers. However, Governor Markell vetoed House Bill 201 in July of 2009 on the grounds that it would have a negative impact on recycling and no viable alternative has been proposed.

A large, new compost facility broke ground near the Port of Wilmington in May of 2009. Peninsula Compost Company, LLC completed construction of the Wilmington Organic Recycling Center in December 2009. It has the capacity to compost 160,000 tons of food and yard waste annually.

In February 2010, Governor Markell signed Executive Order 18. This Executive Order set goals in the following categories for the executive branch of state government: energy conservation/efficiency, LEED green building practices, renewable energy, reduced transportation impacts, recycling diversion (75%), and environmentally preferable purchasing.

The Delaware Solid Waste Authority updated its Statewide Solid Waste Management Plan in April 2010. It calls for many waste reduction strategies, several of which require action from government and businesses.

The composting operation of Blue Hen Organics near Frankford, Sussex County was approved in April 2010. The facility accepts up to 50,000 cubic yards of yard waste and wood waste annually.

On June 8, 2010, Senate Bill 234 was signed into law. This legislation passed after significant input from many stakeholders and coordination from the Governor's Office. It will transition Delaware out of a weak beverage container deposit system into a strong, comprehensive recycling system.

In July of 2010, the DSWA and DNREC agreed to permit conditions that restrict yard waste at the Central Solid Waste Management Center (Sandtown Landfill) and the Southern Solid Waste Management Center (Jones Crossroads Landfill). Starting January 1, 2011, those facilities will no longer accept yard waste mixed with trash.