



AGENDA

Environmental Policy Commission

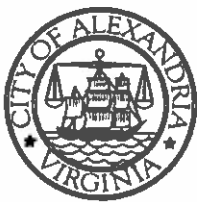
Monday, May 15, 2017

7:30–9:00 PM

City Hall, Conference Room 2000

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|--------------|--|
| 7:30 –7:50 | Welcome <ul style="list-style-type: none">• Review/Approve Minutes• Staff Report/ Updates• Commission/Meeting Updates<ul style="list-style-type: none">○ Alexandria Earth Day○ Transportation |
| 7:50 –8:20 | City Energy Report, Bill Eger, City Energy Manager, GS |
| 8:20--8:35 | Buying Green Energy in Residential Markets, Zach Axelrod, Arcadia Energy, VP of Energy Services |
| 8:35--8:55 | City Solid Waste Management/Resource Recovery Update, Michael Clem, Recycling Program Analyst, T&ES |
| 8:55 -- 9:00 | Agenda for Next meeting |
| 9:00 | Adjourn |





May 11, 2017

Honorable Mayor Allison Silberberg and Members of City Council
City Hall
301 King Street
Alexandria, VA 22314

Re: EPC Comments on the Old Town North and North Potomac Yard Small Area Plans

Dear Mayor Silberberg and Members of Council:

On behalf of the Environmental Policy Commission (EPC), I'm writing to share our comments on the proposed Small Area Plans for both Old Town North and North Potomac Yard. Given that these plans are being considered at the same time, I'm providing both sets of comments for efficiency and consistency.

First, let me applaud City staff for the significant work they have done engaging the community in drafting these two plans. The EPC recognizes how much time staff puts into community outreach and how seriously they take public input. Second, I'd like to acknowledge our support and appreciation for both plans' commitment to sustainability, which is very much in the spirit of our Eco-City Charter.

We also believe it is important to highlight the unique environmental context within which Council will consider these plans. While the Trump Administration has questioned the very existence of anthropogenic climate change, we in Alexandria understand and accept the scientific consensus. Much of the carbon emitted to date and in our lifetime will remain in the atmosphere for tens to hundreds of thousands of years.¹ Thus, the next few decades offer a brief window of opportunity to minimize potentially catastrophic climate change. We have a responsibility to ensure that City policy, as reflected in these two small area plans, publicly reaffirms our commitment to addressing this global challenge in our community.

I have focused this letter on the few places where we believe the plans require additional specificity and clarification to align more closely with the City's sustainability and climate goals, to take account of new technological trends and policy developments, and to provide greater consistency.

To that end, we offer the following recommendations:

¹ Clark, P. U., Shakun, J. D., Marcott, S. A., Mix, A. C., Eby, M., Kulp, S., ... & Schrag, D. P. (2016). Consequences of twenty-first-century policy for multi-millennial climate and sea-level change. *Nature Climate Change*.

1. Green Building:

Old Town North & North Potomac Yard: Both draft plans currently recommend, “*Explore a minimum of LEED Silver or comparable, or the City’s Green Building standards and requirements, whichever is greater. In addition, new buildings will comply with the EAP, as implemented through City policies. Energy consumption/utilization and stormwater should be prioritized in the certification for the buildings.*”

Commentary: Since the current EAP sets a target that by 2020 all new buildings will achieve LEED Gold standards, and by 2025 all new buildings will achieve LEED Platinum, both plans should set a more ambitious goal than LEED Silver. While the EPC expects that the City’s Green Building policy will be updated no later than the end of FY2019, including a more ambitious goal in these SAPs will signal to the development community the direction that the City intends to take the revised policy.² Further, City Council and staff agreed in June of 2015 that the Old Town North SAP specifically would be used to demonstrate new green building policies, but the current draft does not reflect that prior agreement. As we have recommended in the past and staff has committed to pursuing, we believe that the City should require developers to meet a minimum set of points towards their LEED certifications since emission reduction and stormwater reduction remain City priorities.³ We also believe that both plans present the City with opportunities to pilot new approaches to Green Building, including Passive House and Net Zero buildings that are not currently contemplated in either plan, but will be required if the City is to achieve its stated carbon reduction goals.

There are new opportunities available to the City to make both plan areas attractive to developers who are interested in pursuing green building and potential tenants who are interesting in occupying such buildings. Governor McAuliffe recently signed into law a bill, HB 1565, which authorizes the City to establish green development zones that would provide developers, tenants, and green businesses incentives to build and/or occupy green buildings.

Recommendations:

1a. Recognizing that the City’s Green Building Policy will be updated no later than FY2019, but that some development proposals may be submitted by developers before it is finalized, set a minimum of LEED Gold or comparable for all developments, or the City’s green building standards and requirements, whichever is greater.

1b. Specify that a minimum number of points from the “Energy and Atmosphere” and “Water Efficiency” categories will be required for buildings to meet the City’s Green Building certification requirements.

1c. Offer additional floor area to developers or other incentives, such as those authorized by HB 1565, that pilot Passive House certified buildings or Net Zero Energy Buildings as certified by the Living Future Institute.

² See Memo from Karl Moritz to the Planning Commission on the Long Range Interdepartmental Work Program dated May 2, 2017. http://legistar.granicus.com/alexandria/meetings/2017/5/1706_A_Planning_Commission_17-05-02_Docket.pdf

³ See Descriptions of the FY 2016 Interdepartmental Long Range Planning Work Program Projects: <https://alexandria.legistar.com/LegislationDetail.aspx?ID=2358003&GUID=4624A978-B410-49F7-873D-E8AA83635A7E>

2. Carbon Reduction & Alternative Energy

Old Town North: The current draft recommends that the power plant site *"should strive to achieve carbon neutrality by 2040."*

The draft recommends that the plan, *"Encourage the use of alternative energy sources including but not limited to solar and wind power throughout the Plan area."*

The draft has an objective for the power plant site of, *"Emphasizing renewable district energy including, solar, ground source heat pumps, Microgrids, and battery storage."*

North Potomac Yard: The current draft recommends that *"North Potomac Yard should strive to achieve carbon neutrality by 2040."*

The draft recommends that the plan, *"Encourage the use of alternative energy sources including but not limited to solar and wind power throughout the Plan area."*

Commentary: Both plans should reiterate the City's stated commitment in the Environmental Action Plan and the City's Energy and Climate Plan, both of which set a goal for all new buildings to be carbon neutral by 2030, not 2040. The language in the OTN SAP only applies to the power plant site, but should apply to all new buildings in the district. Further, the current language in the draft SAPs is unclear and could be construed to suggest that both areas should be completely carbon neutral by 2040. While a goal of achieving carbon neutrality by 2040 for an entire area of the City is commendable, it would require radical technological changes outside of the City's control or influence. Excluding emissions from transportation, for example, we could achieve such a goal if Dominion's electricity were to become 100% carbon neutral and then also fully displaced local natural gas service. While we should strive to reduce emissions across the City, the goal of carbon neutrality should be focused initially on new buildings over which the City has more direct influence.

Both plans encourage alternative energy, but do so inconsistently and omit key local resources. There are local renewable sources that the City should work with developers to pursue, including geothermal energy, sewer heat, and waste heat from buildings. These can each be used as components in a district energy system or in some cases, like geothermal, can be used in a single building (e.g. Minnie Howard has a geothermal system). While the OTN SAP contemplates district energy in the power plant site, the NPY SAP is silent on district energy, which is likely the deepest source of potential emission reduction in the area. Developers should also be encouraged to explore solar PV and battery storage for onsite electricity production and consumption. While referenced, wind power is not meaningfully available on a local level.

Recommendations:

2a: Set a goal in both SAPs that all new buildings built in or after 2030 will be carbon neutral. Do not limit the goal in Old Town North only to the power plant site.

2b: Explore the development of district energy systems for heating and cooling that take advantage of local renewable energy sources, including but not limited to geothermal energy, sewage heat, anaerobic digestion, and waste heat from buildings.

2c: Encourage onsite generation and storage of renewable electricity from solar PV and other available renewable resources.

3. Transportation: Autonomous Vehicles, Electric Vehicles, and Vision Zero

Commentary: There is no mention in either SAP of Autonomous Vehicles (AVs) and the future role they may play, and only a short reference to electric vehicle (EV) charging. If the City is going to truly focus on reducing emissions, it will have to get serious about reducing transportation related emissions. The Metro station and additional bus capacity will be very helpful in that regard. But we should also take account of the emergence of AV and EV technologies, including how to support the future electrification of our DASH bus fleet. Further, the SAPs are silent on the City's Vision Zero goals, which should be reaffirmed.

Recommendations:

3a. Provide clear plans for incorporating both AV and EV technologies, including charging infrastructure, into development plans, and assess their potential for reducing emissions as well as parking requirements within the area.

3b. References be added to the City's Vision Zero goals in both SAPs.

Thank you for your consideration of these recommendations, and for your continued leadership and steadfast commitment to building a sustainable Alexandria.

Sincerely,



Jim Kapsis
Chair
Alexandria Environmental Policy Commission

Arcadia Power



Changing the way America consumes energy

THE UTILITY OF THE FUTURE



Software and billing is the key to fixing the utility-customer relationship, and an essential component of building the utility of the future

- ① Software for billing, data, and direct customer communication
- ② Bundle energy and non-commodity products
- ③ Build a brand and experience customers love

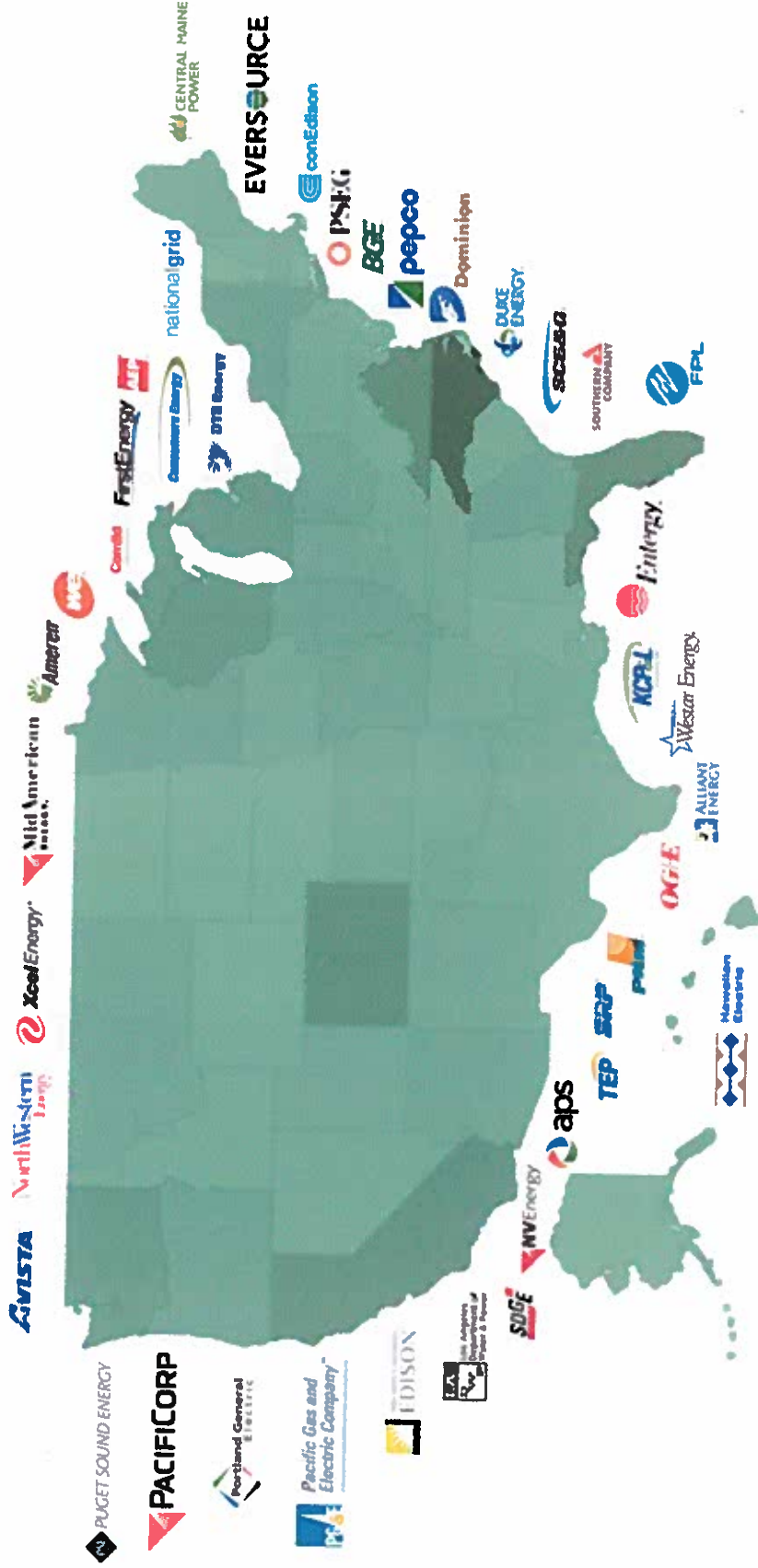
≡ **Utility of the future**



OUR TECHNOLOGY



Arcadia's software platform manages the utility customer billing & data relationship in over 100 utilities across all 50 states



PLATFORM

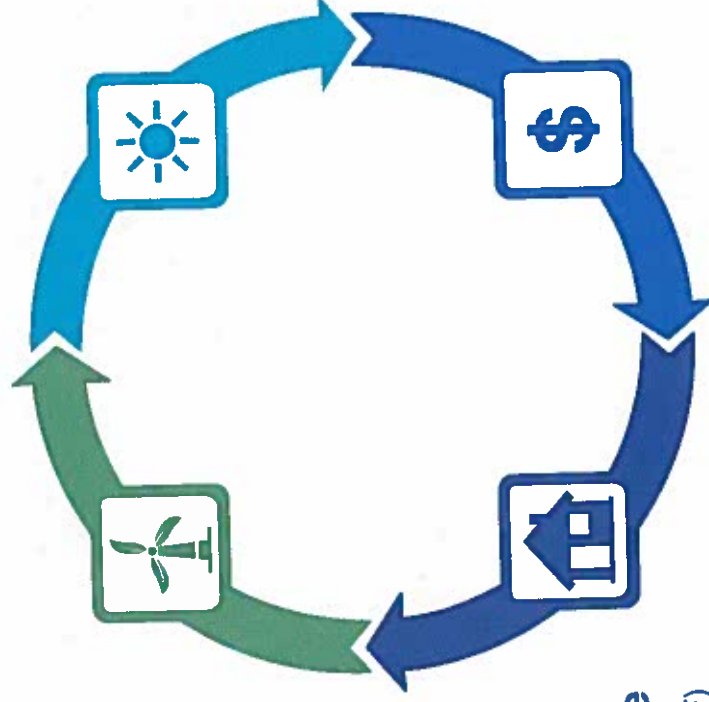
This allows us to offer a full suite of energy products and services to customers in both regulated and deregulated states

Clean Energy

- Wind Energy (RECs)
- Clean Gas (Offsets)

Solar Savings

- Arcadia Portable Panel™
- Utility / Developer Community Solar
- Rooftop Solar



Energy-as-a-Service

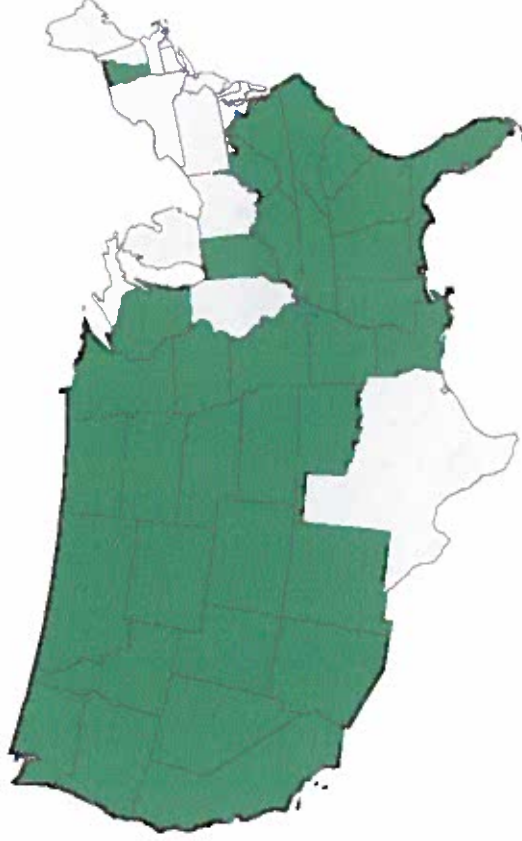
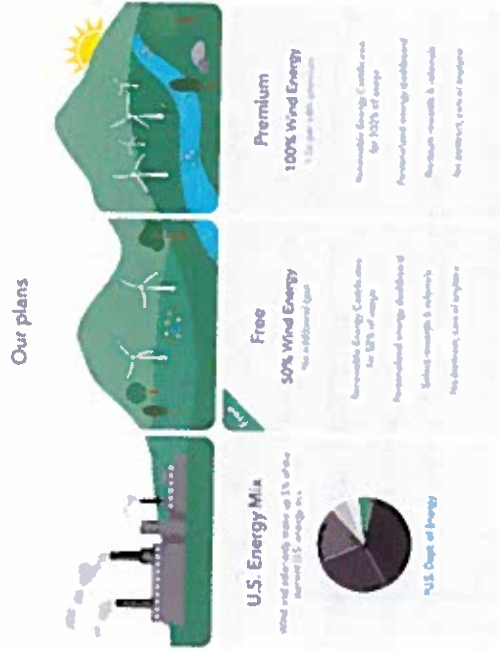
- On bill financing (OBF)
- Demand response
- Flat / Budget Billing
- Powerwall Home Batteries

Brokering

- Electricity Supply
- Gas Supply

*Products in **BOLD** are live in market, other products slated for 2017

Wind Energy: We have customers in all 50 states who purchase Renewable Certificates to match their local utility bill



Our Wind energy is 2016 Green-E wind certified and purchased from 8 different wind farms. Similar to utility green power programs, we match RECs to a customers local energy use down to the kWh

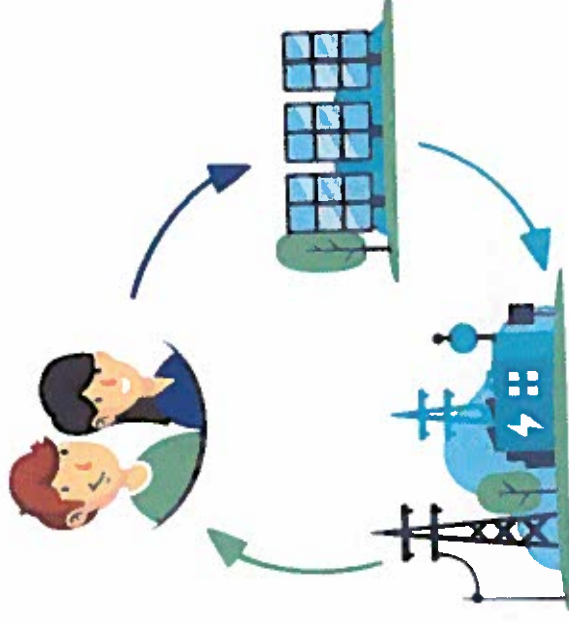
Regulated states without electricity choice or green power options

Deregulated states, hundreds of retail energy suppliers offer clean energy options



PRODUCTS: PORTABLE PANEL

We recently launched the Portable Panel bringing **community solar savings to customers in all 50 states**



Highlights

- 1st and only nationwide community solar program
- Subscriptions are low cost, modular, and savings follow customers if they move
- Launched in Nov 2016
- 67kW (\$170k) in initial capacity sold out to customers across 35 states
- Average purchase \$600 with 25% upfront margin,
- 20 year customer contract
- Can be deployed for a utility with just a single solar project

"If you rent, move a lot, or live in a state where solar isn't easy, Arcadia Power can still get you the benefits."

"A game changer for the renewable energy movement"

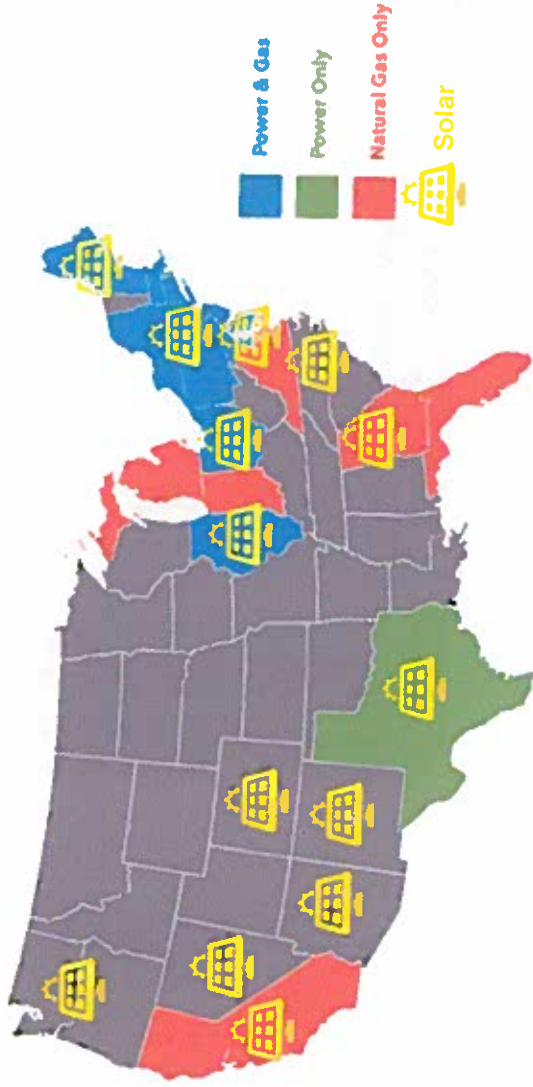
"This model tosses out the conventional wisdom on shared solar policy and replaces it with a technological fix"

FAST COMPANY



greentechmedia:

What's Next?: Seamlessly find customers cheaper energy plans in deregulated states; and rooftop and community solar markets

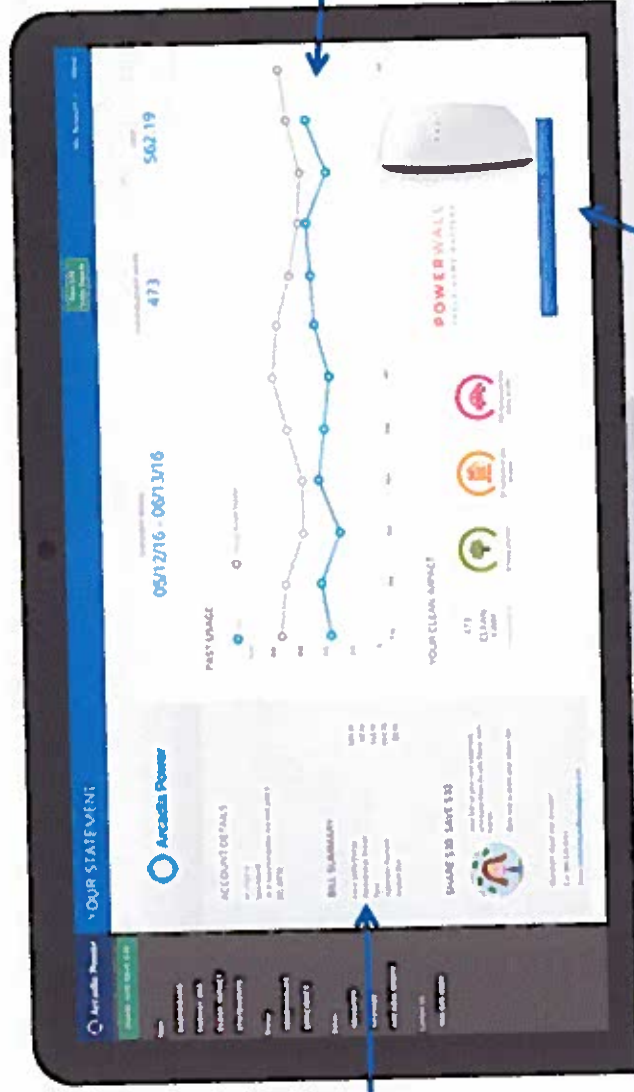


- Broker algorithm can always find cheapest energy plan on market in competitive electricity states
- \$55 – 65 net margin upfront per customer
- Recently hired the founder of Nextility to build brokerage in-house. Launching in May '17
- Provides new angle for customer acquisition leading with savings



PRODUCTS: ENERGY as a SERVICE (EaaS)

Energy-as-a-Service: on-bill financing, flat billing, budget billing, pay later - all directly through the customers monthly utility bill



Layer any finance or service charge directly onto the monthly power statement

Advanced product specific analytics to prove customer value and savings

Product details and outstanding payments until purchase.

Resource Recovery Division: Update to the EPC

May 15, 2017

Michael Clem

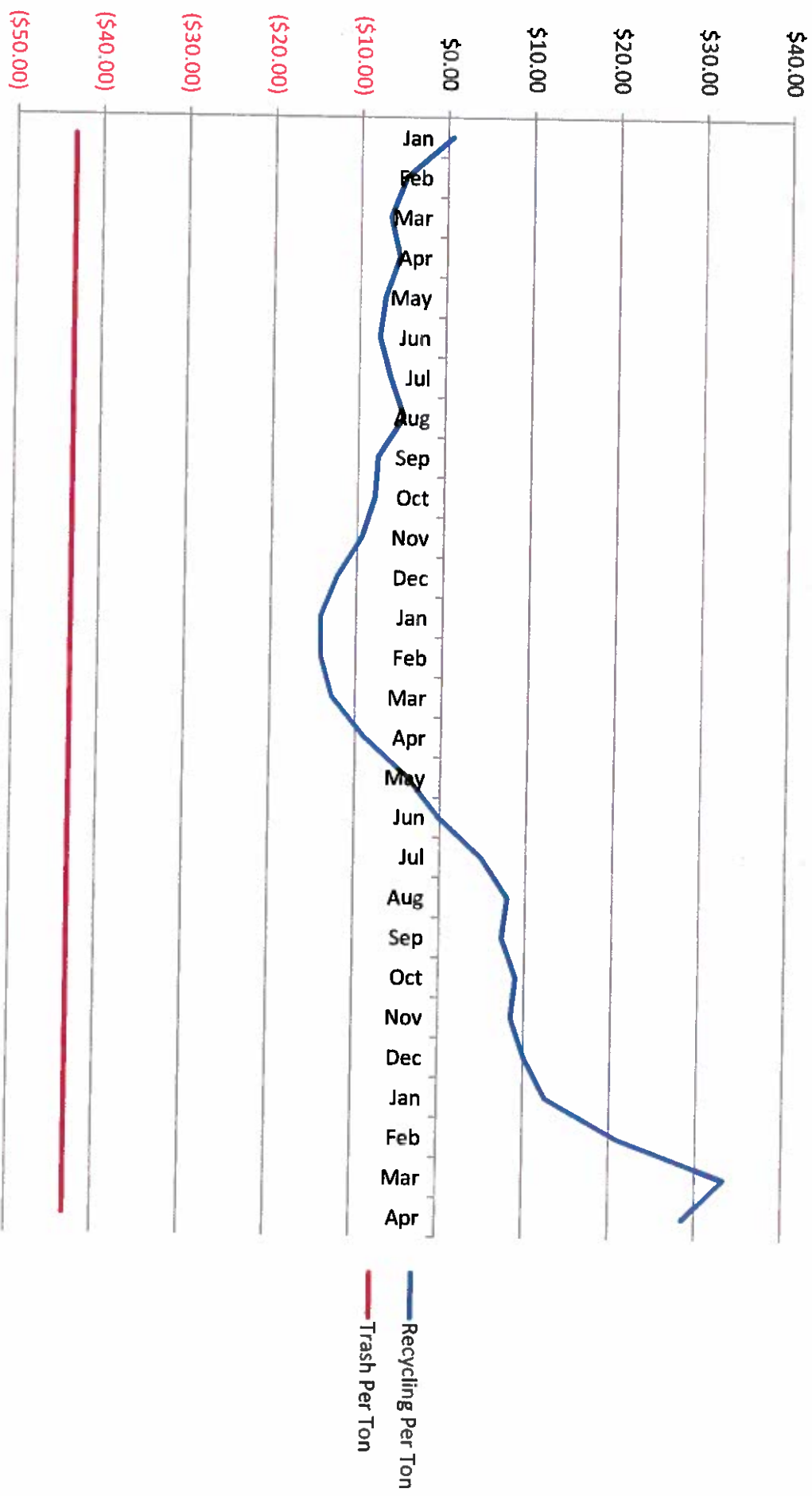
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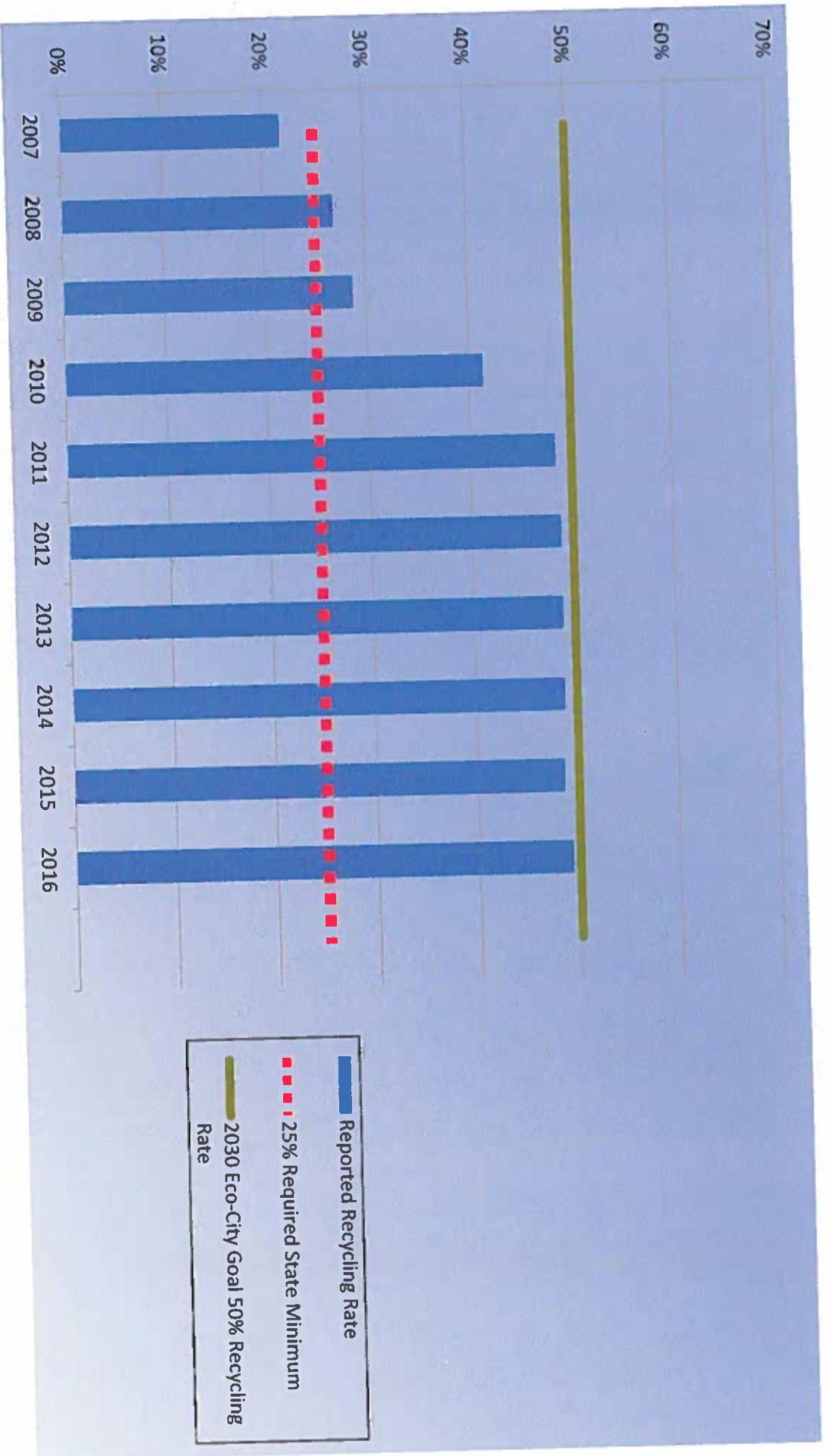
Update Items

- Revenue from the sale of recyclables turns positive.
- City achieves highest recycling rate ever recorded.
- Total amount of trash goes up.
- Residential Refuse Fee increases \$10 to \$373.
- Food waste recovery still in 'go slow' mode.
- Strategic Planning: Making decisions based on data.
- EPC Plays Critical Role

Sale of Recyclables : Recovery of the Market



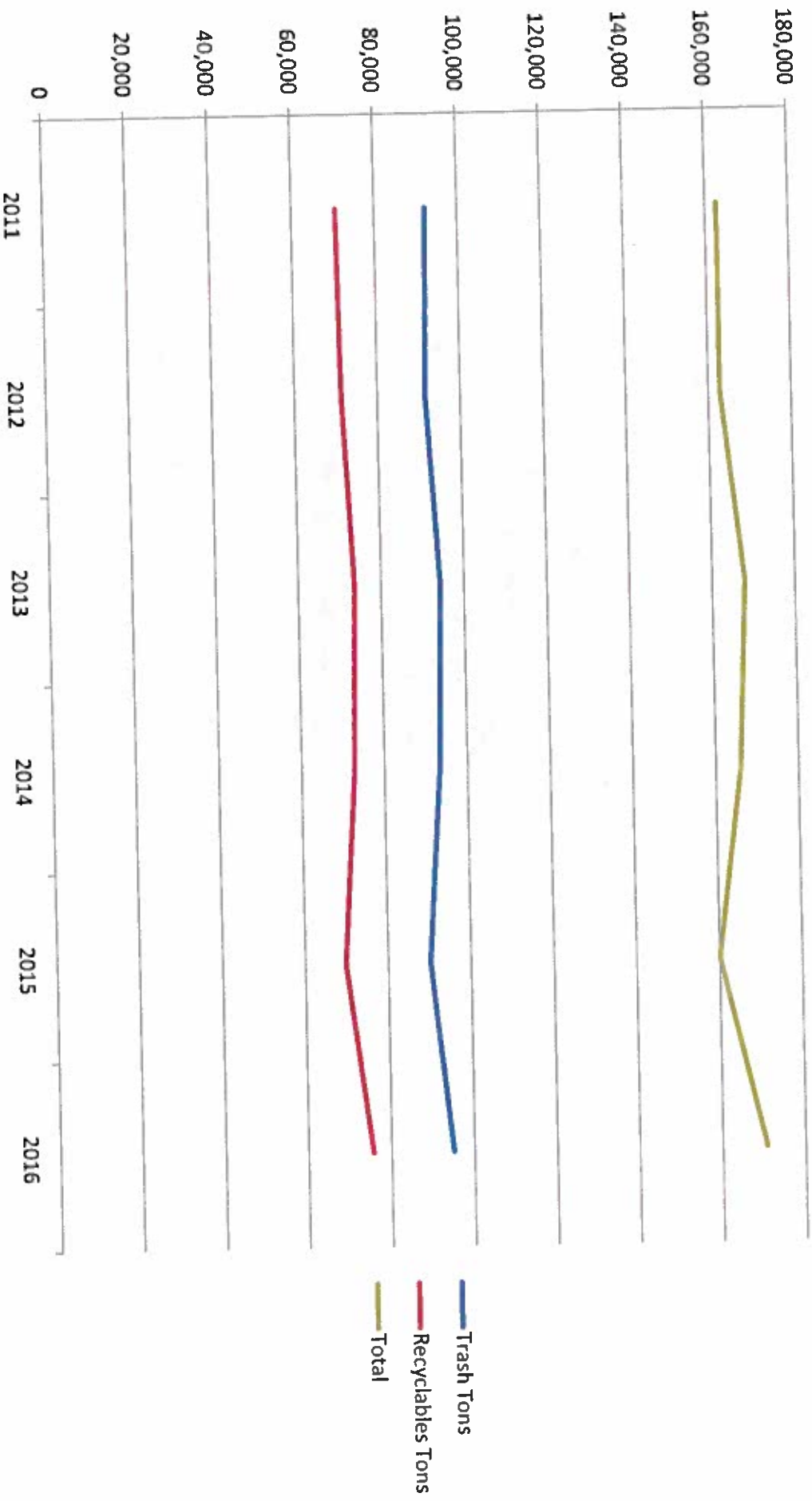
City-Wide Recycling Rate: 10 Year Comparison



2015 Recycling Rate Comparison

Jurisdiction	2015
Alexandria	48.6
Arlington	44.5
Fairfax City	59.3
Fairfax Co	49.6
Falls Church	68.3
Fauquier Co	40.3
Herndon	44.4
Loudon Co	44.5
Manassas	44.8
Prince William Co	33.7
Virginia	44.2

Ratio of Trash to Recyclables: 2010 - 2016



Solid Waste Fee Comparison

Jurisdiction	Fee	Includes Leaf – vacuuming and Household Hazardous Waste Collection	Fee when billed monthly
City of Alexandria	\$373	X	\$31
Arlington County	\$314		\$26
Fairfax County	\$345		\$29
Montgomery County, MD	\$373.10	X	\$31
Seattle, WA	\$946		\$79
Portland, OR	\$420		\$35

Quick Comparison: City of Seattle

Monthly Residential Garbage Can Rates

Service Level (weekly)	Curb or Alley (per month)	
	2016	effective April 1, 2017
micro-can (12 gallon) <u>View can, size and weight limit</u>	\$21.30	\$22.85
mini-can (20 gallon) <u>View can, size and weight limit</u>	\$26.10	\$28.00
32-gallon can <u>View can, size and weight limit</u>	\$34.00	\$36.45
64-gallon cart <u>View cart, size and weight limit</u>	\$68.00	\$72.90
96-gallon cart <u>View cart, size and weight limit</u>	\$102.00	\$109.35
extra garbage (per bundle) 4' x 2' x 2' 60 lbs.	\$10.60	\$11.35

Rates - Food and Yard Waste Cart

Monthly residential food and yard waste cart rates

Service Level (weekly)	Curb or Alley (per month)		Weight Limit
	2016	effective April 1, 2017	
13-gallon (mini-can)	\$5.65	\$6.05	20 pounds
32-gallon	\$8.50	\$9.10	60 pounds
96-gallon	\$10.85	\$11.65	180 pounds
extra yard waste (per bundle)	\$5.40	\$5.80	60 pounds

Comparison: City of Portland, Oregon

RATES FOR SINGLE FAMILY HOUSES

(see below for Rates for Smallplexes (2-4 Units))

Standard service – includes weekly recycling, weekly composting and every-other-week garbage collection

Container Size	Weight Limit	Monthly Cost	Non-curb Surcharge	Excess Distance
20 gallon can*	35 pounds	\$24.50	\$1.70	\$0.55
32 gallon can*	55 pounds	\$28.50	\$1.70	\$0.55
20 gallon roll cart	60 pounds	\$24.50		
35 gallon roll cart	85 pounds	\$29.15		
60 gallon roll cart	135 pounds	\$35.00		
90 gallon roll cart	175 pounds	\$41.50		

Every-four-weeks service – includes weekly collection of composting and recycling, and every-four-weeks garbage collection

Container Size	Weight Limit	Monthly Cost	Non-curb Surcharge	Excess Distance
32 gallon can*	55 pounds	\$21.60	\$0.85	\$0.30
35 gallon roll cart	85 pounds	\$21.60		

Update: Recovering Food Waste for Composting

Programs on hold until processing facilities become available.

- Balls Ford Road, Prince William, VA facility scheduled to break ground in the next few months.
 - Approximately a year to construct (may accept yard waste mixed with food waste)
 - Phase 2: construction of an anaerobic digester (2+ years out)
- Western Branch Composting Facility, Prince Georges, MD
 - Currently has a small 'proof of concept' facility
 - Current Prince Georges budget contains funds for expanding and relocating the operation.
 - Still no word if they will accept yard waste mixed with food waste
- Alexandria does not have access to a transfer facility to consolidate and transfer material from local collection vehicles to 'long-haul' vehicles.

Update: Strategic Planning - 7 Tasks for Consultant

- Evaluate the efficiency and effectiveness of current operations.
- Conduct a benchmarking review against comparable communities and evaluate costs for current and recommended scenarios.
- Evaluate the feasibility of privatization of collection services.
- Evaluate the Resource Recovery Division for new revenue opportunities and marketing strategies.
- Evaluate the current and future state of recycling practices:
- Evaluate environmental impacts and benefits of existing and proposed programs (i.e. residential food waste collection combined with yard waste).
- Evaluate potential alternative disposal methods to WTE.

Critical Role for the EPC

- Strategic Report will contain evaluation of alternatives
- Report will not contain the 'injection' of values necessary for prioritizing the various alternatives.
- Request for EPC to provide the initial injection of values prior to distribution of the report (see the environmental 'big picture' not just solid waste).
- EPC will need to 'weigh in' on Smart Waste vs Zero Waste.