



CITY COUNCIL WORKSHOP

SUSTAINABILITY / CLEAN AIR INITIATIVE

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Tuesday, April 2, 2019

sanmarcostx.gov



Purpose of Workshop

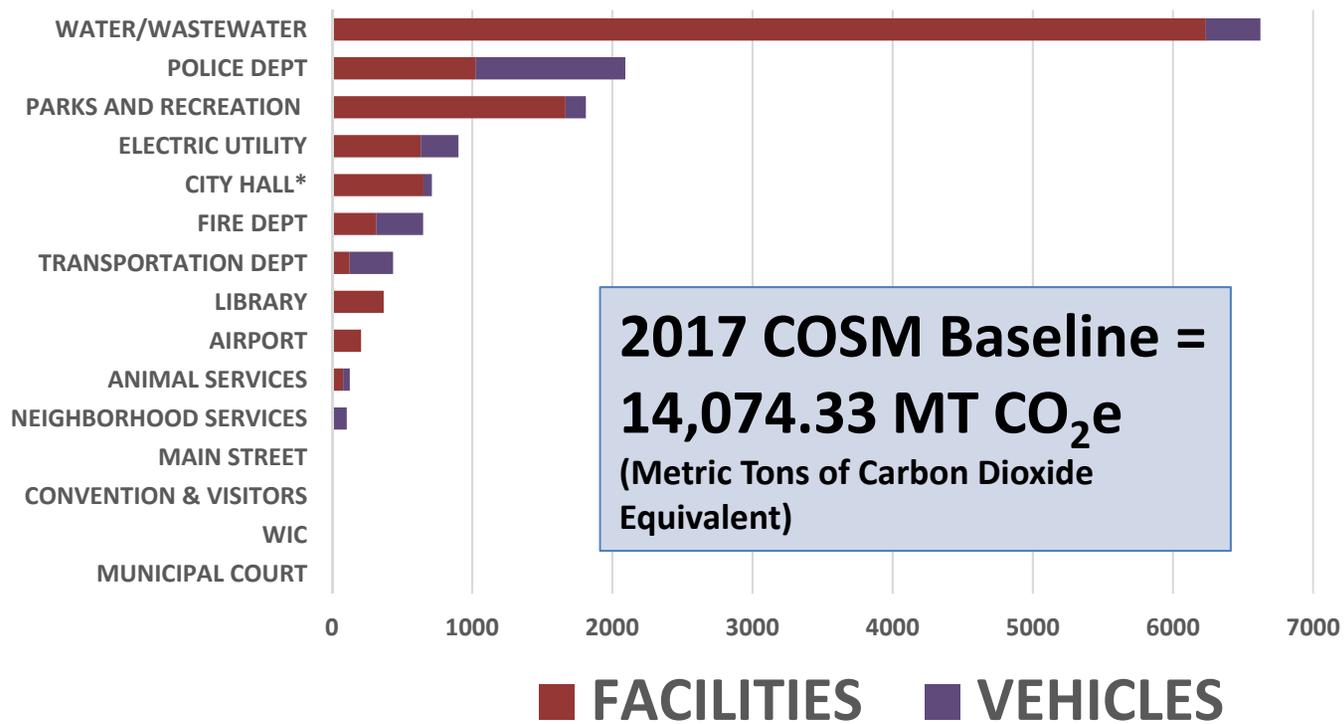
- ***Present information/staff recommendation on City Greenhouse Gas (GHG) Emission Footprint reduction elements, target levels and schedule***
- ***Direction on next steps***



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.*

MUNICIPAL GHG INVENTORY



* 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

| Reduction Target | |
|------------------|----------|
| 2017 | Baseline |
| 2022 | 100% |

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**





-DISCUSSION-

-QUESTIONS-

-DIRECTION-