City of Alexandria, Virginia

Attachment 2

Progress Report on the Environmental Action Plan 2030

City Council Legislative Session

April 9, 2013

ECO-CITY ALEXANDRIA

Eco-City Alexandria – Partnership Between the City, Alexandria Environmental Policy Commission, Virginia Tech and the Community

Eco-City Summit

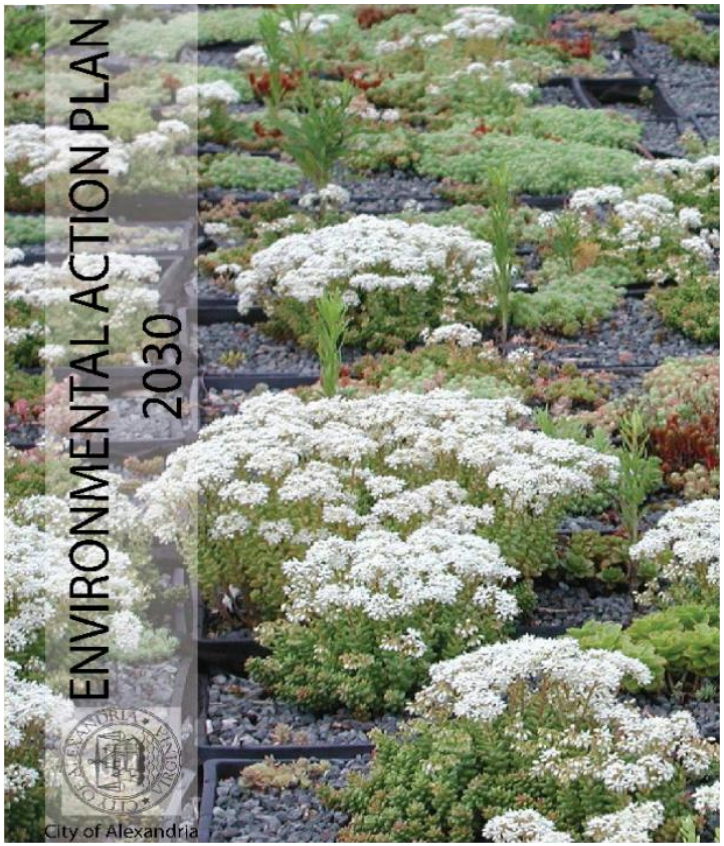
2007: Eco-City project initiated
2008: Eco-City Charter
2009: Environmental Action Plan 2030

Eco-City Cafe

CITY OF ALEXANDRIA VIRGINIA

ALEXANDRIA
Environmental Policy Commission

Environmental Action Plan 2030



- Comprehensive plan and road map for leading Alexandria toward sustainability
- Follows the ten guiding principles of the Eco-City Charter
- Contains 48 goals, 50 preliminary targets and 353 actions spanning the next 20 years and beyond

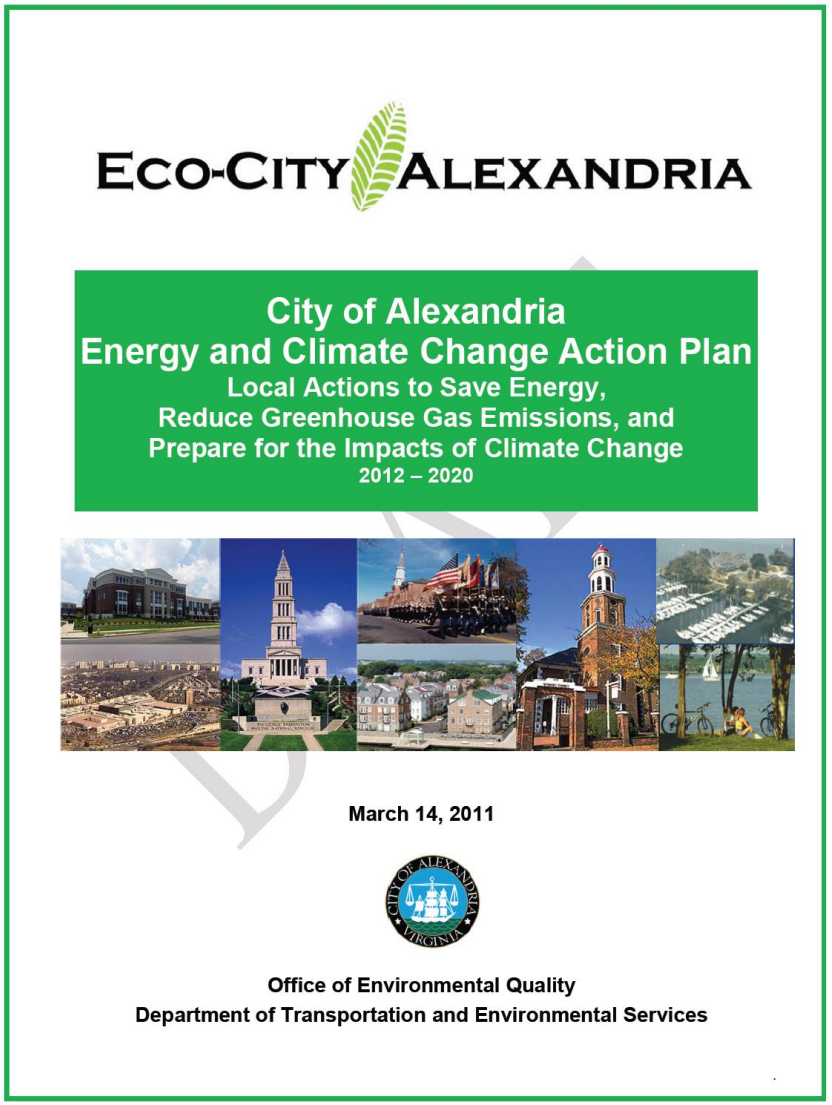
ENVIRONMENTAL INDICATOR (EI)	% CHANGE 2011 vs. 2010
1. Air Quality Days - number of days with code red/ orange	-30%
2. Per capita energy use, MWh per person per year	-11.5%
3. City government operations energy use, MWh per year	-3.1%
4. Greenhouse gas emissions by City government operations, metric tons of CO_2 per year	-18.7%
5. Greenhouse gas emissions by residents and businesses, metric tons of CO_2 per year	-18.6%
6. Per capita greenhouse gas emissions, metric tons of CO_2 per year	-21.1%
7. Percent of new developments committing to green building standard	+2.1%
8. Percent tree canopy	-
9. Number of acres protected since approval of Open Space Master Plan in 2003	+27.5%
10. Percent solid waste recycling rate	+16.9%

ENVIRONMENTAL INDICATOR (EI)	% CHANGE 2011 vs. 2010
11. DASH Public transit ridership - number of mass transit commuters per year	-1%
12. DASH Total passengers per mile / Total passenger per hour of service	-3.6% / -1.6%
13. Per capita water use, gallons per person per year	-3.6%
14. Per capita waste water treated, gallons per person per year	+8.9%
15. Number of storm water Best Management Practices (BMPs) in the City	+6.4%
16. Number of respiratory health complaints received by the Alexandria Health Department	-28%
17. Percent of full service restaurants that are totally non-smoking	+0.2%
18. Percent of population living in a walkable community	0%
19. ACPS energy usage per square foot of building space, Btu/ft^2/year	-22.6%
20. ACPS waste composting rate, Pounds per year	-36.1%

Findings from Key Environmental Indicators

Compared to last year:

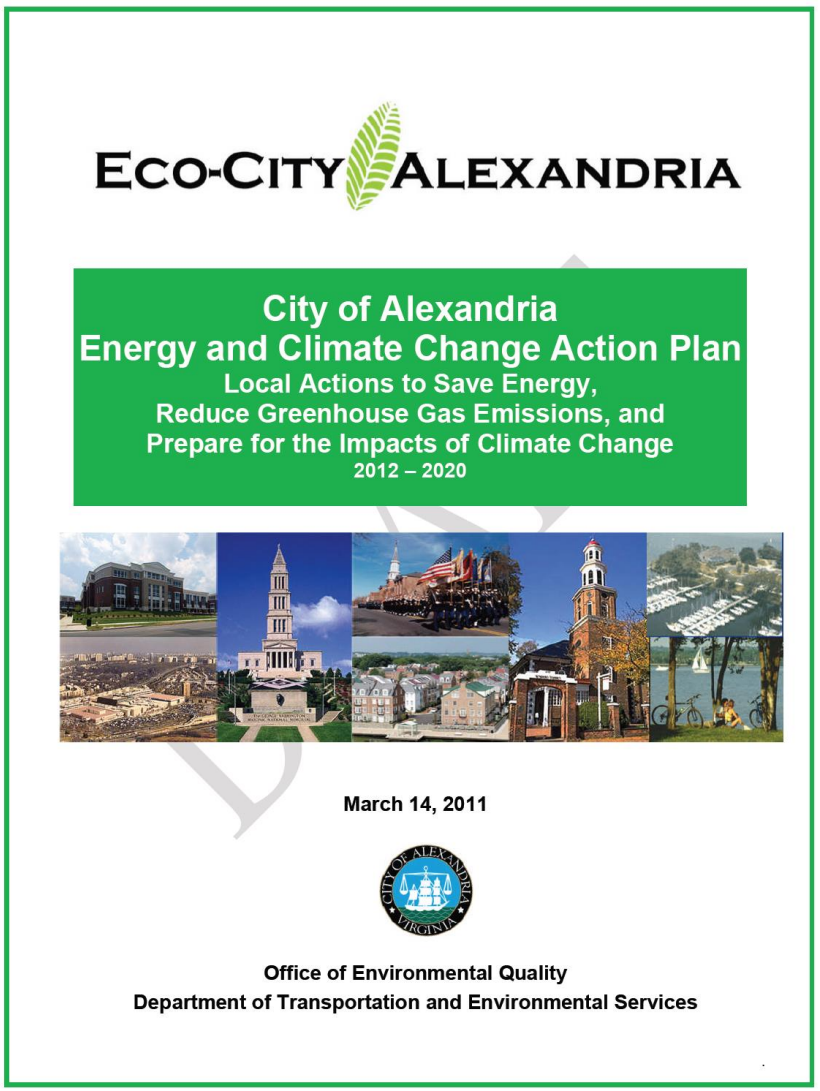
- City government operations reduced their energy usage by 3.1%
- Alexandria City Public Schools (ACPS) significantly reduced its energy usage per square foot of building space by 22.6%
- The per capita energy use for the Alexandria community reduced by 11.5%
- It's still too early to celebrate!



Findings from Key Environmental Indicators

Compared to last year:

- Greenhouse gas (GHG) emissions by City government reduced by 18.7%
- GHG emissions by residents and businesses reduced by 18.6%
- Per capita GHG emissions reduced by 21.1% and stood at 12.7 metric tons of CO_2e per year (Copenhagen is at ~5 metric tons per year)
  - Main reason for this is the increased use of cleaner fuels for the regional electricity generation leading to a significant reduction in the GHG emissions factor from 1,466 lb. CO_2e per kWh in 2005 to 1,047 lb. CO_2e per kWh in 2011



Findings from Key Environmental Indicators

- Waste recycling rate increased by 80% (from 26.9% to 48.4%) during the period 2009-2011

- 96% square footage of new developments conforming to the green building policy in FY2011

Hybrid Buses & Trolleys

- DASH purchased and received ten new 40-foot hybrid buses
- Over 30% of DASH's fleet is now powered by hybrid electric drive train.

- DASH continues to operate the King Street Trolley using five 30-foot hybrid-electric trolleys

GenOn PRGS Closed Permanently

- The single largest air pollutant source in the region closed its operations permanently on October 1, 2012
- It marked a significant milestone for the City and its residents
- In 2004 Council instructed staff to clean up the plant short-term and close it in the long-term
- Its electricity production can be replaced with power plants using cleaner fuels and renewable energies, further reducing the regional GHG emissions factor

PRGS Emissions in 2003 (tons)

SO_2	15,140
NO_x	5,750
PM_{10}	606
CO_2	2,721,000 (estimated)

Capital Bikeshare and Bicycle and Pedestrian Trail Construction

- The City completed several bicycle and pedestrian projects in 2012 aimed at making bicycling and walking safer
- The Charles Barrett Safe Routes to School Project completed October 2012
- The City installed eight bikeshare stations in Old Town

Other Significant Achievements

- Sustainable Construction at Alexandria Renew for the Nitrogen Upgrade Program

- The City and Alexandria Library installed a 42 kW photovoltaic system at the Beatley Library

Other Significant Achievements

- Ten bus shelters equipped with solar illumination installed within the City to provide a safer environment for passengers at night
- New solar-illuminated bus shelters to be built during the ongoing Metrobus shelter replacement project

- City of Alexandria achieved VML Platinum Level certification for the fifth consecutive year

Emerging Issues & Challenges

- Impacts of TMDL (Total Maximum Daily Load) on City's stormwater and combined sewer permits
- The new stormwater (MS4) permit will require City expenditures of up to $150 million over next 15 tears
- New CSS permit regulatory requirements due to bacteria TMDLs for Hunting Creek are in effect and may cost the City $200-300 million to mitigate
- Energize the community as a whole to work towards energy conservation and reducing GHG emissions
- Impacts as a result of climate change such as sea level rise and more frequent and severe storm events