

A Brief Introduction...

- BA Politics & Gov't, University of Hartford, Cum Laude '05
- MPA Public Administration, College at Brockport '17
- Been with City of Canandaigua since June 2017
 - Hired as Assistant City Manager November 2017
 - Appointed Climate Smart Coordinator November 2018
- Member of the College at Brockport MPA Advisory Board

In addition...

- Coach no... (sent)
- Harley...
- Cananda...
- Most Imp...



Our Fair City...

- Ontario County Seat, Gateway to the Finger Lakes
- Established prior to European Settlement
- "The Chosen Spot"
- Population of roughly 11,000 in 4.59 sq. miles
- Known for it's natural, untouched beauty
- Historically Environmentally Conscious City
 - Clean Energy Community (CEC) November, 2017
 - Bronze Certified Climate Smart Community (CSC) April, 2019



Canandaigua Lake



Canandaigua Lake

- 4th Largest of the 11 Finger Lakes
- 15.5 miles long & 1.5 miles wide- 10,750 acre surface area
- Average depth of 128 feet- 276 feet at deepest point
- 429,000,000,000 US gallons
- Lifeblood of the Community
 - Drives Economy
 - Quality of Life for Residents
 - Drinking Water to 70,000 in 6 municipalities
- Driving force behind policy & decision making



Meeting Strategic Goals

- "environmental stewardship, utilization of alternative energy sources, and reducing environmental impact..."
- How are we doing this?
 - 3 Watershed Organizations
 - Environmental/Parks Committee
 - Complete Streets Policy & Active Transportation Plan
 - PathStone Agreement
 - 2 Certified Arborists on Staff
 - Tree Advisory Board
 - Toter Program
 - Composting Program
 - Climate Smart Canandaigua

Perhaps the Coolest thing we've done...







Solar Array- Background

- 1990's: City begins leasing its solid waste transfer station, a former landfill, to a third-party to handle operations
 - Agreement stated that, while the City still owned and permitted the facility, the vendor was responsible for maintaining operations and regulatory compliance
 - Permitted to handle municipal trash- vendor began accepting construction & demolition debris
 - Violated the clause in the lease agreement requiring regulatory compliance, leading to the New York State Department of Environmental Conservation (NYSDEC) issuing the City multiple citations
 - City terminated lease as a result, executed an inter-municipal agreement to share the Town of Canandaigua's transfer station.
- Resolving these issues presented City with another problem

Solar Array- Background

- December 2014- City now has a 10.5 acre parcel available for sale
 - Now vacant transfer station was a known waste disposal location
 - Despite prime location and room to expand, developers are not interested in purchasing or leasing the land because of limited options for development
 - Concerns over additional contamination by 3rd Party Operator
 - Prevented the parcel from being excavated and rebuilt for another purpose
 - Any future use of the land would require surface mounted equipment
 - Parcel considered unusable by the vast majority of residents, developers, & investors
- After speaking with engineering firms, the opportunity to adaptively repurpose a known dumpsite into a solar array generating renewable energy
 - Not only did the City find an extremely high-level use for the parcel, it found a way to build out and implement the \$7 million-dollar project without spending any City money or disrupting service delivery to residents.

Solar Array- Process & Partnerships

- Partnered with an investor group including New Energy Equity from Maryland (NEE), RER Energy Group from Pennsylvania (RER), & AEP Onsite from Ohio.
- City already owned the land, eliminating need for property acquisition
 - To increase the benefits of the project, the City leased the adjacent 10-acre parcel from a third party & subleased it to the investors
 - Allowed for a larger system while covering the leasing costs of the additional space
- NEE & RER led the initiative by coordinating the efforts of all parties involved & administering the endeavor
 - Accessed grant funds & tax credits not available to municipalities to cover costs, and helped the City work with Rochester Gas & Electric (RG&E) and the New York State Energy and Research Development Authority (NYSERDA) to complete the project
- Concerns over excavation & site development were mitigated by solar panels design
 - Foundations that anchor the panels to the ground and keep them in place are ground mounted, meaning no excavation was required.





Solar Array- Process & Partnerships

- Entered into a Power Purchase Agreement (PPA)
 - Procure electricity from the large-scale, ground-mounted solar array for the next 25 years, typically at a lower cost than RG&E offers
- City still owns the land & benefits from the solar array through Net Metering
 - Earn credits on future energy bills for the excess electricity their systems generate
 - Credits can be used later when City needs power from the local utility
 - Credits reimbursed at a higher rate than paid by the City, arbitrage results in savings
 - Estimated savings of \$3,500,000 over 25 year agreement
- Actual equipment is owned & operated by the third partner, AEP Onsite
 - Responsible for all operating & maintenance costs of the equipment for duration of PPA
 - Alleviates the City of any responsibility or cost of facility maintenance
- When agreement expires in 2040, the City can either:
 - Renew the agreement and continue the program
 - Purchase the equipment outright & assume operations
 - Have the entire system removed from the site at no cost to the City

Solar Array- Outcomes

- January 1, 2017: 20.5 Solar Array goes online
 - 13,200 solar modules & 89 solar invertors capable of producing an estimated 5,332,000 (kWh) annually
 - Enough energy to power 578 homes for an entire year
 - Equivalent to the yearly greenhouse gas emissions of 824 passenger vehicles
- kWh generated annually translates into 94% of all energy used by City facilities
 - 82% of energy consumed annually through municipal operations (facilities & streetlights)
- All 7 City Facilities (City Hall, PD, DPW, 2 Fire Stations, WTP & WWTP) run on solar power
 - Allows the City to realize its goal of leading by example in the utilization of alternative energy sources.
 - Created a level of sustainability & environmental responsibility other municipalities can replicate
- In it's first year, the Solar Array cut greenhouse gas emissions for municipal operations by 80%



Solar Array- Challenges

- Working with RG&E has been challenging
 - Coordination of Issuing Credits
 - City was one of the first municipalities to attempt a project of this scale
 - administrative hurdles regarding system compatibility & function that still being overcome to ensure credits are properly administered
 - Billing
 - Refuses to aggregate information into one bill
 - As a result, the City receives over 100 statements from RG&E
 - Makes tracking credits and usage extremely difficult
 - Continuation of Benchmarking & Publishing results exceptionally cumbersome
 - Estimated Savings Less than Anticipated
 - Electric is a commodity- as the price fluctuates so does the arbitrage
 - In spite of this, we're still a "greener" operation

An Array of Opportunity

- City met with David Zorn in Summer 2017 to discuss the Clean Energy Communities (CEC) Program
 - Grant Awards of \$50,000 still available
 - City had already completed, or was in the process of completing, several of the High Impact Action Items
 - Solar Array in place, but impact had not been quantified- CEC Benchmarking provided the opportunity
 - On November 1, 2017 the City was designated as a Clean Energy Community
- Pursuing CEC Designation guided some important decisions
 - Continue Completing CEC High Impact Action Items
 - CEC success led to pursue Climate Smart Communities Certification

Are Clean Energy Communities and Climate Smart Communities Related?

- Climate Smart Communities**
- Comprehensive climate program
 - 138 unique actions
 - Accumulate points toward certification
- Clean Energy Communities**
- Focused on clean energy
 - 10 High-Impact Actions
 - Complete 4 Actions to be designated and access grant funding
- CEC High-Impact Actions correspond with CSC Certification



Low Hanging Fruit

- Actions that can be taken with minimal or no cost:
 - Code Enforcement Training
 - Train compliance officers in energy code best practices
 - Cost: Minimal- price for training x number attending
 - Unified Solar Permit
 - Streamline the approvals process for Solar
 - 4 permits have been handed out since adopted in 2017
 - Cost: Free
 - EV Stations
 - Installed EV station downtown for public use
 - Cost: Free through available Grant Funding



C-PACE Financing

- Property Assessed Clean Energy (PACE) financing is a public benefit authorized by state and local law, with repayment secured through a benefit assessment lien on the improved property.
- Channels private capital to commercial & non-profit building owners to make energy upgrades to their buildings, enabling them to improve their properties, lower operating expenses & positively impact their communities.
- Paves the way for higher levels of energy efficiency or renewable energy to be included as part of a building's redevelopment or rehabilitation – potentially pivotal element to move a project forward.
- Available to any New York State municipality with tax lien authority



C-PACE Financing

- Energize NY Open C-PACE differs from traditional bank loans:
 - Financing is available for up to 100% of the project cost, or can be combined with other financing
 - Competitive private financing from EIC-approved capital providers
 - Customizable loan terms up to the expected life of the improvement(s) (generally 20-30 years)
 - Benefit assessment lien is subordinate to municipal taxes and senior to other liens (consent from mortgage holder is required)
 - Automatically transfers to new owner upon sale of property
 - Available for energy efficiency and renewable energy measures

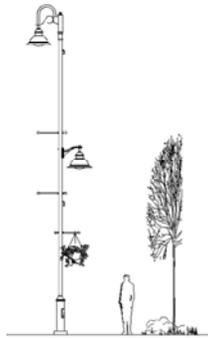


Enabling C-PACE Financing

- Pass a local law and sign an EIC municipal agreement to offer Energize NY Open C-PACE. EIC provides template documents
 - No fees to join
 - No financial exposure for the municipality
 - No responsibility for program administration
- Energy Improvement Corporation (EIC), a non-profit, statewide local development corporation, administers Energize NY Open C-PACE on behalf of its member municipalities.
 - EIC records the lien on the land record.
 - EIC bills the property owner directly and administers collection of the payment.
 - Capital provider enforces the lien only after paying any delinquent municipal taxes owed by the property owner
- Once Open C-PACE is enabled, the member municipality provides the public benefit of PACE while EIC administers the program.

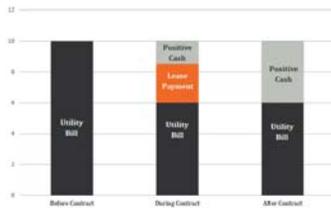
LED Street Light Conversion

- City was paying roughly \$260,000 annually for electric and RG&E Maintenance
- 2015: Change in NYS Law allows municipalities to purchase & convert street lights to LED technology
- 2017 City recognizes opportunity to convert street lights to LED and signs Performance Contract with SmartWatt



Performance Contract

- A financing mechanism allowing municipalities to make building improvements that reduce energy & water use, and increase operational efficiency.
- Achieve modernization of infrastructures, budget reduction, efficiency, and sustainability goals without the need for upfront capital
- Budget-neutral as project costs are paid for by the guaranteed energy savings realized from the energy optimization projects
- Can be used to optimize HVAC, interior lighting, street lighting, building automation systems, mechanical systems, building envelope, solar PV



Conversion Process

- City put out an RFP for project- chose SmartWatt from five respondents
- Performed full GIS inventory of all fixtures & poles to determine scope
 - Full ASHRAE Level 3 audits on municipal buildings to identify efficiency projects possible with savings
- Inform the utility in writing that your municipality is interested in purchasing the system, and request an estimated purchase price.
 - The utility has 90 days to respond with an estimate.
- After considering the estimate, let the utility know that you want to move forward.
- The utility will send the municipality a draft agreement for the purchase and operation of the street lights, and the negotiation process begins.
- Once a mutually acceptable agreement is reached and signed by the parties, the utility has up to 60 days to file the signed agreement with the PSC for review and approval.
 - The Commission approval process can take anywhere from three to six months.
- After PSC approval, the municipality moves to electricity delivery-only service & ceases to pay monthly fixture charges

Results

- 1,089 Cobra Head Fixtures
- 34 decorative poles
- 26 BID District poles
- 9 wall mounted fixtures Downtown
- Annual Electricity Savings = 526,125 kWh
- Annual Utility Savings = \$31,157
- Total Annual Cost Savings = \$224,321
- \$50,000 CEC Grant used to offset cost



With those savings...

- Fire Station #1
 - Interior & Exterior Lighting Upgrades
 - Boiler Replacement
 - HVAC Replacement
 - Remote Terminal Unit (RTU) Replacement
 - Digital Controls Replacement
 - Building Envelope Weatherization
- City Hall
 - Interior & Exterior Lighting Upgrades
 - Building Envelope Weatherization
- Police Station
 - Interior & Exterior Lighting Upgrades
 - Building Envelope Weatherization
 - Window Seal Replacement





So... what's next???

Municipal Waste Reduction Campaign

- Impact Earth does Municipal Solid Waste Audit
 - Assessed waste on a "single, random day"
 - All 7 buildings evaluated between 8/28, 8/29, & 9/18
 - Found City is achieving a 36% diversion
 - 60% of all waste produced is brought in by employees
- Next Steps:
 - CSC Task Force tasked with reducing waste produced by municipal operations
 - Planning events & educational campaign for Staff
 - Evaluate practices in all 7 buildings to identify areas for improvement
 - Implement Impact Earth Recommendations to reduce waste
 - Achieve 60% landfill diversion rate by 2021



More Sustainable Main Street

- Purchasing new waste bins downtown with separate, clearly labeled spots for trash & recycling
 - In 2014, Ontario County adopts Local Solid Waste Management Plan (LSWMP)
 - Increase waste reduction & diversion in the County to (60%) by 2024
 - Make high turnover events in Geneva & Canandaigua more sustainable
 - Educational information will be adhered to receptacles
- CSC Approved Businesses
 - Working with BID to create standards for businesses downtown
 - What those will be is still under discussion
 - Program meant to be achievable, meaningful & impactful
- Composting for Downtown Businesses
 - Working w/ BID & City Staff to identify best solution



Community Choice Aggregation

- Municipal model for procuring energy that replaces the utility as the default supplier of electricity and/or natural gas within a jurisdiction
- Negotiate a fixed-rate, potentially lower pricing with private suppliers
- 100% Renewable Sources reduce GHG Emissions
- City adopted enabling legislation November 7, 2019



Residential Solar Campaign

- Early stages of process
- Exploring potential partnerships
- Unified Solar Permit in Place
- CSC Community Outreach in 2020, including Green Vendor Fair
- 2 CSC Members piloting process for Residential Solar as we speak



Pursuit of CSC Silver Certification

- April 23, 2019: Bronze Certified CSC
- “Stumbled” into achievement
- CSC Grant Application to complete:
 - Government GHG Inventory
 - Community GHG Inventory
 - Natural Resources Inventory
 - Climate Vulnerability Assessment
 - Impact Earth Ready & Waiting
- Data from these assessments will be used to guide further actions



In Conclusion...

- Regardless of available grant funding, resources, or recognition, any community can take steps towards sustainability
- Be creative, seek partnerships, & think outside the box
- Community buy-in requires resident engagement
- Programs like CEC & CSC provide excellent framework... but aren't required to take action
- Walk the Talk

Questions?

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