SWEEPCO BONDS

SWEEP-COMPLIANT CARBON OFFSET BONDS

Revenue bonds with carbon offset bonus

THE CHALLENGE

The United States generates more than 35 million tons of plastic waste annually but recycles just 8% of that total. 16% of the plastic waste is combusted with energy recovery and 76% is landfilled. The United States currently has 633 material recovery facilities (MRFs), many of which are ill-equipped and have little incentive to improve upon these plastic waste recycling metrics. A forthcoming standard for local governments and the materials management industry, Solid Waste Environmental Excellence Protocol (SWEEP), is set to provide a framework and incentive structure for sustainable materials management. Much in the way companies and real estate owners embraced and benefited from the LEED green building certification, municipal governments, and waste management companies are facing populations and customers demanding better waste practices.

THE SOLUTION

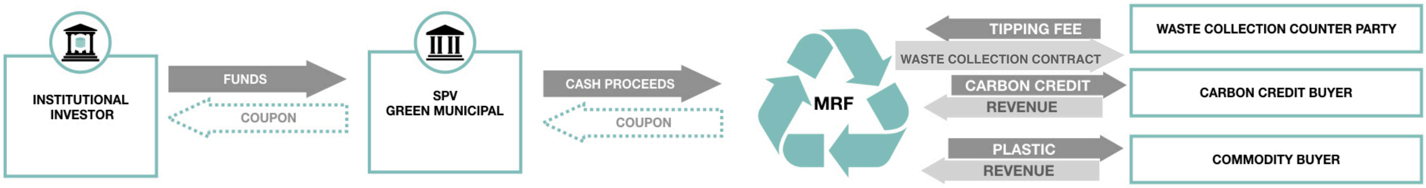
Our innovative solution leverages the efficiency improvements in material recovery, measurably reducing greenhouse gas emissions and increasing the amount of recycled plastic recovered for repurposing. These green municipal bonds will be backed by three sources of revenue through these improvements: tipping fees, carbon offsets, and commodity sales. Certifying carbon offsets to reflect the greenhouse gas emission reductions associated with the improvements is the key innovation in our solution and will help generate significant revenue for the bond issuers. To verify the green status of the bonds, we expect to engage with the Climate Bond Initiative (CBI), whose Climate Bond Standards Advisory Board is currently developing criteria for the “waste” sector. These SWEEP-compliant carbon offset bonds are a new asset class in the green municipal bond market. Currently, there is little evidence that self-designated green bonds enjoy reduced funding costs. As the market matures and investors become more sophisticated, we expect green bond projects to provide lower yields.

THE INSTRUMENT

We propose to issue green municipal revenue bonds issued by a municipally-owned special purpose vehicle to 1) fund upgrades of existing municipal waste management authority facilities and 2) improve local recycling infrastructure. The proposed par amount ranges between $25 – 50 million with a 10-year maturity featuring a 4% semi-annual coupon.

The obligation will be backed by gross revenue pledges from non-negotiable waste service charges (tipping fees) that can be adjusted annually to meet the obligation. The increased revenue would be generated from 1) carbon credit offsets, which would be sold to companies with carbon credit commitments, 2) increased recycled plastic commodities sales and 3) increased tipping fees that would be paid for by the waste-collecting agent. These terms are in line with current green municipal bonds issued by other waste management authorities. To further enhance creditworthiness, any shortfalls in the coupon due to volatility in carbon or commodities markets will be made up with increases in tipping fees. We also expect to have a reserve fund that will be filled using any excess revenues generated through the life of the bond, up to 2% of the face value.

INSTRUMENT DIAGRAM



TARGET INVESTORS

Based on similar revenue bonds issued by waste management authorities, we expect the bonds to achieve a credit rating of Moody's A1. Currently, large portfolio managers include waste green bonds in their tax-free muni portfolios along with other tax-exempt municipal bonds. We believe that these SWEEP-compliant carbon offset bonds provide attractive and stable returns (both in financial and non-financial terms) for pension funds, endowments, and other socially conscious institutional investors.

BOND CASHFLOW

Years	1	2	3	10
Total Increase in Net Revenues ($)	**6,847,610**	**6,988,796**	**7,134,712**	**8,305,618**
Tipping Fee Revenues ($)	3,883,600	3,961,272	4,040,497	4,641,261
Plastic Revenues ($)	1,693,720	1,693,720	1,693,720	1,693,720
Carbon Reduction Revenues ($)	1,270,290	1,333,804	1,400,494	1,970,636
Debt Obligation (4% Semi-annual Coupon) ($)	2,020,000	2,020,000	2,020,000	2,020,000
Total Net Revenues ($)	**75,439,102**			
Total Principal + Coupon ($)	**70,200,000**			

ANNUAL IMPACT

Increased Plastic Materials Recycling

- **500,000** tons of recycled material
- **5.6** thousand tons of recycled plastic
- Equivalent of **200** million plastic bottles

Carbon emission reductions

- **290** thousand tons of CO2 emissions
- Equivalent of **60** thousand cars

KEY ASSUMPTIONS

One of the key assumptions and innovations of this product is the creation of monetizable carbon offsets. The new and refurbished material recovery facilities will generate a meaningful reduction in CO2e that can be quantified, certified, and participate in the growing market for carbon offset credits. Since 2008, the market for voluntary offsets has exploded from 8.8 MtCO2e to more than 60 MtCO2e and is estimated to grow even more rapidly over the coming years. In addition to the private-sector-driven voluntary offset market, we expect that over the next decade, governments will begin to enforce more strict carbon emissions and carbon trading schemes. Should any of these schemes adopt a carbon price similar to the UN's Intergovernmental Panel on Climate Change's recommendations, the carbon offset returns would increase 10-fold.