

Bay Counties SMaRT

Smart Station Material Marketing Plan

2012

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Executive Summary

During the last four years of operating the Sunnyvale SMaRT Station, Bay County SMaRT (BCS) has had its share of unexpected experiences. These include a devastating recession that caused a dramatic drop in Municipal Solid Waste (MSW) delivered to the SMaRT Station, recycling markets crashing and slowly rebounding, and one of the participating SMaRT Station cities stopping the delivery of all their MSW. This has been a turbulent experience, to say the least.

In 2011 unemployment remained high, commercial construction projects and business remodeling continued to be sluggish, and consumer confidence and consumer spending remained low. These factors continue to put a drag on the economy and reduce the amount of waste received at the SMaRT Station.

Although the recession can still be blamed for the continual downward spiral in MSW delivered to the SMaRT Station, it was overshadowed by Palo Alto not delivering their MSW for the first 8 months of the year. This amounted to a reduction of approximately 20,000 tons, or 2,500 tons per month while Palo Alto conducted a "Fast Fill" to their landfill. They used their MSW to fill the remaining landfill capacity in order to have it closed by the end of 2011. This improved the economics of operating their landfill, met regulatory requirements, and allowed the Palo Alto landfill to be converted to a public park and open space.

Inbound MSW for 2011 decreased to 164,002 tons - a drop of 9% from a year ago. Although a temporary decrease, this is still a disturbing trend that represents a 25% decrease of tonnage from a high of 217,906 tons in 2007.

The direct effect of the continuing recession and the reduction of Palo Alto's tonnages have made significant reductions in MSW and diverted recyclables. However, market prices continued their modest increases after the crash of late 2008 and early 2009 and some prices rebounded past their early 2008 highs.

2011 Results¹

A. Tonnages

In 2011 the SMaRT Station experienced a reduction of 15,426 tons of MSW over 2010. Between January 2008 and the end of 2011 there has been a reduction of over 53,000 tons of MSW.

¹ Tonnages and revenue are not audited data and do not include adjustments

	2011	2010	2009	Bay Counties Services 2012 Marketing Plan	
				2008	2007
MSW Delivered to SMaRT	164,002	179,427	182,927	208,503	217,906
Previous Year MSW Reduced Tonnage Delivered To SMaRT	179,427	182,927	208,503	217,906	
	(15,426)	(3,500)	(25,576)	(9,403)	
Percent Decrease	-9%	-2%	-12%	-4%	

Other inbound materials that experienced reductions in 2011 were yard waste and curbside recycling. Yard waste fell to 21,149 tons from 23,645 tons in 2010. Curbside recycling ended the year at 19,610 compared to 20,401 in 2010.

As inbound tonnages fell so did the amount of recyclables diverted from landfill. In 2011 the total amount of recyclables marketed from the SMaRT Station was 57,530 tons. This is a 9% net loss over last year's total of 63,410 tons. Most of this loss contributed to the reduced MSW tonnages from Palo Alto, however construction, consumer purchasing, and the recession were contributing factors. Overall, every category of recycling saw a reduction in 2011.

The following table lists the materials and tonnage marketed in 2011 compared with the materials marketed in 2010. The graph in Attachment 1 represents the material in 2011 by percentage.

SMaRT Station Recyclable Marketed (in tons)

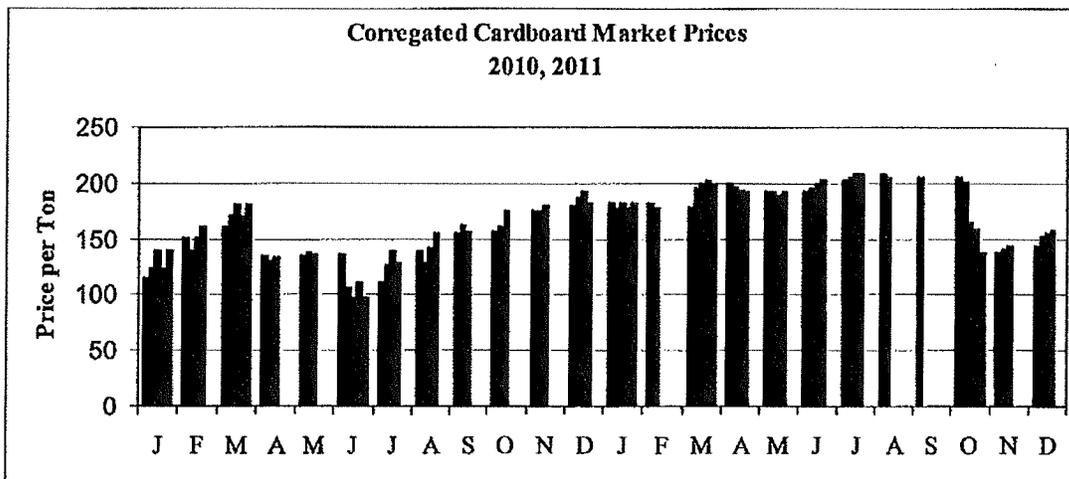
	2010 Tons	2011 Tons
<u>Market Valued Products</u>		
Fiber	19,182.07	17,248.50
Plastic Containers	1,161.00	988.9
Film Plastic	0	0
Glass	2,842.49	2,810.3
Metal	2,713.76	2,124.8
Electronic	171.64	178.1
Wood-Overs	857.03	691.2
<i>Total</i>	<u>26,928.79</u>	<u>24,041.8</u>
<u>Negative Revenue Recycle Products</u>		
Inorganics	2,485.97	1,877.4
Organics	33,995.65	31,611.4
<i>Total</i>	<u>36,481.62</u>	<u>33,488.8</u>
Total Materials Shipped and Diverted from Landfill	63,410.41	57,530.40

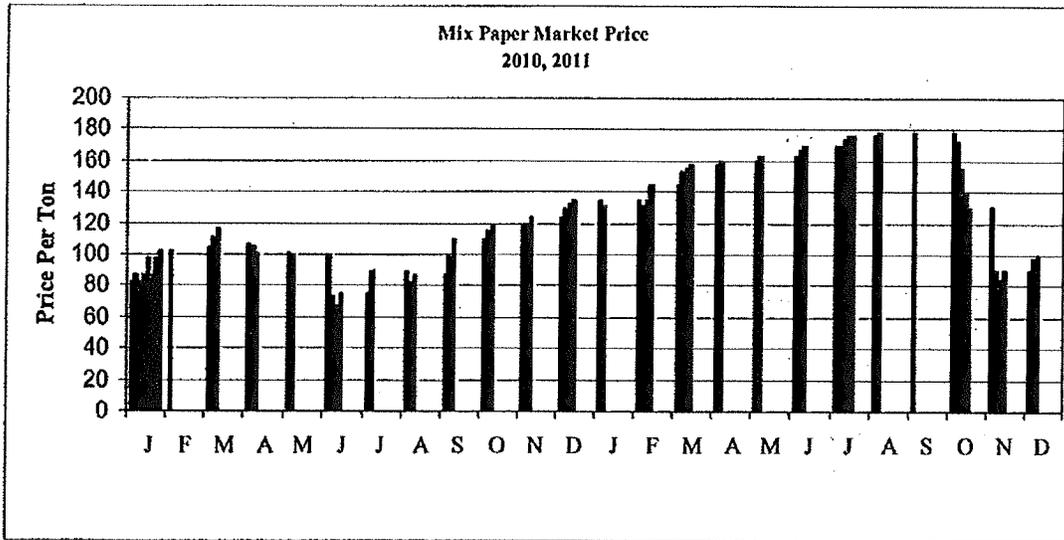
B. Market Prices

BCS did not participate in sharing the revenue from recyclables with the City in 2011 due to work by the City to resolve construction issues with the new Material Recycling Facility (MRF) equipment. Net revenue for recyclables returned to the City was \$4,301,718. This represents \$5,359,601 from market-value products, minus \$1,057,883 for negative-revenue products.

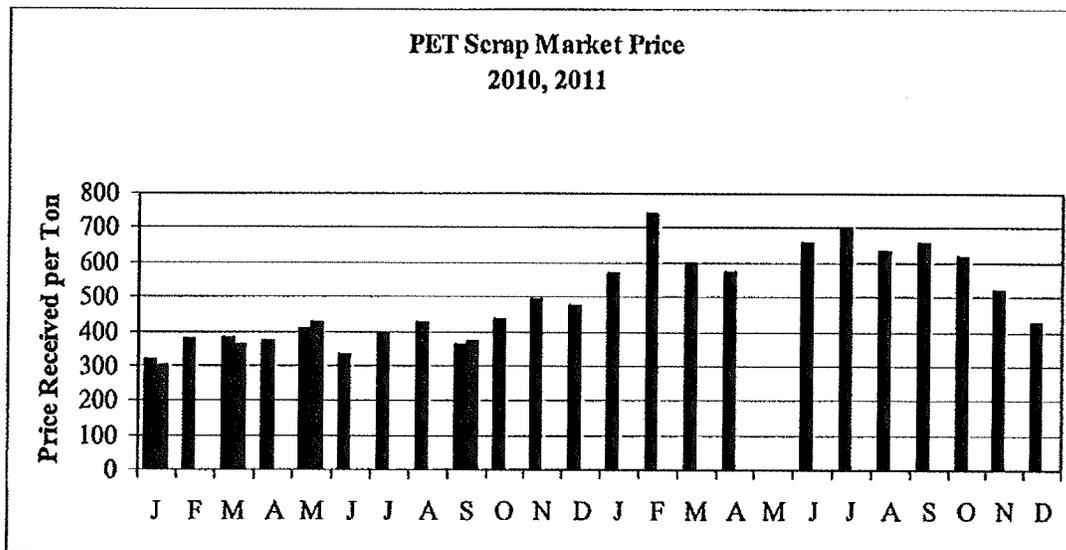
As mentioned above the tonnages were down by 19% in 2011, however the net revenue was only down 2% over last year. The reason that revenue didn't fall as much as tonnages did is that most market-value products generating revenue had higher market prices in 2011 compared to 2010. In general market prices started out higher than the year before, gradually increased through the first and second quarter, and hit record highs in the third quarter before dropping in the fourth quarter.

Fiber prices saw significant gains that resulted in a 19% increase in revenue over last year or an additional \$2,252,152. For instance, Old Corrugated Cardboard (OCC) prices ranged between \$97 and \$192 in 2010. In 2011 the low was \$138 and the high was \$208. Mix paper saw similar changes with 2010 prices between \$67 and \$135 and in 2011 they were between \$90 and \$178.





High Density Polyethylene (HDPE) plastic prices for 2011 were around \$320 per ton, which was a little higher than 2010. Polyethylene Terephthalate (PET) plastic on the other hand hit a high in the first quarter of \$740 per ton. This was a price that was even higher before the markets crashed at the end of 2008 and in early 2009. Then PET fluctuated around \$600, which was higher than 2010, before dropping in the fourth quarter to \$425.



Negative-value recyclables (material that cost to recycle) saw tons decrease, resulting in lower overall cost in 2011. This resulted in costs remaining nearly the same as 2010 and net revenue at only a 2% reduction over last year.

Although the MRF equipment has the ability to generate nearly 2,400 tons of organics per month, processors still claim the material was too contaminated with plastic, large organic material, and inorganic material like rocks and glass. This continues to limit the recycling of this material to 500 - 700 tons per month at a negative value of \$276,034. The -2" MRF fines combined with the other negative-value recyclables resulted \$1,057,883 paid to recycle compared to \$1,047,634 last year.

Marketing

When there are major changes in the marketing of recyclables (prices, volume) in a down economy, typically there is also an increase of rejected loads and price reductions from brokers and processors due to contamination. During difficult times, purchasers of recyclable materials, specifically market-value material, tighten their specifications (residue or out-throw rates). End-users become more selective on the quality of material for their products.

In 2011 processors and brokers accepted the SMaRT Station material with minimal interruptions. Thanks to long-time relationships with processors and brokers, and extra work to provide a quality product, BCS continues to receive the highest prices the industry has to offer.

2012 Objectives

The -2" MRF fines continue to be difficult to market, however there are signs that specific equipment is being designed and/or built to eliminate significant amounts of glass and other inorganic material from the -2" MRF fines. The inorganics are the contributing factor that prevents more of this material from being composted.

ZBest will be testing new equipment in early 2012 and the City is working on designing new equipment. Both are to eliminate the inorganic material. BCS will continue to work with the City to find a comparable solution to cleaning up the material and finding markets that will allow more material to be recycled.

Tracking the economy and continuously evaluating the impact on the SMaRT Station, and the solid waste and recycling industry as a whole, will be key for 2012. Now that tonnages will increase due to the return of Palo Alto, and with the economy showing signs of improving, it is important to make strategic changes to benefit the City and the Company.

The quality of the recyclables that are marketed is a major objective. As we learned, processors are looking closely at our products to make sure the quality deserves the highest prices. In order to maintain a good relationship with brokers, it is important to closely monitor contamination to provide quality material.

2012 Commodities and Projections

Palo Alto has closed their landfill and will be delivering their MSW to the SMaRT Station. The City has made significant repairs on the new processing equipment as they work to close out the project. These repairs should result in less down time and maximizing the amount of recyclables recovered. BCS anticipates that recyclables will grow by 5,000 tons in 2012 or a total of 63,410 tons.

Barring major fluctuations in the economy, BCS doesn't expect big swings in market prices. Market prices, in general, are expected to remain the same as in the 4th quarter of 2011 with modest improvements.

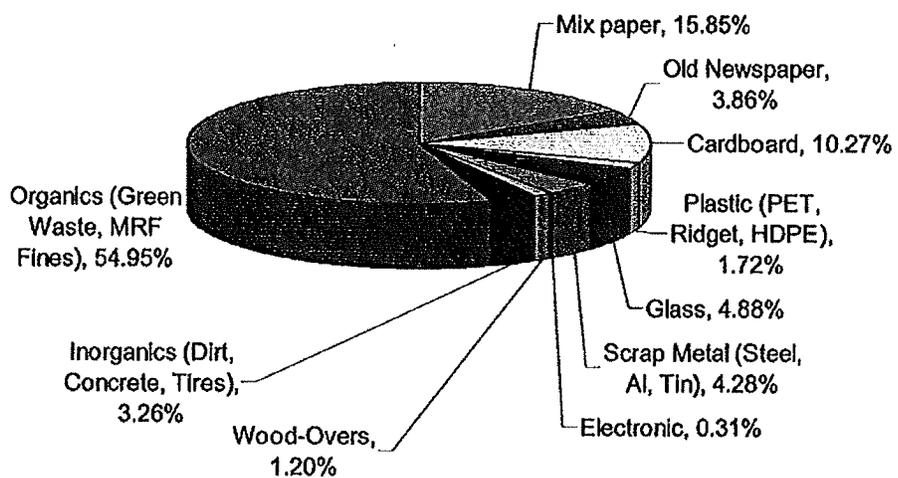
A list of commodities that BCS will be marketing and the purchasers of these materials is found in Attachment 2. Revenue ranges (positive/negative) are estimates. In addition to this information, there are projected tonnages and notes about the destination of the materials and what they are used for.

Conclusion

The recession continues and is the most severe in decades. It is expected to be long and recover slowly. Some economists think full recovery, will take several years. However, late in the second half of 2011 unemployment began improving and demand for office and R&D space increased in the South Bay, evidence of an improving local economy. For instance, Avaya signed a lease to accommodate an additional 130 workers and Google leased space for over 2,100 workers. As signs like these continue with office and R&D spaces filling up and jobs becoming available the local economy will benefit. A revived economy results in increases in construction and demolition material, and consumer spending will result in more recyclables in the waste stream.

Attachment 1

**Recyclable Materials Marketed from the SMaRT Station
2011**



Attachment 2

Commodities Estimates and Information
2012

Commodity, Projected Ton,
Purchaser, Estimated Price
Per Ton (Positive/Negative)

Destination

Corrugated Cardboard – 6,283 tons

Mega Fibers \$50 - \$175
335 N. Puente Street, Suite B
Brea, CA 92821

Export

[even though the market price has be higher for the last two year?]

Material is to Mega Fiber's port in China. Mega Fiber owns and operates three paper machines manufacturing wall board grades. Mega Fiber only purchases tonnages from its own customer base and does not broker any fiber.

Mixed Paper #3 – 8,518 tons

Mega Fibers \$35 - \$110
335 N. Puente Street, Suite B
Brea, CA 92821

Export

Material is to Mega Fiber's port in China. Mega Fiber owns and operates three paper machines manufacturing wall board grades. Mega Fiber only purchases tonnages from its own customer base and does not broker any fiber.

ONP #6 -

Mega Fibers \$65 - \$155
335 N. Puente Street, Suite B
Brea, CA 92821

Export

Material is to Mega Fiber's port in China. Mega Fiber owns and operates three paper machines manufacturing wall board grades. Mega Fiber only purchases tonnages from its own customer base and does not broker any fiber. Projected ONP tonnages – 4,380

ONP #7

Mega Fibers \$70 - \$165
335 N. Puente Street, Suite B
Brea, CA 92821

Export

Material is to Mega Fiber's port in China. Mega Fiber owns and operates three paper machines manufacturing wall board grades. Mega Fiber only purchases tonnages from its own customer base and does not broker any fiber. Projected ONP tonnages – 4,380

PET Plastic – 394 tons

Weisco Recycling \$1,500 - \$2,000

Export

P.O. Box 418

Danville, CA 94528

[scrap value not to include refund]

Shipped to China and shredded. Shredded material is then used for making carpets, clothing and packaging.

Mixed Color Plastics (Epic Mix)

Weisco Recycling \$350 - \$550

Domestic

P.O. Box 418

Danville, CA 94528

Material is shredded and melted into beads. The beads are used as the feed stock in manufacturing of plastic building and landscaping products (landscape boards, decking, and timber) distributed to most states west of the Rockies. Projected HDPE (container, ridget) – 768 tons

Glass – 2,843 tons

Strategic Materials \$60 - \$160

Domestic

7000 Bandini Blvd.

Commerce, CA 90040

- Processes it into a raw material called “cullet.” The Cullet is then primarily sold to glass container and fiber glass manufacturers for use as a raw material in their glass production processes. Mixed glass is categorized as clean and dirty, and cost to recycle. Clean glass cost \$31 per ton and dirty glass cost \$36 per ton.

Scrap Steel – 1,438 tons

Sims Metal \$80 - \$260

Export/Domestic

30104 Industrial Parkway SW

Hayward, CA 94544

Shipped to Redwood City and shredded and loaded on ships to Asia to be made into new steel used in products from construction products to toys and cars.

Tin Cans – 45 tons

Sims Metal \$50 - \$180

Export/Domestic

30104 Industrial Parkway SW

Hayward, CA 94544

Shipped to Redwood City then hauled to Chicago where it is shredded and made into rebar.

Aluminum UBC – 215 tons

Alco Iron and Metal Co \$3,000 - \$4,200

Domestic

1091 Doolittle Drive

San Leandro, CA 94577

Material is melted down into ingots and formed into rolled sheets to make new aluminum cans.

Rigid High Density Polyethylene Plastic (HDPE)

Weisco Recycling \$0 - \$65

Export/Domestic

P.O. Box 418

Danville, CA 94528

Sent to China, shredded and melted into beads. The beads are used in making nonstructural applications including rigid plastic packaging containers and a variety of molded products. Examples include piping, and film (trash bags, agricultural film). Projected HDPE (container, ridged) – 768 tons

Aluminum Scrap, Brass, etc

Sims Metal \$.300 - \$1,600

Export/Domestic

30104 Industrial Parkway SW

Hayward, CA 94544

Al - \$0.12 - \$0.60, Brass - \$0.60 - \$1.05/lb, Copper- \$1.60 - \$3.50/lb

E-Waste – 172 tons

E-Recycling of California

Export/Domestic

31775 Hayman St

Hayward, CA 94544

CRT's - \$0.10/lb, CPU's - \$0.05/lb, Non-CEW \$0.00/lb

Material is shipped to Hayward for processing. Monitors and TV's are disassembled and the CRT's crushed. CRT glass is used in glass to glass CRT production, or at a mining smelter. The following are the California State approved destinations: Samsung/Corning in China melts glass into new CRT tubes; Technology Display in Mexico cleans the glass they receive and ship to India where it is melted into new CRT tubes; Doe Run, Missouri is a mining smelter that uses black and white CRT glass in the recovery process. Other components from the monitors and TV's are further processed with disassembled computer, printers and appliances. End products (steel, plastics, copper, Etc) are then shipped to facilities for further processing and preparation for feed stock for new products.

Negative Value Recyclable (pay to recycle)

Concrete – 1,655 tons

Stevens Creek Quarry, Inc.

Domestic

Located next to SmART Station

Billing address:

12100 Stevens Canyon Road

Cupertino, CA 95014

\$95 per load, \$330 per load for over size

Stevens Creek Quarry produces various aggregate materials, such as, Class II aggregate base, Class III aggregate base, Course Underground Utility Bedding, Structure Backfill fines, and Custom aggregate upon request.

Dirt – 786 tons

Kirby Canyon Landfill, \$19.00/per ton plus \$200 per load hauling

Domestic

Dirt is used as landfill cover

Mattresses

Domestic

Goodwill Industries

1080 N. 7th Street

San Jose, CA 95112

\$9 per mattress

Mattresses are disassembled and the different parts are sent for recycling (e.g. fabric, padding and metal)

Green Fines – 26,429 tons

Z-Best

Domestic

980 State Hwy 25

Gilroy, CA

Processed \$25.00/per ton, Unprocessed \$33.34/per ton

Ground material is composted for 12 – 18 weeks. Final product is marketed to retailers, agricultural, and returned to cities for use by the public and for Public Works projects.

-2" MRF Fines (Food Waste) – 6,000 tons

Z-Best

Domestic

980 State Hwy 25

Gilroy, CA

Food Waste Fines \$48.24/per ton

Material composted for 12 to 18 weeks. Final product is commercial compost for medians, landscape and agriculture.

Wood Chips – 16.2 tons

Biomass Power Stations

Domestic

Processing \$0 - \$12/per ton

Trucking \$0 - \$12/per ton

Material is sent to Biomass power stations located in Woodland, China Camp Station, or Tracy.