

2014 DEPARTMENT OF EMERGENCY MANAGEMENT CLIMATE ACTION PLAN

DATA YEAR: FISCAL YEAR 2012-2013

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1. Introduction	3
2. Departmental Profile	3
2a. Departmental Mission	3
2b. Departmental Budget	3
2c. Number of Employees	4
2d. Facilities	4
2e. Vehicles	6
2f. Departmental Contact Information	6
2g. Other Sustainability or Environmental Plan	7
3. TOTAL Energy Consumption and Carbon Footprint.....	8
3a. Facilities List Verification Statement	8
3b. Fiscal Year 2012-2013 Facilities Energy Consumption and Carbon Emissions	9
3c. 5-Year Historical Analysis of Facilities Energy Consumption and Carbon Emissions	9
3d. Vehicle List and Fuel Data Verification Statement	9
3e. Fiscal Year 2012-2013 Vehicle Fuel Consumption and Carbon Emissions	9
3f. 5-Year Historical Analysis of Vehicle Fuel Consumption and Carbon Emissions	10
4. Efforts in Facilities Energy Reduction	11
4a. Energy Efficiency & Retrofit Projects	11
4b. Energy Benchmarking & Compliance with the Energy Performance Ordinance	12
4c. Compliance with the Commercial Lighting Efficiency Ordinance	12
4d. Information Technology	12
4e. Renewable Energy	13
4f. Green Building	13
5. Efforts in Water Use Reduction	14
5a. Water Data Verification Statement	14
5b. Fiscal Year 2012-2013 Water Consumption and Wastewater Discharge	14
5c. 4-Year Historical Analysis of Water Consumption and Wastewater Discharge	14
5d. Water Conservation	15
6. EFFORTS in Vehicle Fuel Reduction	16
6a. Compliance with the Healthy Air and Clean Transportation Ordinance	16
6b. Transit First Campaign	17

6c. Biodiesel	17
7. OTHER Sustainable Practices	18
7a. Zero Waste	18
7b. Carbon Sequestration / Urban Forest	18
7c. Community Wide Impact	18
7d. Resiliency and Adaptation	19
8. REPORT Summary and Departmental Climate Action Goals.....	19
Appendices	20

1. INTRODUCTION

In 2008 the City of San Francisco began to track its greenhouse gas (GHG) emissions and create climate action plans at the city department level per direction by the Board of Supervisors. This work is captured in the Department Climate Action Plans (DepCAPs).

The Department of Emergency Management's (DEM) footprint includes the consumption of energy (electricity and natural gas) and liquid fuels from our fleet for the various facilities that DEM occupies: 1011 Turk Street, 30 Van Ness, 711 Van Ness, 1 South Van Ness and six (6) units of siren emergency systems in 6 locations (3990 Folsom Street, Fitch and Egbert, 4308 Pacheco, 100 El Camino del Mar, 3501 Fulton Street and 6323 Fulton Street)

2. DEPARTMENTAL PROFILE

2A. DEPARTMENTAL MISSION

The San Francisco Department of Emergency Management (DEM) leads the City in planning, preparedness, communication, response, and recovery for daily emergencies, large scale citywide events, and major disasters. DEM is the vital link in emergency communication between the public and first responders, and provides key coordination and leadership to City Departments, stakeholders, residents, and visitors. The Department of Emergency Management provides services through the following divisions:

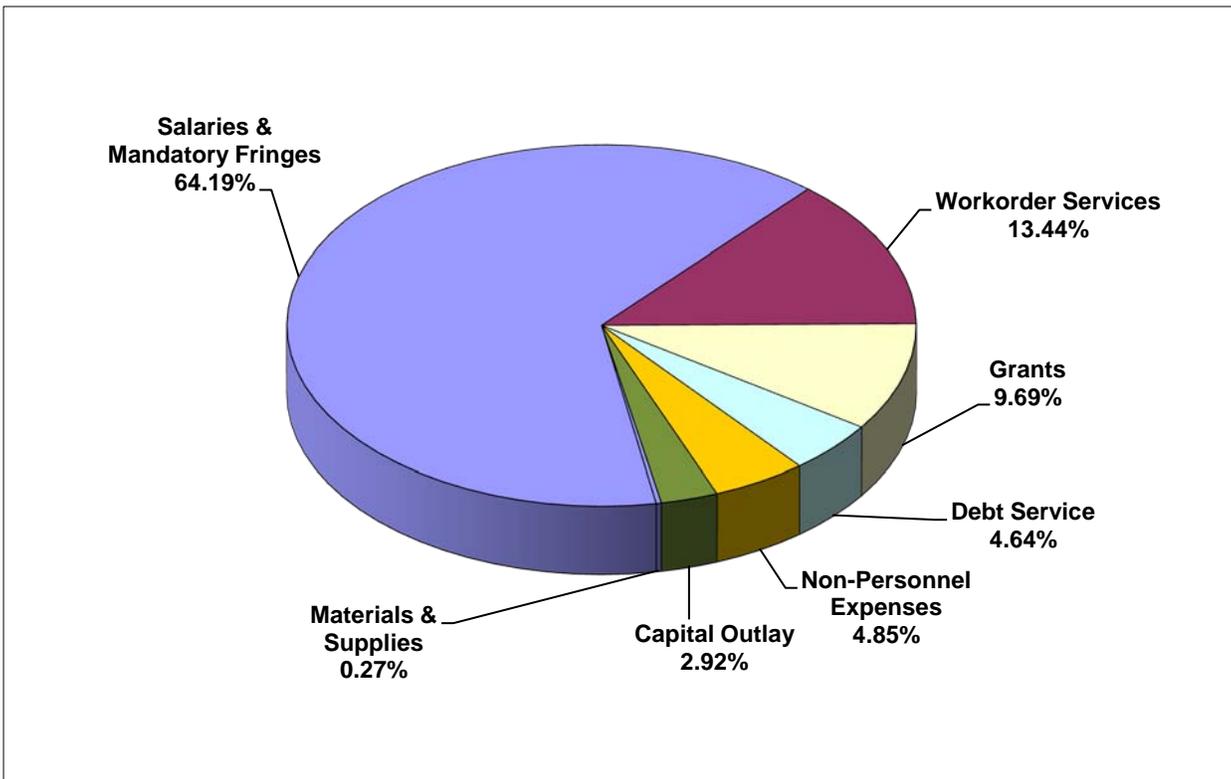
DIVISION OF EMERGENCY COMMUNICATIONS (DEC) personnel, commonly referred to as Public Safety Communications Dispatchers, are cross-trained to process police, medical, and fire emergency calls. In addition, dispatchers are responsible for monitoring and coordinating two-way radio communication with public safety responders and maintaining the status of field personnel through a computer-aided dispatch system.

DIVISION OF EMERGENCY SERVICES (DES) personnel coordinate the multi-disciplinary citywide planning, preparation, and response for emergencies that go beyond or are outside the resources of traditional response departments. In addition, staff coordinates training, exercises, education, and outreach for city residents, the private sector, City agencies, and others associated with emergency management and disaster planning. DES serves as the City's primary link to state and federal emergency management and Homeland Security partners. DES also houses the Emergency Medical Services Agency (EMSA), which regulates and coordinates all components of the City's pre-hospital care system.

ADMINISTRATION AND SUPPORT provides the Department with payroll and personnel services, budget and accounting functions, IT systems planning and management, facility management, and other administrative functions.

2B. DEPARTMENTAL BUDGET

DEM's FY 2012-2013 approved budget approximately \$47.7M is consistent with the primary goals of the department. A high-level view (refer to the allocation chart below) of the budget categories shows that total personnel costs represent roughly 66% of the total operating budget, which accounts primarily for the day-to-day staffing of the department. Whereas, the remaining 34% accounts for daily activities associated with work order services, debt service payments, technology maintenance, and materials and supplies.



2C. NUMBER OF EMPLOYEES

DEM is comprised of **261** full-time employees and **6** part-time/as needed employees

Budgeted in FY2012-2013: **244**

Actual number as of 3/15/14: **267**

- Division of Emergency Communications (DEC): **188 employees**
- Administration and Support: **42 employees**
- Division of Emergency Services (DES): **24 employees**
- Urban Area Security Initiative (UASI): **13 employees**

2D. FACILITIES

The Department's facilities are comprised of the following business locations:

1. Combined Emergency Communications Center (CECC) located at 1011 Turk Street, San Francisco, CA. The facility is city owned two-floor building of 34,000 square feet built over a partially submerged 20,000 square foot basement-parking garage. The CECC serves as the headquarters building which houses the 9-1-1 call-taking and dispatch center for Police, Fire, and Emergency Medical Services, as well as the City's Emergency Operations Center (EOC).
2. Division of Emergency Services (DES) occupies an office at 30 Van Ness Avenue, Suite 3300, San Francisco, and is city-owned building under the management of the SF Real Estate Division. The office size is 11,563 square feet and is being leased with the SF Real Estate Division (RED).

DES is comprised of emergency managers, planners who help residents, businesses, non-profits, visitors, and other city departments plan for, respond to and recover from disasters. They also work with disaster preparedness coordinators

from numerous San Francisco departments and liaisons from regional, state, and federal partners in the response to and recovery from any type of emergency or planned event.

DES' responsibilities also include management of San Francisco's Emergency Medical Services Agency (EMSA).

For more information go to <http://www.sfdem.org/index.aspx?page=5>

3. Urban Area Security Initiative (UASI) Management Team located at 711 Van Ness Avenue, Suite 420, San Francisco, CA. The 9,800 square feet office is being shared with the Assessor/Recorder's Office (ASR). The building is owned by Pacific Vision, a non-profit organization. DEM and ASR are represented by the San Francisco Real Estate Division (RED) as the Tenant. Lease was commenced on August 1, 2012 and will expire on April 14, 2014.

The Bay Area UASI is a regional program that provides financial assistance to improve the Bay Area's capacity to prevent, protect against, respond to, and recover from terrorist incidents or related catastrophic events. Projects facilitated by the program enhance regional capability through regional collaboration and efficient allocation of funds available. For more information, go to <http://www.sfdem.org/index.aspx?page=5>

4. DEM Equipment Room located at 1 South Van Ness. The room size is 658.4396 sq. and is being leased through the SF-RED. The room serves as a store room for computers, materials and supplies which are readily available should the Operations employees or Dispatchers be moved to 3-1-1 facility location on the 1st floor of 1 South Van Ness as a back-up call center.

5. Outdoor Public Warning Systems (OPWS).

As of August 2013, DEM owns a total of 113 OPWS in several locations in San Francisco. For map and locations, go to <http://www.sfdem.org/modules/showdocument.aspx?documentid=2098> or see attached Appendix "A".

The Department of Technology (DT) maintains the systems. Out of the 113 OPWS, DEM is responsible for the electrical bills of six (6) OPWS through the SF Public Utilities Commission (PUC) system. Below is the list of 6 OPWS and proof of service orders (SO) with PUC attached as Appendix "B".

Svc Pt. ID	Use	Location	SO#	Date active
5870143668	Outdoor warning emergency siren	610 Tompkins Ave (Siren #9)	2262-E	7/28/06
2722915609	Outdoor warning emergency siren	Arelious Walker Dr. & Egbert Ave (#8)	2263-E	7/28/05
7509985452	Outdoor warning emergency siren	4308 Pacheco Street (Siren #54)	2264-E	7/28/05
6300559105	Emergency siren	135 El Camino del mar (Siren #48)	2265-E	6/15/06
8628027832	Outdoor Warning Siren	3501 Fulton St (Siren #71)	2468-E	9/26/08
3963035552	Outdoor Warning Siren	6323 Fulton St (Siren #72)	2469-E	9/19/09

6. DEM owns eight (8) 800 MHz radio systems. Four of which are leased with SF-Real Estate Division (RED) and four locations leased with different city departments. All locations are being maintained by the Department of Technology. See email from Michelle Geddes, DEM Project Manager for 800 MHz projects, attached as Appendix "C".

Eight (8) - 800 MHz projects, their locations and owner/lessor

Facility/Location	Lessor
1 Market Street	Real Estate Division
1250 Jones Street	Real Estate Division
4150 Clement Street	Real Estate Division
1600 Holloway	Real Estate Division
99 Moultrie, Bernal Heights	American Tower
Alta Vista Way, South Hill	Daly City – no cost lease
Mendoza, Forest Hill	PUC Water Tower- no cost lease
1 Christmas Tree Point, Twin Peaks	Department of Technology- no cost lease

2E. VEHICLES

DEM owns and operates a fleet of eight (8) vehicles in support of its core missions of providing 9-1-1 emergency communications, maintaining the citywide public safety radio system, disaster response and recovery planning, and managing the Emergency Operations Center (EOC). Due to the nature of these functions, vehicles are fueled and available for deployment 24 hours a day, 7 days a week, /365 days a year.

These vehicles are used to transport staff, materials and equipment to meetings within the footprint of the City. Occasionally, vehicles are needed for extended locations, i.e. Sacramento, for executive level meetings concerning local or regional initiatives. One vehicle is set aside for the use of IT technicians who maintain the various radios, computer, microwave, and other technologies vital to operations. Staff may also be deployed in the field during emergency activations either to incident command posts or other operation centers.

2F. DEPARTMENTAL CONTACT INFORMATION

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2G. OTHER SUSTAINABILITY OR ENVIRONMENTAL PLAN

DEM does not have any other sustainability plans besides this climate action plan.

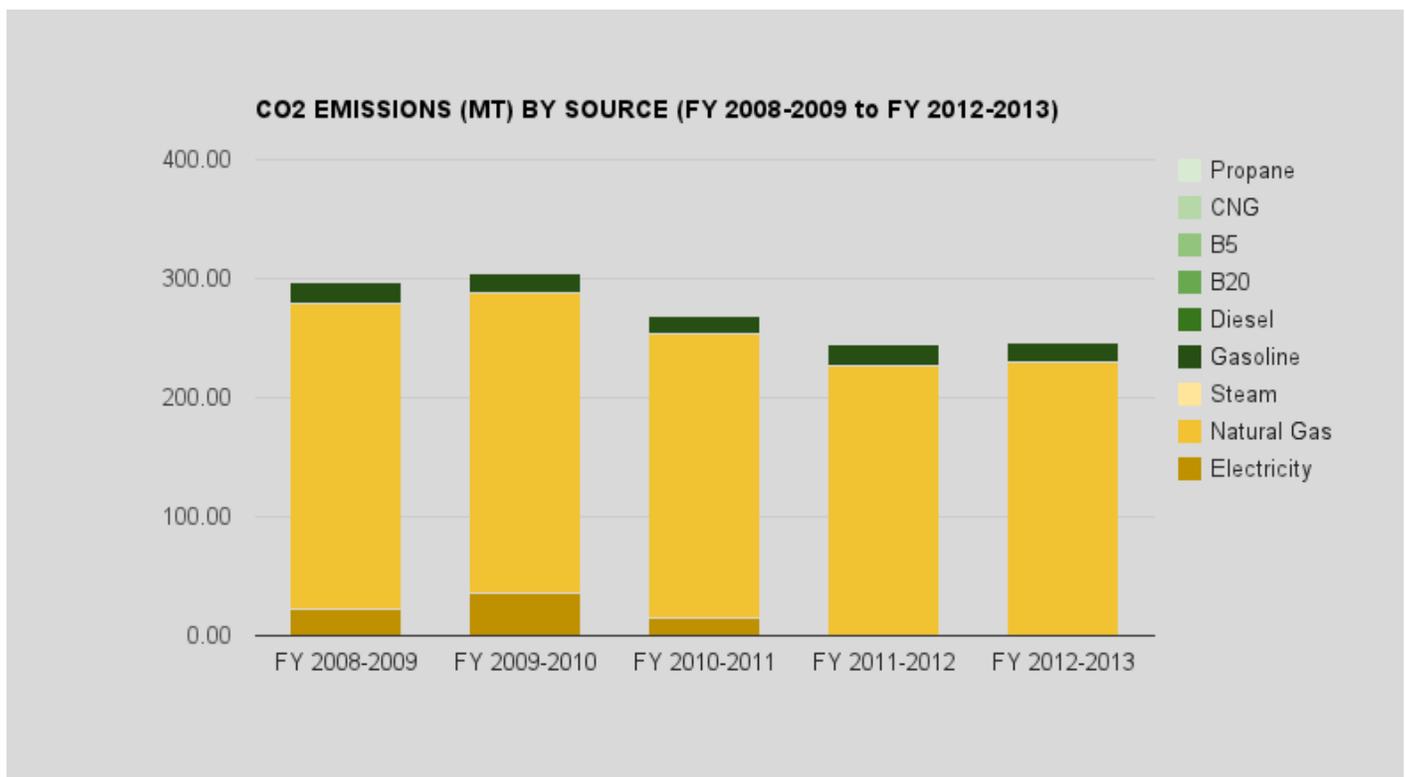
3. TOTAL ENERGY CONSUMPTION AND CARBON FOOTPRINT

DEM's total energy consumption and carbon footprint includes electricity, natural gas and liquid fuels from our fleet. The preceding sections will describe each component in detail

For Fiscal Year 2012-2013, DEM's total operational greenhouse gas (GHG) emissions were 246.10 metric tons of CO₂. This is based on GHG emissions calculated from the department's consumption of facilities energy and vehicle fuels, which is described in the sections below.

The five year summary of DEM's annual operational CO₂ emissions is summarized in the table and chart below. A 5-year historical analysis is provided in detail in the sections below.

FY 2008-2009 TO FY 2012-2013 ANNUAL DEPARTMENTAL CO ₂ EMISSIONS (MT)					
	FY 2008-2009	FY 2009-2010	FY 2010-2011	FY 2011-2012	FY 2012-2013
Total CO ₂ (mt)	296.66	304.18	268.35	244.72	246.10



DEM has achieved a 17% reduction since Fiscal Year 2008-2009. This is mainly due to the zero emission electricity provided by SFPUC starting in 2011. Efforts in facilities energy and fuel reduction are outlined in the sections below.

3A. FACILITIES LIST VERIFICATION STATEMENT

The list of facilities used by the Department of Environment to calculate the FY2012-2013 Departmental carbon footprint has been verified by DEM. Some corrections and update were noted.

- The correct address of siren #48, 100 El Camino del Mar. The correct address is 135 El Camino del Mar (between 24th and 25th Street) and not 26th Street.

- DEM also noted and requested the Department of Environment to delete 633 Folsom Street as a DEM facility, after Real Estate Division has confirmed that no record was found in its possession that DEM has a lease in said location. See email from Kathy Bianchi, Executive Assistant to John Updike, Real Estate Division, attached as Appendix "D".
- Added four more 800 MHz radio system projects in the "Notes" column, Google Docs, Building Energy page.

3B. FISCAL YEAR 2012-2013 FACILITIES ENERGY CONSUMPTION AND CARBON EMISSIONS

Total Facilities Electricity in Fiscal Year 2012-2013: *2,151,098 kWh consumed, 0 metric tons of CO2*

Total Facilities Natural Gas in Fiscal Year 2012-2013: *43,250 therms consumed, 229.53 metric tons of CO2*

None of DEM facilities uses steam.

Both electricity and natural gas information for our tenancy in a privately owned building at 711 Van Ness Street was not available to be included in the totals above.

3C. 5-YEAR HISTORICAL ANALYSIS OF FACILITIES ENERGY CONSUMPTION AND CARBON EMISSIONS

The tables below summarize DEM's annual facilities energy consumption and associated GHG emissions for the past five fiscal years.

FY 2008-2009 to FY 2012-2013 Departmental Facilities Energy Consumption					
Emission Source (Units):	FY 2008-2009	FY 2009-2010	FY 2010-2011	FY 2011-2012	FY 2012-2013
Electricity (kWh)	2,518,268	2,052,446	2,079,302	2,074,736	2,151,098
Natural Gas (th)	48,309	47,751	44,783	42,830	43,250
Steam (lbs)	0	0	0	0	0

FY 2008-2009 to FY 2012-2013 CO2 Emissions from Facilities Energy					
Emission Source (mt):	FY 2008-2009	FY 2009-2010	FY 2010-2011	FY 2011-2012	FY 2012-2013
Electricity	22.74	35.67	15.36	0.00	0.00
Natural Gas	256.38	252.46	237.66	227.30	229.53
Steam	0.00	0.00	0.00	0.00	0.00
Total Facilities Energy CO2 (mt)	279.12	288.13	253.02	227.30	229.53

Total GHG emissions from Building Energy use has decreased since Fiscal Year 2008-2009. This is primarily due to energy efficiency upgrades and practices at DEM. Please refer to the section entitled "Efforts in Facilities Energy Reduction", item #4, for details on reduction measures taken by DEM.

3D. VEHICLE LIST AND FUEL DATA VERIFICATION STATEMENT

The list of vehicles and DEM's fuel totals used by the Department of the Environment to calculate the FY2012-2013 Departmental carbon footprint has been verified by DEM to be accurate and complete.

3E. FISCAL YEAR 2012-2013 VEHICLE FUEL CONSUMPTION AND CARBON EMISSIONS

GHG Emissions from Unleaded Gasoline in Fiscal Year 2012-2013: 1,882 Gallons consumed and 16.57 metric tons of CO2.

All departments that own and operate are required to implement the fleet maintenance methods and educate members on the best practices listed in Chapter 4 of the Environment Code Healthy Air and Smog Ordinance.

3F. 5-YEAR HISTORICAL ANALYSIS OF VEHICLE FUEL CONSUMPTION AND CARBON EMISSIONS

The tables below summarize DEM's annual fuel consumption and associated GHG emissions for the past five fiscal years.

FY 2008-2009 to FY 2012-2013 Departmental Fuel Consumption					
Fuel Type (Units):	FY 2008-2009	FY 2009-2010	FY 2010-2011	FY 2011-2012	FY 2012-2013
Gasoline (gal)	1,991	1,816	1,740	1,978	1,882
Diesel (or equivalent) (gal)					
B100 equivalent (gal)					
B20 (gal)					
B5 (gal)					
CNG (GGE)					
Propane (gal)					

FY 2008-2009 to FY 2012-2013 CO2 Emissions from Mobile Fuel					
Emission Source (mt):	FY 2008-2009	FY 2009-2010	FY 2010-2011	FY 2011-2012	FY 2012-2013
Gasoline	1,991	1,816	1,740	1,978	1,882
Diesel (or equivalent)					
B100 equivalent					
B20					
B5					
CNG					
Propane					
Total Mobile Fuel CO2 (mt)	17.54	16.00	15.33	17.42	16.57

Total carbon emissions from mobile combustion of fuel have decreased since Fiscal Year 2008-2009. This is primarily due to the support of the Fleet Manager in implementing practices, actions and guidelines in the proper use of the fleet services. Actions to reduce our department's GHG emissions from vehicle fuels, is detailed in the section titled "Efforts in Vehicle Fuel Reduction", item #6, of the HACTO plan.

4. EFFORTS IN FACILITIES ENERGY REDUCTION

4A. ENERGY EFFICIENCY & RETROFIT PROJECTS

Energy efficiency is a green resource. Energy efficiency projects and employee behavior changes that reduce the use of natural gas, steam and electricity in City facilities can reduce greenhouse gas emissions, save money and improve building performance.

- **Lighting Retrofit Projects for FY2012-2013:**

- **Interior**

- Replaced 18 luminaries from compact fluorescent lights/F40 (CFL) to Lithonia 2ALL2-37L D37 in the administration office and custodian of records office on the 2nd floor at 1011 Turk Street.
- Reconnected occupancy sensors to switches in the same locations.
- Project completed in July 2013 by DPW-BBR (Department of Public Works-Bureau of Building Repair)

- **Exterior**

- Replaced four existing lights located on the south side of the building to “dawn to dusk (photocell)”.
- Installed 2 photocell in the garage exit door on the south east side of the 1011 Turk building
- Project completed in April 2013 by DPW-BBR

- **Energy Efficiency Practices:**

- DEM, through work ordered Real Estate Division Stationary Engineers, will continue its practices in monitoring and regularly maintaining the HVAC system. Through daily rounds and maintenance work, the HVAC system is continually fine tuned to operate more efficiently.
- DEM will continue its practices in reminding members about turning off lights, computers, monitors when not in use through labels, emails and announcements during staff meetings.

- **Audit:**

- On February 22, 2013, a meeting and a walk through was conducted at 1011 Turk Street with SFPUC, Gary Oto and 2 representatives from EMCOR, Jonathan Schwartz and Colman Snaith, to review the initial audit conducted in March 2010. The addendum was prepared on April 16, 2013. After EMCOR’s evaluation, the following energy efficiency measures were recommended:
 - Optimize scheduling of air handling units by closing variable air volume (VAV) boxes when areas of the building are not in use (previously identified)
 - Install variable frequency drives (VFDs) on chilled water pumps (previously identified; enhanced).
 - Delamp fixtures on the second floor from 3 lamps to 2 lamps (completed).
 - Install a cold-aisle containment system (CACs) in the data centers and reduce auxiliary mechanical cooling (new measure).
 - Install an outside air economizer on the basement UPS room’s cooling unit, which is in the garage (new measure).
- If the measures above are completed and implemented, it will realize an annual energy savings of 233,004 kWh and 11,748 therms, which is 12% of total electricity usage and 27% of current natural gas usage or \$31,015 annual energy costs.
See attached *Appendix “E”, Summary of the audit report.*
- The estimate costs to complete and implement the energy efficient project are \$70,585. According to Gary Oto of PUC, he will look into sources of funds for this project. DEM will wait for SFPUC notice when funding becomes available.

- **Other Plan/s:**

- Reconfiguration of air handling unit #2 (AHU 2).
 - DEM plans to perform a duct cleaning of AHU2 and filter bank reconfigurations. The heating/cooling ducts will be cleaned and pressure washed to remove existing oxidation dust and will quote ducts with oxidation inhibitor. New sets of high efficiency filters will be installed. These filters will provide more surface area with the “mini pleat” design and last much longer than traditional heating/cooling coils that would trap and filter air into the duct system. The upgrade will improve air quality, longer run times on new filters, less labor hours spent on filter changes and extended lifespan of AHU.
 - The project is estimated to be around \$90,000. DEM has requested this project for capital funding.

4B. ENERGY BENCHMARKING & COMPLIANCE WITH THE ENERGY PERFORMANCE ORDINANCE

In order to comply with the Existing Commercial Buildings Energy Performance Ordinance (Ord 17-11 SF Environment Code Chapter 20), DEM assisted the SFPUC in producing the 2011 Energy Benchmarking Report for San Francisco Municipal Buildings by:

- Verifying the department’s list of facilities
- Verifying the existing facility data for each location (such as year built, gross square footage, and building type).
- Providing updated occupancy data specific to the primary EPA Energy Star building category (such as weekly operating hours, number of workers on main shift, and parking areas).
- The 2012 Energy Benchmarking Report is available at <http://sfwater.org/modules/showdocument.aspx?documentid=4139>
- DEM’s carbon footprint in 2012 is 8.98 lbs.CO2/sq. which is .09% increase from 2011 carbon footprint (page 25 of the Benchmarking Report, attached as Appendix “F”).

Facility Type	# of Facilities Benchmarked for DEM per Facility Type	Page Number(s) in Benchmarking Report
Emergency Center	One - 1011 Turk Street, Emergency Operations Center – Built in 1998, Building area: 56,000 sq ft.	Page 25

- DEM is not eligible for energy star rating (page 9 of the report, attached as Appendix “G”). Refer to <http://sfwater.org/modules/showdocument.aspx?documentid=4139>.

4C. COMPLIANCE WITH THE COMMERCIAL LIGHTING EFFICIENCY ORDINANCE

- DEM-DEC (Division of Emergency Communications) located at 1011 Turk Street is compliant with the requirements outlined in the Commercial Lighting Efficiency Ordinance (SF Building Inspection Commission Code Chapter 13D). A temporary waiver is not necessary.
See Appendix “H”, e-mail from Sachiko Tanikawa regarding DEM, being compliant with the lighting efficiency ordinance
- DES (Division of Emergency Services) office, located at 30 Van Ness Avenue is owned and managed by the Real Estate Division. No information is available to determine if 30 Van Ness building is compliant with the requirements outlined in the Commercial Lighting Efficiency Ordinance.
- UASI (Urban Area Security Initiative) program is located at 711 Van Ness Avenue. The building is owned by a non-profit organization. The lease is being managed by the Real Estate Division. No information is available to determine if 30 Van Ness building is compliant with the requirements outlined in the Commercial Lighting Efficiency Ordinance.

4D. INFORMATION TECHNOLOGY

The DEM-IT group implements the following measures to conserve energy:

- All computers are labeled with energy conservation reminder “Turn off computer and monitor when not in use”. DEM notifies all employees to shut off personal computers, monitors, printers and other electrical equipment at the end of each workday unless there is a specific need for after-hours operation. Regular (after-hours) inspections are conducted to identify if equipment is turned off.
- All PCs (not required for 24/7 operations) are automatically set to go into hibernation/standby mode after 20 minutes of inactivity. PCs used for 9-1-1 services are used 24/7, must have standby/hibernation disabled. PCs which are used for remote access must have standby/hibernation disabled.
- Obsolete servers have been replaced with Climate Savers Gold or Energy Star servers. All servers are purchased through COIT (Committee on Information Technology) and meet efficiency standards as applicable with the exception of three specialized servers purchased in 2012. As of 3/26/14, DEM has 48 physical servers, of which 11 are considered obsolete and would not meet current efficiency standards. DEM has purchased the following Electronic Product Environmental Assessment Tool (EPEAT) Gold standard products: 12 laptops, 24 desktops and 24 LED monitors.
- DEM has virtualized 31 servers and plans on virtualizing 12 more in the coming fiscal year. In addition, the DEM data center at Turk Street is hosting Department of Technology’s virtualizing appliance (VBlock) for various public safety agencies. This

appliance is capable of providing up to 500 virtual servers of public safety users (DEM, SF-Police Department, SF-Fire Department and SF-Sheriff's Department). Currently, SFPD hosts 44 servers and JUS.T.I.S. (Justice Tracking Information System) project hosts 32 servers.

- DEM replaced all Xerox copiers to 13 “all in one” (copier, fax and scanner) Konica Minolta. DEM lease contract will end in July 2014. DEM is leasing thirteen (13) copiers: nine (9) are located in 1011 Turk Street, two (2) at DES in 30 Van Ness and two (2) are at UASI office in 711 Van Ness. DEM decommissioned 27 copiers, fax machines and scanners at 1011 Turk Street, 711 Van Ness and 30 Van Ness offices which were donated to some city departments and other non-profit organizations.
- DEM has implemented an asset tracking system which will provide comprehensive IT equipment life cycle management and allow the Department to reduce environmental impact by improving efficiency, reducing waste, and extending the useful life of personal computers and other IT equipment. The asset management system is fully on line.
- Challenges encountered: Funding is a challenge. With additional funding, more energy efficient PCs and servers could be purchased.

4E. RENEWABLE ENERGY

Photovoltaic (PV) Project

As part of DEM's FY 2011-2021 budget submission, the department has submitted a capital request of \$1.8 M for the installation of solar panels on the Combined Emergency Communications Center. The department has submitted this project request over multiple fiscal years, but has yet to receive funding approval. DEM will wait for SFPUC notice as soon as funding becomes available.

See Appendix “I” – Project request form for Photovoltaic System FY2011-2021.

4F. GREEN BUILDING

DEM does not have any current projects that require being LEED certified. However, for small size projects, DEM adheres to the green building compliance such as No VOC paint and no PVC materials for new carpet.

5. EFFORTS IN WATER USE REDUCTION

5A. WATER DATA VERIFICATION STATEMENT

The list of water accounts used by the Department of Environment to calculate annual departmental water use has been verified by DEM to be accurate and complete.

An update was noted in the “notes” field regarding the separation of the water account between DEM at 1011 Turk Street and the Western Addition Computer Technology Center (WACTC) at 1003 Turk Street on April 1st, 2013. See email from SF Water, Karen Satram, who confirmed separation of the account, attached as Appendix “J”.

DEM was also able to collect a total of \$2,884 as 1/3 reimbursement of the water bill paid by DEM from June 2010 through March 2013 for WACTC.

5B. FISCAL YEAR 2012-2013 WATER CONSUMPTION AND WASTEWATER DISCHARGE

DEM’s FY2012-2013 Water Consumption:

- DEM (1011 & 1003 Turk Street): 667,964 gallons
- DES (30 Van Ness) as tenant: 167,164 gallons
- Total: 835,128 gallons.
- No information was provided for UASI at 711 Van Ness

DEM’s FY2012-2013 Wastewater Consumption:

- DEM (1011 & 1003 Turk Street): 601,168 gallons
- DES (30 Van Ness) as tenant: 150,447 gallons
- Total 751,615 gallons
- No information was provided for UASI at 711 Van Ness

DEM’s FY2012-2013 Cost of Water and Wastewater Consumption

- DEM (1011 & 1003 Turk Street): \$14,209
- DES (30 Van Ness) as tenant: \$ 3,146
- Total: \$17,355

5C. 4-YEAR HISTORICAL ANALYSIS OF WATER CONSUMPTION AND WASTEWATER DISCHARGE

FY 2008-2009 to FY 2012-2013 Annual Water Consumption and Wastewater Discharge				
	FY 2009-2010	FY 2010-2011	FY 2011-2012	FY 2012-2013
Water (gal)	857,365	834,287	962,377	835,128
Wastewater Discharge (gal)	770,956	750,858	866,140	751,615

Total water use for DEM has fluctuated since FY2009-2010 with a 2.6% decrease in overall water use. The following measures may have contributed to the reduction of water consumption:

- Closure of the laundry room in 2010
- Removal of plants and shutting down of sprinklers in front of the building in 2009
- Separation of water accounts between the Western Addition Computer Technology Center (WACTC) 1003 Turk Street and DEM 1011 Turk Street in April 2013
- Installation of smart water meters in March 2012.
- Changing 14 flushometers into “Water-Saving Dual-Function Handle” flushometers in February 2013.

Further details on the department’s reduction efforts are outlined in the section titled “Water Efficiency Projects”.

5D. WATER CONSERVATION

In October 2008, through the SF Public Utilities Commission (PUC), a water audit and assessment was conducted by Intergy Corporation at 1011 Turk Street. A report was provided only in February 2014. Despite the absence of the assessment and recommended measures from PUC, DEM continues to promote and implement water conservation efforts and water efficiency projects:

- Employee outreach and education through emails, newsletter, signage, posters and decals in common areas, break rooms, rest-rooms and kitchens. DEM requested for updated decals and signage from PUC, but PUC is still working on the new ones. See samples of informational materials attached as *Appendix "K"*.
- Through the Real Estate Building Engineers, regularly monitor and detect leaks, and repairs take place immediately. Employees help by reporting leaks to the facility group or service desk immediately.
- Constant reminders to members via email about the use of dual flushometers. Fourteen (14) flushometers were installed in all rest-rooms. The saving potential is ½ gallon per flush use.
- Employees use leftover drinking water to water the plants in offices. Employees are also getting the habit of turning off faucets while brushing their teeth.
- Prohibited car washing outside DEM garage.

According to PUC, DEM *does not* need another audit/assessment unless there are changes in the water uses. However, PUC sent a conservation inspector to check on the aerators, shower heads and flushes.

See *Appendix "L" – Email from Amanda Dougherty, PUC's response regarding DEM's request for another audit.*

- On February 06, 2014, PUC conducted a conservation inspection of aerators and shower heads at *DEM Facility at 1011 Turk Street*. This is also in response to Mayor Lee's Executive Directive requiring all city departments to take immediate steps to reduce water use by at 10% due to the drought in California. Sixteen (16) new slow flow aerators were installed in rest-rooms and break rooms and five (5) slow flow shower heads in the locker rooms.

According to PUC, it is a challenge and difficult to estimate over all savings without knowing how long each faucet and shower is being used. This is due to the occupancy rate and visitors per day and each individual's behavior. Employee use of bathrooms is usually 3 times per day. However, aerators change was estimated to be between 40% and 70% water reduction. Listed below is a chart of the aerators replaced and the savings generated for each fixture.

See *Appendix "M" – email from Sanford Lee, Water Service Inspector, Water Conservation, dated 2/12/14 regarding estimate overall savings*

Quantity	AERATORS REPLACEMENT AT DEM – 02/06/14	FROM	TO	SAVINGS
1	Main Lobby Restroom Faucet	2.2 gpm	0.5 gpm	1.7 gpm
2	First Floor Men Restroom Faucet	2.2 gpm	0.5 gpm	1.7 gpm
2	First Floor Men Restroom Shower head	2.5 gpm	1.5 gpm	1 gpm
3	First Floor Women Restroom Faucet	2.2 gpm	0.5 gpm	1.7 gpm
3	First Floor Women Restroom Shower head	2.5 gpm	1.5 gpm	1 gpm
2	First Floor Kitchen Faucet	2.2 gpm	1.5 gpm	0.7 gpm
1	Second Floor Kitchen Faucet (admin)	2.2 gpm	1.5 gpm	0.7 gpm
1	Second Floor Kitchen Faucet (operation)	2.2 gpm	1.5 gpm	0.7 gpm
1	Second Floor Men Restroom Faucet (operation)	2.2 gpm	0.5 gpm	1.7 gpm
1	Second Floor Women Restroom Faucet (operation)	2.2 gpm	0.5 gpm	1.7 gpm
2	Second Floor Men Restroom Faucet (admin)	2.2 gpm	0.5 gpm	1.7 gpm

2	Second Floor Women Restroom Faucet (admin)					2.2 gpm	0.5 gpm	1.7 gpm

Gpm – gallons per minute

6. EFFORTS IN VEHICLE FUEL REDUCTION

6A. COMPLIANCE WITH THE HEALTHY AIR AND CLEAN TRANSPORTATION ORDINANCE

Healthy Air and Clean Transportation Ordinance (HACTO) is a mandate that all City employees and departments should use sustainable transportation such as public transit, walking, ridesharing or biking to minimize single-occupancy vehicle transportation as much as possible and, when it is not, to use green vehicles. To implement this ordinance, each department is required to develop a Transit First plan outlining how each department will implement the various sustainable options to reduce vehicle usage and a Transit First report on implementation. For departments that manage their own fleet of vehicles, fleet size must be reduced by 5% annually.

DEM is compliant with this year’s Healthy Air and Clean Transportation Ordinance requirements, and the “HACTO Submission Forms-FY1314” is attached as Appendix “N” to this document. Also attached to Appendix “N” is an email from Dan Coleman, confirming the turn-in, replacement and credit of DEM city vehicles.

In order to comply with the Healthy Air and Clean Transportation Ordinance, DEM reported on the successes of its Transit First programs and plans for improvement and growth.

- DEM promotes and encourages employees to use the City’s transit, walking, biking, Muni, BART, car share, carpooling for meetings and traveling to and from work.
- DEM encourages employees to commute sustainably to work by offering bike racks and a secure bike parking in the basement.
- DEM promotes Pre-tax Commuter Benefits Program through emails, intranet, posters and training/presentation during staff meetings and orientation of new members
- DEM utilizes an internal vehicle pool sharing program and route planning managed by the administrative secretary. Smart trip planning through monitored vehicle sign-out and carpooling remains in place to maximize vehicle use and save fuel.
- DEM utilizes technologies that can bring staff together without having to actually travel to meet. DEM has several teleconference bridge lines for both routine and emergency use, as well as a narrow ability for video conferencing.

Other DEM Plans to help reduce carbon footprints:

DEM Fleet Manager continues to pursue alternative fuel vehicles that fit the mission of DEM not just for its fleet but encouraging driving employees to use alternative vehicles. DEM provides parking space for personnel with electric vehicles. It also plans to install charging stations in its basement. DEM is in collaboration with the Department of Environment for this project. DOE will provide funds to procure the charging units, while DEM will take care of the installation costs, through its work order with the Department of Public Works (DPW).

Challenges:

- As DEM has been reporting yearly in its DepCAP, the location of the facility and the functionality of the Department limit the use of public transportation or alternative means of commuting to work. These conditions remain the same. However, DEM continues campaigning and promoting alternative means of transportation among members.
- Bike Fleet – DEM’s location and traffic activity level present a safety concern which is felt outweighs the benefit of bicycle use. DEM is adjacent to major thoroughfares which do not fit into a safe model for bike use by staff. After a thorough research and careful consideration of many factors such as liability, safety and traffic in our area, DEM decided to return the bicycles to the Department of Environment in April 2013, to offer them to other interested departments.
- SFMTA Tokens – Due to budget constraints, DEM’s is prioritizing projects that are critical to communication upgrade; DEM is not ready to fund this program at this time. However, DEM will continue its efforts to give the program a consideration when funding becomes available.

6B. TRANSIT FIRST CAMPAIGN

This year, City departments implemented Transit First campaigns to educate employees about their Transit First options. This year, DEM chose *1B-Poster and E-communication campaign*. DEM's mission will be to encourage employees to participate in a 6 month cycle of spreading monthly campaign theme among members.

- DEM has displayed posters at each work location and common areas in the building for February and March 2014.
- E-communications were distributed to all members via email and intranet. DEM plans to include this information in the DEM Newsletter.
- Necessary claim forms were created into DEM "Form" drive for easy access to members who do not have computers or prefer to fill out forms manually
- This means of communications will increase recognition and use of all Commute Smart programs.

Topics/Themes for Transit First Campaigns:

February 2014 – Ridesharing (*completed*)

March 2014 – Emergency Ride Home (*in-progress*)

April 2014 – Pre-tax Commuter Benefits Program

May 2014 – City Cycle Bike to Work

June 2014 – Public Transit at Work (Transit)

DEM is committed to fulfilling its mission monthly and will work closely with the Smart Commute team of the Department of Environment in educating members of the many benefits available to them to save more money while commuting to and from work.

6C. BIODIESEL

The bio-diesel requirement does not apply to DEM, as none of its existing fleet are using diesel. DEM does, however purchase diesel fuel to run the emergency generators.

DEM has a 12,000 gallon Underground Storage Tank (UST) on site at the west end of the building. This diesel is used to fuel the emergency generators and oilers in the event of utility failure. On average, DEM uses 900 gallons of diesel a year. The UST fuel level is always kept between 80%-90%. Real Estate Division's Stationary Building Engineer advises bio-diesel is not feasible for this application due to long-term stability of bio-diesel.

7. OTHER SUSTAINABLE PRACTICES

7A. ZERO WASTE

DEM's Climate Liaison and Zero Waste Coordinators have completed and submitted an annual Waste Assessment Survey for each location.

See Appendix "O" copy of the Waste Assessment Survey from DEM-CECC (Combined Emergency Communication Center) at 1011 Turk Street; DEM-DES (Division of Emergency Services) at 30 Van Ness; and UASI (Urban Area Security Initiative) at 711 Van Ness.

DEM Liaison is committed:

- To continue with the practice of regular and constant communication with Zero Waste Coordinators on the status of Zero Waste programs in their each location.
- To talk about issues or problems being encountered in each location
- To remind ZW Coordinators of workshops and trainings scheduled by the Department of Environment and encourage them to participate.
- To follow-up from ZW Coordinators on inviting DOE for presentation or refresher training on Zero Waste programs in one of the staff meetings or during orientation of new employees

DEM's Zero Waste Highlights for FY2012-2013 & FY2013-2014

- 2/13/13 & 2/12/14 – Climate Liaison and two Zero Waste Coordinators attended the annual workshop at the City Hall
- 3/01/13 – UASI sponsored a Zero Waste presentation during their staff meeting at 711 Van Ness, and was attended by 19 members. See attendance sheet, attached as Appendix "P"
- 2/24/14 – Zero Waste Management training for new DEM-admin and Operations dispatch personnel at 1011 Turk Street. See attendance sheet attached as Appendix "Q".
- 5/20/13 – Performed an assessment and initiated changes to Recology service at 1011 Turk Street facility. DEM replaced garbage container from 4 yard to 3 yard container. DEM added one more 64 gallon compost container. DEM new savings: 17% or \$3,698.52/year. See email confirmation from Recology, attached as Appendix "R".
- DEM Administrative Secretary revised forms and other materials printed in 100% recycled paper by including the language and logo  Printed on 100% post-consumer recycled stock See sample forms, attached as Appendix "S".
- DEM maintains and manages a zero waste corner located on the NW corridor at 1011 Turk Street where it houses recycle container, compost, landfill, box for used cell phones (which are donated to the Department on the Status of Women), and used batteries. Used batteries and lamps with mercury are being picked-up by the SF Department of Health.
- 2/26/14 – DEM plans to adapt the zero waste textile initiative collection program. DEM DepCAP Liaison sent an email to SF partner, I:CO regarding set up of collection box. I:CO committed to contacting us about the program specifics as soon as the materials become available. See email response from I:CO attached as Appendix "T".
- DEM continues to support the Virtual Warehouse Program of the Department of Environment. For FY2012-13 & part of FY2013-14, DEM has donated more than 300 items (furniture, computer and other electronic items) to various city departments and non-profit organizations such as Goodwill, Campus California Teacher's Group or CCTG, ACCRC-Berkeley, SF Western Addition Technology Center or WATCC and Oakland Technology Exchange West (OTXWest). Since 2008, DEM has donated approximately over 1,500 items.
- DEM continues to support the Green Purchasing Program. Members involved in purchasing are constantly reminded to check the sfapproved.org to check city approved green products before purchasing.
- 01/22/14 – DepCAP Liaison and Stationary Building Engineer attended the Lighting Compliance and Showcase at the DOE building.
- DEM continues to promote E-payroll among its members through emails, intranet and newsletters.

7B. CARBON SEQUESTRATION / URBAN FOREST

Carbon Sequestration/Urban Forestry is not applicable to DEM. DEM does not plant, care for or otherwise support any urban forest.

7C. COMMUNITY WIDE IMPACT

Many DEM employees and other CCSF employees currently detailed at DEM expressed that their awareness and active participation about saving the environment both at home and at work have significantly increased. This creates and maintains a local culture that

understands and values sustainability. With this success, DEM commits to continue with these educational opportunities and outreach to its employees until all these practices become part of their daily activities thereby contributing to positive effects to climate change not only to the department, the city, and the community, but to the world as a whole.

The Department of Environment attested that DEM has historically made efforts to reduce our community's carbon footprint through promoting employee commute programs and instilling zero waste practices in staff. In the future, DEM will lay an increasingly large role in preparing for and responding to increasingly intense natural disasters triggered and made more severe by climate change.

7D. RESILIENCY AND ADAPTATION

Resilience is our ability to recover from adversity. Adaptation is our ability to adjust to change. City and County of San Francisco can be better prepared for changes to our habitat by integrating both resiliency and adaptation strategies into our infrastructure and community.

- DEM-Division of Emergency Services (DES) added "Climate Change" to the HMP's (Hazard Mitigation Plan), hazard profile section. DES has coordinated the preparation of the 2008 HMP in cooperation with other city agencies and departments that replaced the HMP prepared by the City in 2005. The City and County of San Francisco has developed this HMP to assess the risks posed by natural and human-caused hazards and to develop a mitigation strategy for reducing the City's risks. The City prepared the 2008 HMP in compliance with the requirements of the Disaster Mitigation Act of 2000 (DMA 2000). Refer to link <http://www.sfdem.org/ftp/uploadedfiles/dem/plansreports/hazardmitigationplan.pdf>
- DEM-Division of Emergency Services (DES) staff members have been actively participating in various meetings and presentations hosted by the SF Climate Change Committee related specifically to sea level rise. The DES members involved in this project are:

Edie Schaffer, Emergency Planner II, (415)487-5016, email: Edie.Schaffer@sfgov.org

Robert Stengel, Emergency Planner III, (415)487-5015, email: Robert.Stengel@sfgov.org

- DEM-DES is in the process of reviewing and updating Severe Storm and Flood Annex and Extreme Temperatures Annex to the Emergency Response Planning (ERP). The DES member involved in this project and serves as the contact person is:

Robert Stengel, Emergency Planner III, (415)487-5015, email: Robert.Stengel@sfgov.org

8. REPORT SUMMARY AND DEPARTMENTAL CLIMATE ACTION GOALS

Climate Change will be a part of DEM's mission as a service department. DEM will be committed to taking part of reducing the city's operational emissions until the city reaches its goal of 80% in 2050.

- DEM's carbon footprint did not drop significantly due to the combined virtualization projects where 31 servers are running for DEM, 9 are in virtualization process. DEM also serves as the hosting site for emergency public safety agencies: SFPD hosts 44 servers and JUS.T.I.S. (Justice Tracking Information System) project hosts 32 servers.
- DEM went above and beyond the HACTO ordinance by reducing its fleet by more than 10%. Two vehicles had been returned to GSA (General Services Agency) as of February 2014.
- It is the hope of DEM to innovate and apply solar power to the facility which will support the energy consumption and extend the 9-1-1 Center's capacity to support itself in the event of extended power failures.
- DEM also hopes to obtain more support from agencies such as PUC in funding energy efficiency measures recommended by energy audit company like EMCOR.
- DEM will continue educating its employees about water and energy conservation, zero waste management and smart commuting by displaying or posting signage, posters, flyers and other materials in common areas where members convene. DEM will also use technology as a means of educating its members through emails, memo, intranet and newsletters.
- DEM will continue demonstrating compliance with the City's environmental laws, mandates and city ordinances aimed at reducing carbon footprint from its daily operations.
- DEM will continue monitoring and improving energy efficiency practices. DEM will be pro-active and continue working with the Department of Environment the reduction of carbon footprint for the Department, the City and the planet as a whole.

APPENDICES

Appendix #	Description	Page #
A	Map and locations of 113 Outdoor Public Warning Systems (OPWS)	5
B	Proof of Service Orders for 6 OPWS with Public Utilities Commission – PUC (Electric bills are under DEM)	5
C	Email from Michelle Geddes regarding the 8 – 800 MHz projects and facilities	5
D	Email from Kathy Bianchi, Real Estate Division, regarding 633 Folsom Street location	9
E	Summary of EMCOR's audit report – April 2013	11
F	Page 25 of the “Energy Performance Benchmarking” report, showing DEM's carbon footprint	12
G	Page 9 of the “Energy Performance Benchmarking” report, showing DEM not eligible for energy star rating	12
H	E-mail from Sachiko Tanikawa regarding DEM, being compliant with the Lighting Efficiency Ordinance	12
I	Copy of Photovoltaic Project Request as part of the FY11-21 Budget Request	13
J	E-mail from Karen Satram, PUC-Water, confirmed that water bill for 1011 Turk and 1013 Turk (Western Addition Computer Learning Center) had been separated	14
K	Copy of Information and other Materials on Water Conservation	15
L	Email from Amanda Dougherty, PUC-Water, response to DEM's request for a second water audit	15
M	Email from Sanford Lee, water efficiency inspector, response regarding overall savings from replacing aerators.	15
N	Healthy Air & Clean Transportation (HACTO) Report and Plan for FY2012-2013 and email from Dan Coleman confirming DEM fleet.	16
O	DEM Waste Assessment Survey (DEM-CECC; DES; UASI)	18
P	Attendance Sheet on the Zero Waste Management Training on 3/01/13 at UASI office at 711 Van Ness	18
Q	Attendance Sheet on the Zero Waste Management training on 2/24/14 at 1011 Turk Street	18
R	Email from Recology regarding assessment and change of pick-up service for compost, recycle and landfill containers	18
S	Sample of revised office forms with the recycled paper language and logo	18
T	Email from I:CO regarding zero waste textile initiative program	18