CITY COUNCIL WORKSHOP
SUSTAINABILITY / CLEAN AIR INITIATIVE
Tom Taggart / Jan Klein
Tuesday, April 2, 2019
Purpose of Workshop

• Present information/staff recommendation on City Greenhouse Gas (GHG) Emission Footprint reduction elements, target levels and schedule
• Direction on next steps
BACKGROUND

• October 2017 – Council discussion regarding the US Conference of Mayors Climate Action Agreement.
  • Consider creating a San Marcos Climate Action Plan to reduce GHG emissions and impacts by setting benchmarks and expanding existing programs.
  • Council Direction - Measure City of San Marcos GHG emissions.

• August 2018 – Council workshop on municipal GHG inventory.
• Council Direction – develop and recommend targets for GHG reductions.
2017 COSM Baseline = 14,074.33 MT CO₂e
(Metric Tons of Carbon Dioxide Equivalent)

* City Hall includes departments at City Hall complex (CM, City Clerk, Legal, HR, Finance, IT, Planning, Engineering/CIP, Equipment Services, etc)
REVIEW OF COSM ACTIONS WHICH HAVE REDUCED GHG EMISSIONS (already included in 2017 Baseline)

☑ Building efficiency – HVAC AND LIGHTING RETROFITS 2010
☑ Streetlight retrofits (LEDs) – COMPLETE 2018
☑ Treatment plant upgrades – AIR-BEARING BLOWERS
☑ Fleet – PD FOOT/BIKE PATROLS; HYBRIDS; E85s
   • Waste to energy cogen – NO DIGESTERS
GHG EMISSION REDUCTION MEASURES RECOMMENDED

• Implement Reclaim Water for irrigation at City facilities
• Evaluate Fleet purchases for Electric Vehicle Cost Benefit
• Evaluate LEED/Building Efficiency Cost/Benefit for new City facility construction (Budget Capacity)
• Evaluate site specific solar installation Cost/Benefit for new City facility construction (Budget Capacity)
• Implement Solar Purchase Power Agreement when appropriate
CITY FACILITIES RENEWABLE ENERGY ESTIMATES

- Library Expansion w/ 710 KW solar:
  - saves 637 MT CO2e = 4.5% savings from Baseline
- SMPD w/ 125 KW solar:
  - saves 112 MT CO2e = 0.8% savings from Baseline
- New Public Services Building w/ 1,420 KW solar:
  - Saves 1274 MT CO2e = 9.1% savings from Baseline
- New City Hall/Municipal Building w/ 710 KW solar:
  - Saves 637 MT CO2e = 4.5% savings from Baseline
- Fire Stations 3, 4 and 5 w/ 351 KW solar:
  - Saves 307 MT CO2e = 2.2% savings from Baseline

Current cost for solar is $2 - $2.50 per watt; est. cost for all projects is $4.9 M, ROI 16 years. Solar is not included in current building cost estimates or bond funding.
RENEWABLE WIND PROJECT

• City has already signed contract for supply of 41,707 Megawatt Hours (MWH)/year.

• Use 23,340 MWH to offset **ALL** COSM GHG emissions (includes vehicles):
  • Saves 14,074 MT CO2e = **100% savings from Baseline**
  • 18,357 MWH still available for community use

• **Application of renewable energy to City GHG reductions is a common methodology for reaching target goals**
RECOMMENDED TARGET to REDUCE MUNICIPAL GHG EMISSIONS

<table>
<thead>
<tr>
<th>Reduction Target</th>
<th>2017</th>
<th>Baseline</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2022</td>
<td>100%</td>
</tr>
</tbody>
</table>
FUTURE PROPOSED SOLAR POWER PURCHASE AGREEMENT (PPA)

- Contract would begin in 2022.
- San Marcos projected share of solar plant output is 84,927 MWH/year.
- 39,558 MWH of that can be used in San Marcos (without exceeding the LCRA 15% Intermittent Progressive Power Generation (IPPG) cap.
- Remaining 45,369 will be sold to the grid but will be available to San Marcos for future growth.
- Would save 23,854 MT CO2e = 169.5% savings from Baseline
SUMMARY/FURTHER ACTIONS

• Participation in new regional Clean Air Coalition (CAC) 2019-2023 air quality plan?

• CAPCOG has requested COSM to pay $9994 to support implementation of the regional CAC 2019-2023 air quality plan?

• Trent wind project alone can offset 100% of Municipal GHG emissions; Council adoption of 100% reduction in municipal GHG emissions through wind project?

• Additional measures (building efficiency, site-specific solar) can be implemented at a cost. These costs are not currently included in building cost estimates or bond funding. Council adoption of policies for building efficiency and site-specific solar?
Tonight’s Agenda

1. Appoint Council Sustainability Committee
2. Determine and agree on Committee Charge