The background of the slide is a textured, painterly illustration of mangrove roots submerged in water. The water is depicted in various shades of blue and green, with visible brushstrokes. The roots are brown and tangled, extending from the top and sides of the frame down into the water.

CITY OF KEY WEST ENERGY MANAGEMENT “DEEP DIVE”

SEPTEMBER 12, 2019

PRESENTATION BY JOHNNIE YONGUE P. E.

What does the energy manager do?

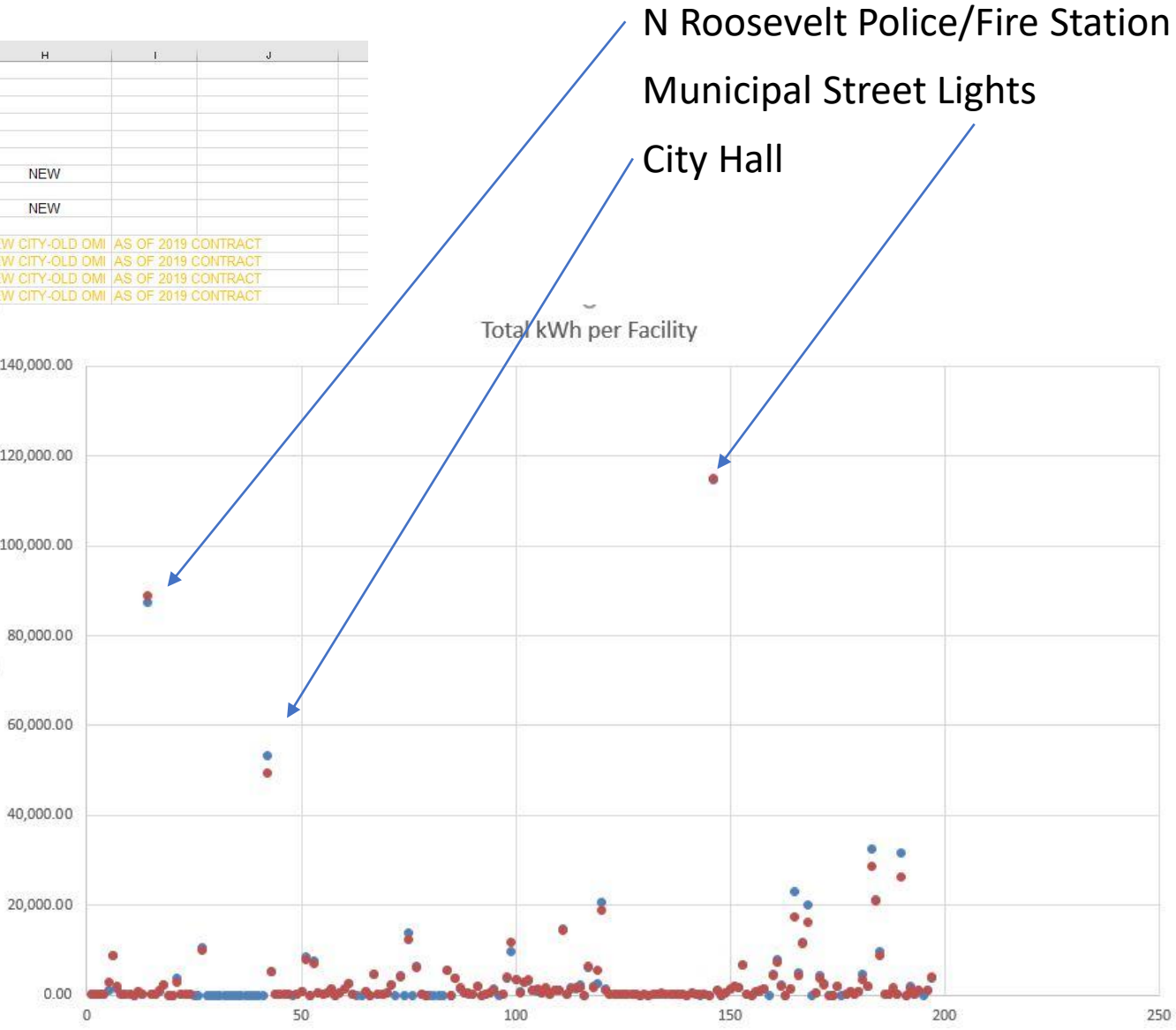
- The certified Energy Manager is an individual who optimizes the energy performance of a facility, building or industrial plant.



Past Objectives of the City Energy Manager

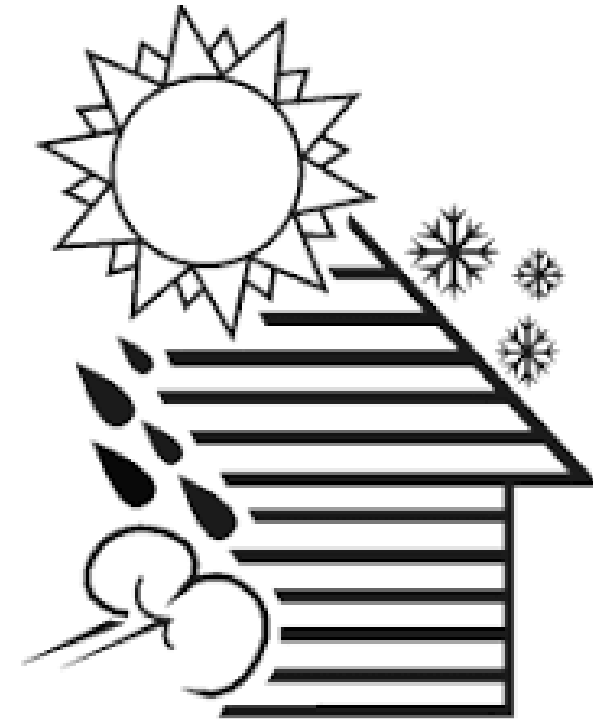
- Eliminate excess electrical meters that only accrue monthly base fees
- Eliminate unnecessary or failing street lights
- Identify peak demand charges
- Work with Energy utility to reclassify electrical systems for different properties such as athletic fields that impact the energy grid at low usage times.
- Identify power fluctuations in usage and identify causes
- Hurricane Irma Recovery tested facility resilience and alternate power usage, which resulted in the need for a preventative maintenance program for critical infrastructures backup generators and systems routine testing.

| | A | B | C | D | E | F | G | H | I | J |
|-----|----------------------------------|------------|------------|---|-----------|--------------------|--------------------|------------------|---------------------|---|
| 195 | 1801 N Roosevelt Blvd | 3204074-00 | 773.25 | | 5,840 | 413-7551-575.43-02 | 413-0000-104.00-00 | | | |
| 196 | 1801 Saifish Pier | 3202112-01 | 40.91 | | 98 | 413-7551-575.43-02 | 413-0000-104.00-00 | | | |
| 197 | 1801 N Roosevelt Blvd Wahoo | 3204096-00 | 2,807.52 | | 22,723 | 413-7551-575.43-02 | 413-0000-104.00-00 | | | |
| 198 | A Palm Ave | 3202110-10 | 33.98 | | 40 | 413-7551-575.43-02 | 413-0000-104.00-00 | | | |
| 199 | Garrison Bight | 3202100-01 | 228.49 | | 1,672 | 413-7551-575.43-02 | 413-0000-104.00-00 | | | |
| 200 | Garrison Bight | 3202105-01 | 35.55 | | 53 | 413-7551-575.43-02 | 413-0000-104.00-00 | | | |
| 201 | Garrison Bight Chart | 3202102-01 | 128.74 | | 835 | 413-7551-575.43-02 | 413-0000-104.00-00 | NEW | | |
| 202 | R Garrison Bight Tr | 3202104-10 | | | | 413-7551-575.43-02 | 413-0000-104.00-00 | | | |
| 203 | 1801 N Roosevelt Blvd Sign | 3204097-00 | 209.30 | | 1,511 | 413-7551-575.43-02 | 413-0000-104.00-00 | NEW | | |
| 204 | 811 Palm Ave | 3200020-00 | 624.78 | | 4,425 | 413-7554-575.43-02 | 413-0000-104.00-00 | | | |
| 205 | 5210 College Rd 2 | 7670002-00 | | | | 401-3504-535.43-02 | 401-0000-104.00-00 | NEW CITY-OLD OMI | AS OF 2019 CONTRACT | |
| 206 | 205 Amelia St LS A | 1030665-10 | 1,476.54 | | 11,600 | 401-3504-535.43-02 | 401-0000-104.00-00 | NEW CITY-OLD OMI | AS OF 2019 CONTRACT | |
| 207 | E Water Plant | 2100020-01 | 51,546.26 | | 444,150 | 401-3504-535.43-02 | 401-0000-104.00-00 | NEW CITY-OLD OMI | AS OF 2019 CONTRACT | |
| 208 | 613 Greene St LS B | 2100188-01 | 2,603.88 | | 17,000 | 401-3504-535.43-02 | 401-0000-104.00-00 | NEW CITY-OLD OMI | AS OF 2019 CONTRACT | |
| 209 | 1329 Seminary St LS D | 4361115-01 | 1,206.21 | | 7,040 | 401-3504-535.43-02 | 401-0000-104.00-00 | NI | | |
| 210 | 691 Palm Ave LS C | 3202117-01 | 966.39 | | 6,240 | 401-3504-535.43-02 | 401-0000-104.00-00 | NI | | |
| 211 | 1391 Atlantic Blvd D/A | 4321117-10 | 725.26 | | 5,200 | 401-3504-535.43-02 | 401-0000-104.00-00 | NI | | |
| 212 | 627 Palm Ave Maint | 3202118-01 | 186.19 | | 1,317 | 401-3504-535.43-02 | 401-0000-104.00-00 | NI | | |
| 213 | 99 Hilton Haven Rd LS S | 3207005-00 | 84.05 | | 460 | 401-3504-535.43-02 | 401-0000-104.00-00 | NI | | |
| 214 | 250 Trumbo Rd LS H | 2100173-01 | 79.65 | | 423 | 401-3504-535.43-02 | 401-0000-104.00-00 | NI | | |
| 215 | Virginia & Jose Marti | 4361001-00 | 29.35 | | 1 | 401-3504-535.43-02 | 401-0000-104.00-00 | NI | | |
| 216 | 3380 Donald Ave LS R | 5451813-00 | | | | 401-3504-535.43-02 | 401-0000-104.00-00 | NI | | |
| 217 | 2430 Government Rd LS E | 5483047-10 | | | | 401-3504-535.43-02 | 401-0000-104.00-00 | NI | | |
| 218 | 3545 Flagler Ave LS G | 5470181-00 | | | | 401-3504-535.43-02 | 401-0000-104.00-00 | NI | | |
| 219 | 1559 5th St | 5483539-00 | | | | 401-3504-535.43-02 | 401-0000-104.00-00 | NI | | |
| 220 | 2001 S Roosevelt Blvd LS N | 5485702-01 | | | | 401-3504-535.43-02 | 401-0000-104.00-00 | NI | | |
| 221 | 2700 Venetian Sr LS O | 5483048-01 | | | | 401-3504-535.43-02 | 401-0000-104.00-00 | NI | | |
| 222 | 3127 Flagler Ave LS F | 6561493-00 | 2,980.56 | | 17,440 | 401-3504-535.43-02 | 401-0000-104.00-00 | NI | | |
| 223 | 3900 S Roosevelt Blvd LS J | 5488539-01 | | | | 401-3504-535.43-02 | 401-0000-104.00-00 | NI | | |
| 224 | 3485 S Roosevelt Blvd LS K | 5488542-01 | | | | 401-3504-535.43-02 | 401-0000-104.00-00 | NI | | |
| 225 | 3557 S Roosevelt Blvd LS L | 5488541-01 | | | | 401-3504-535.43-02 | 401-0000-104.00-00 | NI | | |
| 226 | 3805 S Roosevelt Blvd LS M | 5488540-01 | | | | 401-3504-535.43-02 | 401-0000-104.00-00 | NI | | |
| 227 | Front & Simonton | 2072301-00 | | | | 402-3804-538.43-02 | 402-0000-104.00-00 | NI | | |
| 228 | 482 Wall St | 1063819-00 | | | | 402-3804-538.43-02 | 402-0000-104.00-00 | NI | | |
| 229 | 466 Front St | 1060050-00 | | | | 402-3804-538.43-02 | 402-0000-104.00-00 | NI | | |
| 230 | Patricia & Ashby | 4323001-00 | 1,866.01 | | 15,200 | 402-3804-538.43-02 | 402-0000-104.00-00 | NI | | |
| 231 | White St | 4320022-00 | 495.16 | | 2,685 | 402-3804-538.43-02 | 402-0000-104.00-00 | NI | | |
| 232 | N End Ashby & Catherine | 4361932-00 | 164.38 | | 1,134 | 402-3804-538.43-02 | 402-0000-104.00-00 | NI | | |
| 233 | SE Dennis & Venetian | 5483502-00 | | | | 402-3804-538.43-02 | 402-0000-104.00-00 | NI | | |
| 234 | | | 167,601.11 | | 1,224,717 | | | | | |
| 235 | | | | | | | | | | |
| 236 | | | | | | | | | | |
| 237 | CLOSED ACCT=NO LONGER IN SERVICE | | | | | | | | | |
| 238 | | | | | | | | | | |
| 239 | 111 Olivia Street | 1040978-01 | | | | 001-7201-572.43-02 | 001-0000-104.00-00 | | | |



New Focuses of the Energy Manager

- New energy saving techniques for small commercial buildings
- Weatherizing city buildings
- Update lights and electrical systems to newer more efficient technology.
- Seek new grant opportunities for insulating and upgrading City facilities to improve energy performance.
- Perform internal energy audit to identify unusual usages and spikes.
- Seek consultant to perform detailed audit of critical facilities or facilities with most aberrant usages.
- Implement new programs and performance goals
- Harden buildings wherever possible



*Weatherization
Works*

Thoughts

- Many Energy Management programs succeed with simple efforts that start with policy and how occupants treat the building and consider how they use their space.
- Simple power usage reductions start with “Plug Loads” - By eliminating every employee’s need for a blender, microwave, coffee maker, heater, fan, or minifridge at their desk; an organization can save a lot of energy just by eliminating unnecessary resistance in the buildings electrical system caused by so many plugged in elements.
- Even when things aren’t plugged in they can still draw power, like power converters for phones and computers.
- Electrical systems can become more advanced using monitoring devices that track typical usages and identify trends, while also identifying occupancy and making adjustments for needs in real time.

