Example Climate Action Plans

Introduction

Climate Action Plans are the heart of a community's commitment to meeting GHG emissions reduction target. They reflect a jurisdiction's commitment to taking a series of steps and actions to reduce GHG emissions. A materials management approach broadens the menu of emission reduction options and can account for significant emissions reduction opportunities. In addition to expanding recycling and composting programs, jurisdictions can adopt upstream measures like green procurement policies and innovative source reduction programs.

Actions to reduce GHGs by materials management are first organized according to the pollution prevention or "waste" hierarchy of: reduce, reuse, recycle/compost, dispose. The most common actions involve recycling and composting strategies. However, actions that achieve source reduction often have the most significant potential for reducing GHGs. Sustainable materials management is still a relatively young field and while many downstream approaches and infrastructure exist, it is important to reinforce that often the greatest GHG emissions reductions can be found upstream. As this field matures, jurisdictions will develop and implement more upstream strategies. In order to move upstream, there needs to be more infrastructure, and sound policies and programs that support the work. Following the "waste management" hierarchy, several actions related to a broader materials management framework are provided here. Several example Climate Action Plans that include materials management strategies to varying degrees are highlighted below.

Using a materials management approach provides the opportunity to:

- Highlight and quantify the climate protection benefits of materials and solid waste management policies and programs already underway.
- Achieve faster and cheaper progress in reducing GHG. When implemented, these policies and programs often immediately include most households (or businesses), and are often more directly under the control of communities and jurisdictions than other GHG reduction strategies.
- Increase the range of opportunities to achieve GHG reductions.

Note: We identified upstream strategies and actions featured below in yellow.

Template

Climate Action Plan Template

Developed by ICLEI - Sustainability for Local Governments for Alameda County StopWaste

StopWaste is the Alameda County Waste Management Authority and the Alameda County Source Reduction and Recycling Board operating as one public agency. StopWaste hired ICLEI - Local Governments for Sustainability in 2007 to create a template climate action plan that accurately describes the role that recycling, composting, and reducing waste can play in helping a city achieve its greenhouse gas reduction goals. The template is available on StopWaste's website for anyone who wishes to develop their own local Climate Action Plan. StopWaste encourages users to modify the plan as much or as little as necessary to fit their own needs.

How the template was developed

StopWaste represents a population of 1.4 million in 14 cities, two sanitary districts and Alameda County on waste issues. The Agency has a goal of 75% diversion from landfill and programs include residential and commercial recycling, food scrap recycling, (offered to all residents in the County), Green Building, Bay Friendly Landscaping, and schools recycling.

The 14 cities in Alameda County, through the County Conference of Mayors, were looking for a regional, countywide approach to climate action planning. StopWaste offered to facilitate such a countywide approach and started the Alameda County Climate Action Project. The project consisted of inventories conducted for each of the cities by ICLEI under a master contract facilitated by StopWaste. StopWaste also had ICLEI prepare a Climate Action Plan template that gave materials management a priority position. ICLEI quantified the impacts of many of the recycling, composting, and waste reduction measures that a city can undertake to help make the case for these activities.

The template was used by many cities in developing their own customized Climate Action Plans. Many cities improved upon it, but used it as a starting place. The template helped provide cities with the background they needed to develop a climate action plan and include discussion of and quantification of waste reduction and recycling practices.

Additional Resources:

- Alameda County Template Climate Action Plan

City & County Climate Action Plans

CAP Case #1 - San Diego, California

February 2014 DRAFT Climate Action Plan

Jurisdiction: San Diego, California
Responsible Party: City of San Diego, California
Plan Year: 2014

Background:

San Diego's 2004 Climate Action Plan was focused on measuring and reducing greenhouse gas emissions from city operations in the areas of power, transportation, and waste. The 2014 draft CAP seeks to expand the plan's focus beyond city operations to include strategies for the community to reduce GHG emissions, as well. The city's new CAP includes climate mitigation projects, as well as climate adaptation strategies and information on social equity issues surrounding climate change impacts.

The draft plan has five overarching strategies, including:

1. Energy & Water Efficient Buildings
2. Clean & Renewable Energy
3. Biking, Walking & Transit
4. Zero Waste
5. Climate Resiliency

Materials Management Goals:

- Divert 75% of solid waste by 2020 and 90% by 2035
- Zero Waste disposal by 2040

Strategies:

- Require construction, building and remodeling projects to recycle 75% of construction and demolition waste
- Develop a Resource Recovery Center for maximizing waste diversion
- Adopt a Plastic Bag Ban Reduction Ordinance
- Convert curbside recycling and greenery collection to a weekly basis
- Expand greenery collection program to include kitchen scraps

Progress Report:
None reported at this time.

Next Steps:
At the time of this writing, San Diego was in the process of approving and adopting the 2014 CAP, and then it will begin implementing the plan.

Additional Resources:

- Climate Action Plan information
- February 2014 DRAFT Climate Action Plan
- Climate Action Plan Appendices
- Draft CAP Timeline

CAP Case #2 - San Francisco, CA

"Climate Action Plan for San Francisco: Local Actions to Reduce Greenhouse Gas Emissions, updated 2013"

Jurisdiction: San Francisco, CA
Plan Year: 2004
Update Year: 2013

Background:
In September 2004, San Francisco Department of the Environment (SF Environment) and the San Francisco Public Utilities Commission with assistance from the International Council for Local Environmental Initiatives (ICLEI) released a forward-looking local government Climate Action Plan that includes significant measurable plans to reduce materials-related GHG emissions. In 2013, SF Environment updated the 2004 plan with the San Francisco Climate Action Strategy Update, under Mayor Edwin Lee.

The CAP recognizes the greenhouse gas benefits from avoiding the energy used during the extraction and processing of virgin raw materials to manufacture new products and that reducing landfill lowers the amount of methane released into the atmosphere.

> "From food to clothes to countertops, the things we buy and materials we use take a tremendous amount of natural resources. The extraction and use of oil, gas, minerals, and water required to make things can cause a wide range of damage to our climate system."

The 2004 report proposes a wide variety of actions to achieve its stated emissions reductions, which fall into the following categories: sustainable transportation modes, energy efficiency & renewable energy, alternative fuels, and waste reduction.

- Zero Waste by 2020
- 100% renewable electricity by 2020
- 50% sustainable trips
- 80% emissions reduction below 1990 levels by 2050. Emission reduction goals by year:
    - 20% reduction by 2012
    - 25% reduction by 2017
    - 40% reduction by 2025
    - 80% reduction by 2050

Materials Management Goals:

- Increase residential recycling and composting
- Increase commercial recycling and composting
- Expand construction and demolition debris recycling
- Promote source reduction, reuse and other waste reduction
- Support alternate collection methods for recyclable materials

Strategies:

- Banning Styrofoam and other brands of polystyrene foam in City department and for food service operators
- Banning non-compostable plastic bags
- Require events to offer recycling and composting bins
- Reduce packaging in collaboration with legislators, producers, wholesalers, retailers, and consumers

Progress Report:

- 80% waste diversion rate in 2010 (highest of any major city in North America)
- GHG emissions from waste sent to landfills decreased by almost half in 2013, compared to 1990 levels
- Overall reduction in GHG emissions of 14.5% between 1990 and 2010
- Passed Construction and Demolition Debris Recovery Ordinance in 2006
- Passed Food Service Waste Reduction Ordinance in 2006 to keep Styrofoam pollutants out of the bay, ocean, and landfills
    - Achieved nearly 100% compliance
    - Reduced
- Banned plastic bags at large grocery stores and retailers in 2007
    - Also banned Styrofoam containers in restaurants and hotels
    - In 2012, extended bag ban to apply to all retail stores and food establishments, and started charging for paper and compostable bags
- City required its department to develop annual climate action plans in 2008

- Green Building Ordinance passed in 2008
- San Francisco implemented a Mandatory Recycling & Composting Ordinance in 2009

Next Steps:

- Develop a zero waste facility
- Use anaerobic digesters to produce biogas from food scraps
- Develop secondary materials markets for recyclables, compostables, and processed derivatives
- Decrease use of disposable products
- Increase reuse, recycling, composting, and recycled content of products

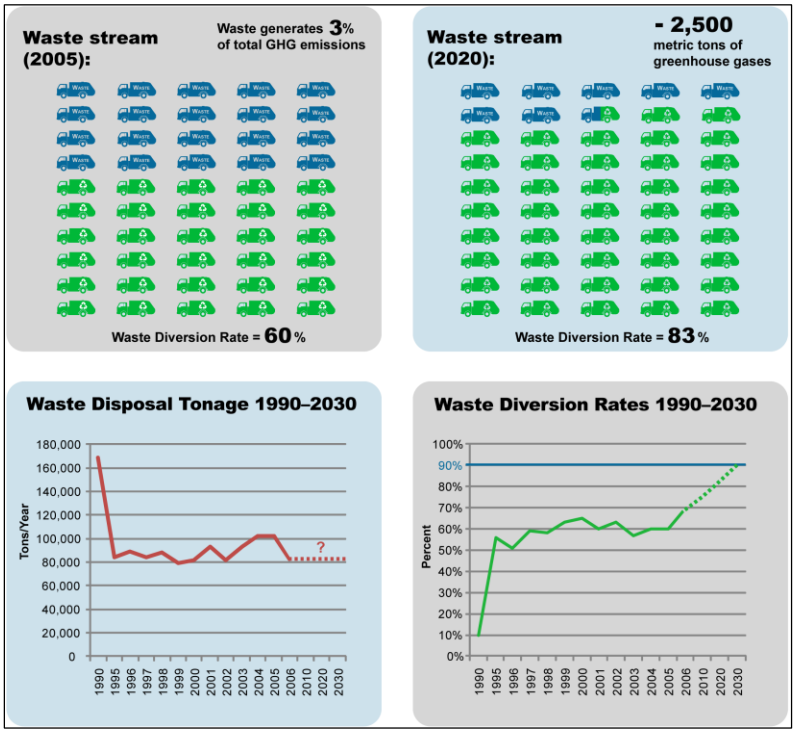
Additional Resources:

- San Francisco Climate Action Plan 2013 update
- San Francisco Climate Action Plan (2004)
- San Francisco Department of the Environment
- San Francisco Consumption Based Emissions Inventory

CAP Case #3 - Alameda County, CA (Unincorporated Areas)

Alameda County (Unincorporated Areas) Community Climate Action Plan

Jurisdiction: Alameda County, CA (Unincorporated Areas)
Plan Year: 2014



Background:

As a result of the Climate Protection Leadership Resolution and the Cool Counties Climate Stabilization Declaration, which Alameda County's Board of Supervisors adopted in 2006 and 2007, respectively, the County was directed to inventory its greenhouse gas emissions and develop a plan to reduce emissions 80 percent by 2050. The county has two CAPs: the Unincorporated Community Climate Action Plan (CCAP), discussed here, and the Government Services and Operations Plan, which was adopted in 2010. The government plan aims to reduce the County's GHG emissions 15 percent by 2020 and includes 80 recommended actions to achieve that goal.

The CCAP also aims to reduce GHG emissions 15 percent by 2020 through 37 local programs and measures related to waste, transportation, land use, building energy, water, and green infrastructure.

Materials Management Goals:

Alameda County recognizes that the goods consumed and disposed of by its residents "strongly influences the amount of waste-related GHG emissions released into the atmosphere." The County has one of the highest waste diversion rates in the country, but it aims to increase that rate even higher by revising construction and demolition ordinances and establishing a food waste collection program.

- Increase solid waste reduction and diversion to 90 percent by 2030
- Strengthen the Construction and Demolition Debris Management Ordinance
- Develop a food waste collection program and an ordinance that requires all household and commercial food wastes and food soiled paper to be placed in organics carts
- Work with StopWaste.Org, Alameda County cities, and other organizations to urge adoption of legislation that requires extended producer responsibility and improves the recyclability of products and packaging

Strategies:
Each of the above listed sustainable materials management goals has accompanying strategies for achieving these targets. Each goal and its accompanying "implementation actions" is outline in the CCAP with a timetable, assignment of responsibility, performance indicator, cost and savings estimates, and potential sources of funding. See pages 61-66 of the plan for full details.

- Adopt an amendment to the Waste Diversion Resolution to achieve 90 percent waste reduction and diversion by 2030
- Expand outreach programs to maximize participation in waste reduction and diversion programs
- Amend an ordinance to require diversion of (1) 100% of inert waste and 50% wood/vegetative/scrap metal net of Alternative Daily Cover (ADC) and unsalvageable material put to other beneficial uses at landfills and recycling and (2) beneficial reuse of 100% of inert materials – concrete and asphalt by 2015
- Work with Stopwaste.Org to develop educational programs for construction professionals about advanced construction and demolition waste diversion techniques
- Partner with Stopwaste.Org and local businesses to establish a construction and demolition material recycling industry in the area
- Develop a residential and commercial food waste collection and composting outreach and education program
- Amend the County's Waste Management Resolution to prohibit the disposal of household and commercial food scraps and food-soiled paper with other household waste
- Develop a resolution of support to encourage the State and federal governments to pass legislation that requires extended producer responsibility and improves recyclability of products and packaging

Progress Report:
None reported at this time.

Next Steps:
Alameda County planned for its staff to implement the CCAP and also measure its progress; evaluate and update the CAP over time; and obtain funding for CAP programs and projects. The County plans to conduct new community-wide GHG emissions inventories in 2014, 2018, and 2020. The County's Planning Department is responsible for measuring progress toward its goal on the same schedule as the emissions inventories.

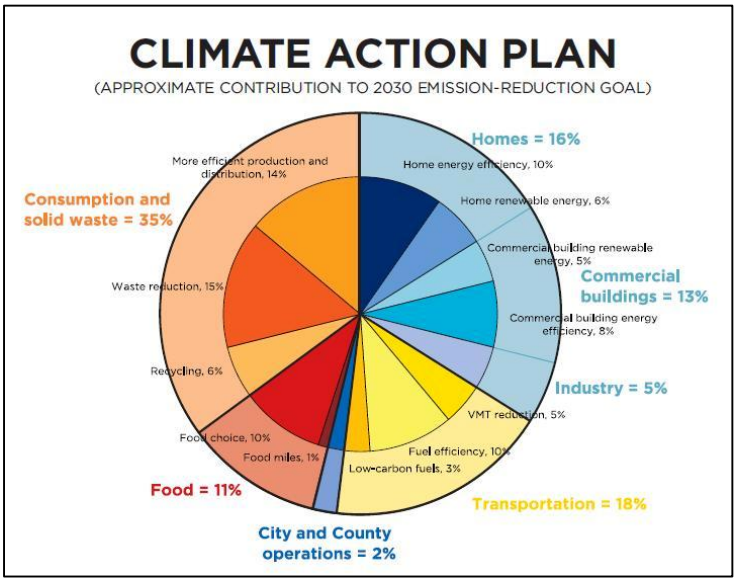
Additional Resources:

- Alameda County Climate Action Plans information
- Final Draft Community Climate Action Plan
- More information about the CCAP
- Alameda County Greenhouse Gas Emissions Inventory
- Alameda County Climate Action Plan for Government Services and Operations Through 2020
- Climate Action Plan Fact Sheet

CAP Case 4 – Portland and Multnomah County

"City of Portland/Multnomah County Climate Action Plan, updated 2011"

Jurisdiction: City of Portland and Multnomah County, Oregon
Plan Year: 2009
Update Year: 2013 (in progress)
Progress Report Year(s): 2011, 2010



Background:

In response to Portland City Council and Multnomah County Board of Commissioners' directive to reduce local carbon emissions 80% below 1990 levels by 2050, the City of Portland and Multnomah County adopted a Climate Action Plan in 2009. The CAP focuses on top actions for the next three years and has an interim goal of 40% emissions reduction by 2030.

The plan reframes the traditional "waste" sector, characterizing it broadly as "consumption and waste," and targets a 35% carbon emissions from this sector. The reductions come from the following sources:

- Recycling 6%
- Waste prevention 15%
- More efficient production and distribution: 14%

Portland's CAP uses both the traditional and life-cycle approach to inventory Portland and Multnomah County's emissions.

> "Both approaches are needed because the businesses and industries located in Multnomah County produce different kinds and quantities of goods than what local residents consume. Examining carbon emissions through both methods therefore provides a more complete picture of the total emissions for which Portland and Multnomah County bear some responsibility." Portland CAP, page 13

Materials Management Goals:

- Foster better consumption choices and reduce solid waste generated by 25%
- Recover 90% of all waste generated
- Reduce the greenhouse gas impacts of the waste collection system by 40%

Strategies:

- Reduce total solid waste generated by 25% by:
  - Working with partner organizations to encourage businesses and residents to:
    - purchase durable, repairable and reusable goods;
    - reduce the amount of materials that go to waste, including food;
    - and reduce consumption of carbon-intensive consumer goods and services
  - Developing a measurement and evaluation mechanism to track waste prevented through preservation, re-use and thoughtful consumption
  - Recover 90% of all waste generated by:
    - Completing the implementation of mandatory commercial food waste collection in Portland and begin collection of residential food waste.
    - Assisting 1,000 businesses per year to improve compliance with Portland's requirement of paper, metal and glass recycling.
    - Together with Metro and Department of Environmental Quality, creating and periodically updating a regional waste management hierarchy that reflects energy and greenhouse gas emissions as key factors in prioritizing such technologies as commercial composting, digesters, plasmafication and waste-to-energy systems.
  - Reduce the greenhouse gas impacts of the waste collection system by 40% by:
    - Providing weekly curbside collection of food waste, other compostable materials and recycling. Shift standard residential garbage collection to every other week.
    - Completing the installation of particulate filters on pre-2007 waste collection vehicles to reduce particulate emissions. Older trucks that are not good candidates for retrofit should be phased out of operation.
    - Evaluating actions under the Portland Recycles! Plan and consider additional regulatory options to improve the efficiency of commercial collection service.

See pages 47-50 of the CAP for the complete list of consumption and waste reduction strategies.

Progress Report:

- Banned plastic bans in all retail establishments and food vendors in 2012
- Launched citywide residential food scrap collection program in 2011
- Launched Sustainability at Work in 2011, a program that offers free tools to Portland organizations who want to create more sustainable workplaces, with a focus on waste prevention.
  - Nearly 2000 businesses received assistance from the program in the first year.
- Residential garbage collected curbside decreased 38% in the period between Nov. 2010-Oct. 2011 and Nov. 2011-Oct. 2012
- Residential composting collected curbside increased 180% in the period between Nov. 2010-Oct. 2011 and Nov. 2011-Oct. 2012

- Launched "Be Resourceful" public outreach campaign focused on promoting thoughtful consumption in 2010.
    - Program representatives had conversations with over 5000 residents at community events.
- Total tonnage of waste declined by 8% between 2008 and 2009 (lowest level in eight years)

See pages 39-40 in the Year Two Progress Report for detailed progress information on each materials management strategy.

Next Steps:

- Adopt a policy regulating waste and recycling service in unincorporated areas of Multnomah County
- Continue significant community engagement around food system planning to increase urban food production and encourage climate-friendly food choices

Additional Resources:

- Year Two Progress Report April 2012
- Year One Progress Report December 2010
- City of Portland and Multnomah County Climate Action Plan 2009
- General information and updates about the CAP
- CAP Update Steering Committee
- Draft list of action for CAP Update
- Equity Work Group

CAP Case #5 - **City of Eugene** "A Community Climate and Energy Action Plan for Eugene"

Jurisdiction: City of Eugene, Oregon
Plan Year: 2010
Progress Report Year: 2013

Background:
Eugene's City Council unanimously voted to develop a Community and Energy Action Plan (CEAP) in 2008, under which all city operations and facilities would achieve carbon-neutrality by 2020. The CEAP advisory team was assembled in May 2009 and was composed of 11 community members and representatives of partner agencies.

In 2009, the City Council set community-wide goals to reduced fossil fuel consumption by 50% no later than 2030. An Advisory Council of 11 community members and representatives from partnering agencies were appointed in 2009 to facilitate development of the CEAP.

City Council employed a robust public engagement process that included discreet public workshops for each of six target categories:

- Buildings and Energy
- Food and Agriculture
- Land Use and Transportation

- Consumption and Waste
- Health and Social Services
- Urban Natural Resources

The CEAP's overarching goals include:

- Reduce community-wide GHG to 10% under 1990 levels by 2020, and 75% below 1990 levels by 2050 (consistent with the State's GHG emissions reduction goals)
- Reduce community-wide fossil fuel use by 50% by 2030; and
- Identify strategies for adaptation to changing climate and fossil fuel prices.

Materials Management Goals:

The City defines consumption and waste as "everything in the lifecycle of consumer goods; the embodied energy in everything from chairs to cars, from building materials to strollers." Based on EPA and Oregon Metro's measurement of GHG emissions that result from the provision of goods and food, Eugene assumes in its CAP that consumption and waste make up between 40-42% of its total GHG emissions. The City also notes that already more than 95% of its households participated in recycling services and about 53% of the waste produced in the area is diverted from the landfill. Its general consumption and waste reduction objectives include:

- Reduce greenhouse gas emissions by addressing purchasing habits
- Increase waste diversion by improving recycling
- Increase waste diversion rate for organic wastes
- Conduct research to determine the most effective next steps in the area of consumption and waste
- Reduce greenhouse gases in municipal operations by changing purchasing practices and reducing waste

For its Food and Agriculture category, the City noted that while its own greenhouse gas inventory does not specifically identify GHGs from food production and distribution, it uses Oregon Metro's own finding that food provision makes up about 14% of total emissions. The City approach does not use data from traditional economic sector emissions, which finds that the most GHGs in food provision result from transportation, when in fact the most GHGs associated with food occur during the production phase. Eugene's objectives for food and agriculture that are related to sustainable materials management include:

- Reduce consumption of carbon-intensive foods
- Reduce GHG emissions associated with agriculture and food waste

Strategies:

Each of Eugene's objectives is accompanied by a list of high priority actions to achieve the goals. Below is a partial list of these actions. See pages 38-41 of the plan for the comprehensive list of Consumption and Waste strategies, and pages 24-26 for Food and Agriculture.

Consumption and Waste:

- Educate businesses and residents about the role of consumption in creating emissions
- Support new state and national product stewardship legislation that requires producers to be involved in end-of-product-life management

- Enact a local ordinance to increase waste recovery rates from commercial and multi-family buildings
- Enact an ordinance that requires all construction and demolition waste materials to be sorted for reusable or recyclable materials
- Establish a permitted facility within the Eugene/Springfield area that can accept and compost (or anaerobically digest) all organic materials including food wastes
- Determine highest priority and most cost effective measures to address GHG production in the materials management sector
- Increase the effectiveness of current City of Eugene purchasing policies that prioritize: 1) Reuse of products and materials, 2) purchasing durable goods, and 3) avoiding disposable goods whenever possible

Food and Agriculture:

- Educate the public about food choice as part of a climate-friendly lifestyles
- Implement a "Buy climate-friendly first" food purchasing policy for public institutions
- Transition to agricultural methods that reduce GHGs
- Conduct pilot projects for co-digestion of food waste and biosolids

Progress Report:

In its 2013 progress report, Eugene noted that several recommendations from the original plan were completed while others have yet to be addressed. In the consumption and waste area, most of the priority actions were categorized as in the "getting started" or "striding" phase, but a few had been completed, including:

- Two commercial composting businesses in Eugene had permits approved in spring 2011
- Businesses began receiving curbside food waste hauling through Eugene's Love Food Not Waste program in November 2011
- Rates for the food waste collection program were set at 20 percent below commercial garbage rates to encourage use of the service
- An anaerobic digester with the capacity to process all of Eugene's commercial organic waste was scheduled to be up and running in April 2013
- City staff participated in a statewide stakeholder process hosted by the Oregon DEQ that produced a draft Materials Management in Oregon: 2050 Vision and Framework (see Oregon State feature above)
- Purchasing staff completed the embodied emissions greenhouse gas analysis for 2010 expenditures using the Carnegie Melon Economic Input Output Life Cycle Assessment tool
- The City of Eugene internal zero waste program kicked off in spring 2012
    - The program's goal is to keep 90 percent of the waste created by City operations out of the landfill by 2020

See pages 43-48 of the 2013 Progress Report for complete progress on each action area.

Next Steps:

As noted above, Eugene is currently making progress on many of the original recommendations from the CEAP. Areas in which it plans to continue work include:

- Educating businesses and residents about how consumption contributes to greenhouse gas emissions by conducting focus groups and training through Lane County Master Recyclers program
- City staff are working to implement a voluntary program that would increase the recycling rates within multi-family residential properties, designed by the University of Oregon's Community Planning Workshop program
- The City of Eugene Waste Prevention & Green Building Program continues to develop a Construction Material Diversion Program to promote waste reduction and reuse and recycling of construction materials in both private and City projects. Staff is targeting spring 2013 for program rollout
- The contractor hauling waste for the City of Eugene is collecting data on the quantities of waste being landfilled and the quantities being recycled. This information will help inform further refinement of waste of practices to reduce the waste being landfilled.

Additional Resources:

- Community Climate and Energy Action Plan
- Climate Change and Energy Use information page
- 2013 Progress Report
- 2011 Progress Report
- 2010 Internal Greenhouse Gas Inventory

CAP Case #6 - City of Seattle, WA
Seattle Climate Action Plan (2013)

Jurisdiction: City of Seattle, WA
Plan Year: 2013

Background:
Seattle outlines its history as a leader in climate protection, from being the first U.S. city to adopt a green building goal for all new municipal facilities in 2000, to the Mayor's Climate Protection Initiative launched by Mayor Greg Nickels in 2001, to being one of the first cities to adopt a Climate Action Plan in

2006. Seattle's first CAP was a plan to meet the Kyoto Protocol target of 7% emissions reduction below 1990 levels by 2012. Seattle went beyond the Kyoto Protocol in 2011 when it adopted a resolution to reach zero net greenhouse gas emissions by 2050 and prepare for the impacts of climate change. The 2013 CAP was created by the Office of Sustainability & Environment (OSE) in order to meet these goals.

The CAP was developed through a collaborative process that collected input through a variety of avenues, including as Technical Advisory Groups (TAGs) made up of experts across various relevant fields, the Green Ribbon Commission (GRC) comprised of local leaders who considered TAG recommendations, and public comments submitted online and at community meetings.

The plan focuses on sectors that the City deemed "most needed and will have the greatest impact," including:

- Road transportation
- Building and energy
- Waste

Seattle's 2013 CAP also includes actions to improve the community's resilience to the effects of climate change. The plan was designed to be implemented through relevant plans of different City departments, such as transportation and land use plans, building energy plans, and waste plans. Its recommended actions are organized by short-term activities to be implemented by 2015 and long-term activities to be implemented by 2030.

Materials Management Goals:

Seattle identifies two ways that emissions are released during the waste disposal process: waste transport and waste disposal. However, the City recognizes that emissions from end-of-life waste do not consider the entire life cycle of our waste:

> "The more significant role waste plays in climate change is in the emissions that can avoided by waste reduction, sustainable product design, recycling, and composting. Designing and using products sustainably, recycling products at the end of their useful life, and composting organic material are critical waste management strategies that reduce emissions."

Seattle developed its waste goals based on its 2012 Solid Waste Plan and additional actions that can reduce both upstream and downstream emissions. The City claims that if all of its recommended actions are implemented, it can continue to have net zero emissions from its waste transport and disposal, and increase the amount of avoided emissions from waste reduction and other materials management activities. As such, its two main waste targets are:

- 70% diversion rate from landfill to recycling and composting by 2022
- 50% reduction in methane emissions from landfill by 2020

The waste section of Seattle's CAP also include three items for its "2030 Vision":

- The City diverts 70% of its waste to recycling and composting
- New markets for recycled materials are developed
- Producers of the goods we consume are taking responsibility for the end-of-life management of their products

Strategies:

Seattle's strategies to reduce the greenhouse gas emissions associated with waste are organized in three categories: Waste Reduction & Product Stewardship; Recycling & Composting; and Collection,

Processing, & Disposal. Below is a sample of some of these strategies—for a complete list by category, see pages 46-50 of the report.

- Pursue local product stewardship programs
- Launch programs to support edible food donation, help commercial kitchens find efficiencies and reduce waste, and help households and businesses reduce food waste through better planning, purchasing, storage and preparation
- Increase enforcement of residential and business recycling and composting requirements
- Phase-in bans on the following construction and demolition waste from job sites and private transfer stations: recyclable metal, cardboard, plastic film, carpet, clean gypsum, clean wood, and asphalt shingles.
- Continue to support and expand material exchanges and reuse programs, and promote building with salvaged and reclaimed materials
- Enhance outreach and education about recycling and composting to residents and businesses
- Pilot and consider changing to every-other-week garbage collection from single-family homes
- Focus grants on schools to establish system-wide collection for food and yard waste

Progress Report:
The City of Seattle has not issued a formal progress report on the status of its CAP. However, different departments with their own plans that touch on different pieces of the CAP have various methods of reporting. Seattle Public Utilities (SPU) reported in its 2013 Annual Report Card that 56.2% of all solid waste was recycled in 2013. In its Strategic Business Plan, SPU also reported that single-family homes in Seattle recycle and compost over 70% of their waste, which is the highest rate in the nation.

Next Steps:
Seattle Public Utilities is the lead agency for all waste actions scheduled to be implemented by 2015. OSE is responsible for reporting on progress toward 2015 and 2030 actions annually, and climate action outcome indicators every other year (or as data becomes available). Additionally, OSE is scheduled to update its greenhouse gas emissions inventory every three years.

Additional Resources:

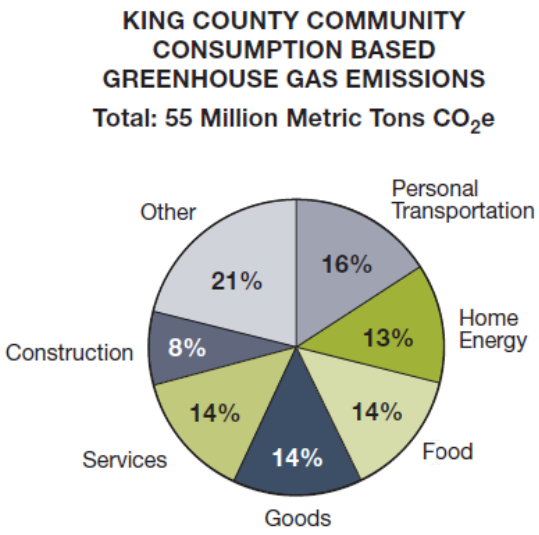
- Seattle Climate Action Plan general information
- Seattle Climate Action Plan
- Seattle Climate Action Plan Technical Advisory Groups
- Green Ribbon Commission Recommendations (2012)
- Green Ribbon Commission Recommendations Executive Summary

CAP Case #7 - King County, WA

King County Strategic Climate Action Plan (2012)

Jurisdiction: King County, WA
Plan Year: 2012
Progress Report Year: 2013

Background:
King County's 2012 Strategic Climate Action Plan (SCAP) was created as a result of a King County Council ordinance



requiring the King County Executive to develop a CAP using the County's 2010-2014 Strategic Plan as a framework. The SCAP, which was developed collaboratively by the King County Executive, Dow Constantine, and the County Council, builds off the Strategic Plan's goal of environmental sustainability to reduce climate pollution and prepare for the impacts of climate change. The County Council required the first SCAP to be developed in less than one year, and so it focused its primary efforts on county operations. In its 2012 ordinance, the County Council also required an update to the plan, with a greater focus on community actions, by June 2015. Besides the County's Strategic Plan, the SCAP builds on work from its 2007 Climate Plan, 2006 and 2012 Climate Motions, 2010 Energy Plan, Solid Waste Comprehensive Plan, and others.

The plan is based off emissions from a 2008 greenhouse gas inventory in King County that measured emissions at both the community and municipal level. In quantifying community sources of greenhouse gas emissions, King County and its partners in the study, including Puget Sound Clean Air Agency, City of Seattle, and the U.S. Department of Energy, measured all sources of emissions within the county's geographic borders. For the first time, the study also attempted to quantify emissions from local consumption of food, goods, and services produced both inside and outside the County's borders. In doing this, King County found that:

> "emissions related to goods and services consumed within King County, even if those goods and services were produced elsewhere, were more than twice as high as the emissions that occurred locally. The study's finding of significant emissions from a wide range of sources emphasizes that King County and its partners must pursue a diverse range of climate solutions."

King County established two overarching targets for its SCAP, one for communitywide emissions and one for county operations.

- Communitywide target: Reduce countywide greenhouse-gas emissions by at least 80 percent below 2007 levels by 2050
- County operations target: Reduce total greenhouse-gas emissions from government operations, compared to a 2007 baseline, by at least 15 percent by 2015, 25 percent by 2020, and 50 percent by 2030

For its communitywide target, King County emphasized the need for residents, businesses, local governments and other partners to work together to reduce emissions. The King County Growth Management Planning Council passed a policy in 2011 that recommends a shared countywide greenhouse gas emissions reduction target that meets or exceeds the statewide reduction requirement of 50% below 1990 levels by 2050. The policy was amended in 2014 and includes reduction goals of 25% by 2020, 50% by 2030, and 80% by 2050, compared to a 2007 baseline.

Materials Management Goals:

- Increase the countywide recycling rate to 70% by 2020
- Zero waste of resources that can be reused, resold, or recycled by 2030

Strategies:

- Conduct an outreach campaign and provide incentives and support to increase communitywide recycling and composting
- Partner with haulers and recycling and composting businesses to increase productive reuse and recycling of materials

- Develop, expand and support markets for reused and recycled products and for County produced renewable resources
- Provide and increase recycling and composting collection at King County transfer stations
- Provide tools and support to King County schools and other partners to improve waste prevention, resource conservation and efficiency efforts

Read more about these priority actions and existing efforts in these areas on pages 37-38 of the report.

Progress Report:
In its 2013 Annual Sustainability Report, King County reported a decline in per capita GHG emissions for the average King County resident, despite the fact that total overall emissions increased. The report noted that the County was not on track to meet its reduction targets. In the Consumption and Materials Management section, King County reported that its residents and businesses continued to recycle or compost more than half of all their waste, thanks in part to campaigns such as Recycle More: It's Easy To Do and Food: Too Good to Waste. (Read about these two campaigns on page 37 of the 2013 report.)

- Overall recycling rates remained the same as 2011 at 52 percent (data for 2013 was not yet available)
    - Reduced GHG emissions by more than 1.3 million metric tons of CO_{2e}
- Waste generated per week per capita in 2012 was the same as the previous year (21.9 pounds)
    - On track to meet the Comprehensive Solid Waste Management Plan goal of 20.4 pounds per week by 2020
- Waste disposed per week per capita decreased slightly from the previous period (13.4 pounds)
    - Surpasses solid waste plan goal of 14.2 pounds per week by 2020

Next Steps:
In order to achieve the 70% recycling rate and zero waste, King County reported that it would require a collaborative approach with the County, the cities, and private solid waste and recycling companies. In the 2013 report, King County outline the following "desired behaviors" to reach its materials management goals:

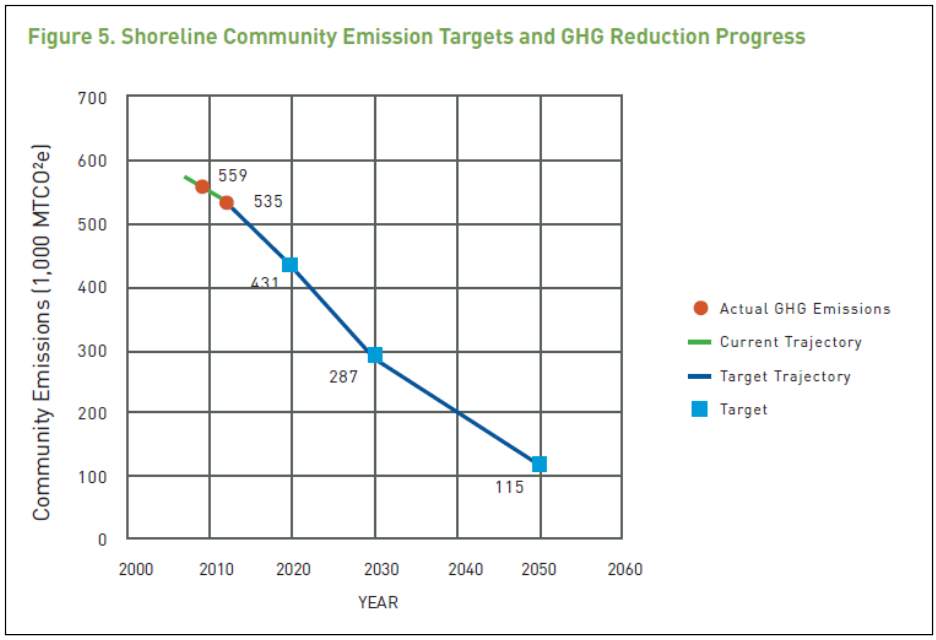
- Making sure that adequate public and/or private infrastructure is in place (e.g., building new transfer stations; Materials Recycling Facilities capacity/capabilities)
- Continued education and promotion
- Incentives, such as grants and recycling fees at transfer stations
- Mandates or bans on disposal of certain materials such as those with a high value or are easily recyclable

Additional Resources:

- King County Strategic Climate Action Plan general information
- King County Strategic Climate Action Plan
- 2013 Annual Sustainability Report
- Annual Sustainability Report Archive
- King County Climate Change Program

CAP Case #8 - City of Shoreline, WA

"Shoreline Climate Action Plan (2013)"



Jurisdiction: City of Shoreline, WA
Plan Year: 2013

Background:

In 2008, City of Shoreline staff developed an Environmental Sustainability Strategy, based on the City Council's goal to "create an environmentally sustainable community." The City's interdepartmental Green Team completed 42 of the 50 Sustainability Strategy recommendations by 2012. That same year, Shoreline began tracking the progress of City initiatives through forevergreen, a website that publishes metrics for the five focus areas defined in the Sustainability Strategy. The Climate Action Plan was developed following this new emphasis on helping residents and businesses make sustainable choices.

Shoreline's CAP was developed with three goals in mind:

1. Share and quantify the benefits of actions the City has already taken
2. Establish GHG emission reduction targets and actions to achieve them
3. Provide information on how individuals and businesses can help address climate change

The plan's GHG emission reduction targets include 11 climate action objectives centered on four main areas:

1. Energy and water
2. Materials and waste
3. Transportation, land use, and mobility
4. Urban trees, parks, and open spaces

Materials Management Goals:
Materials and waste goals make up two of the 11 climate action objectives included in the plan.

Objective 4. Increase recycling and reuse to reduce solid waste sent to the landfill
Objective 5. Reduce GHG emissions embodied in materials and food consumed

Strategies:

Shoreline has developed recommendations for further action for all 11 objectives includes in the plan. Some recommendations for increasing recycling and reuse include:

- Implement construction and demolition (C&D) waste reduction outreach and incentives through the permitting process
- Promote and encourage food scraps and yard debris recycling by residents and businesses through current education programs and the development of a new rate structure in the solid waste contract
- Consider establishing a recycling store that offers reusable items and products made from recycled materials
- Intensify collaboration and outreach with second-hand stores and King County to promote textile collection and recycling
- Support and promote efforts to extend the useful life of products through repair and reuse

Recommendations for reducing GHG emissions from materials use and food consumption include:

- Select new electronics that meet Electronic Product Environmental Assessment Tool (EPEAT) standards and consider becoming an EPEAT purchasing partner when possible
- Investigate the use of recycled asphalt shingles (RAS) or other recycled products in asphalt used for City paving projects
- Consider seeking grant funds to launch a "Food: Too Good to Waste" campaign (supported by the EPA) to encourage food waste reduction by residents
- Promote the use of the City's mini-grant programs to support "collaborative consumption" community projects like tool libraries and repair cafes

Find the complete list of recommendations on pages 45-47 (recycling and reuse) and 50-51 (materials and food).

Progress Report:

Although Shoreline has not yet issued a progress report for its 2013 plan, it highlighted actions the city was already taking in each category to reduce GHG emissions. To reduce waste and increase recycling, Shoreline has already taken the following actions:

- Provides organics recycling at several municipal facilities
- Provides solar-powered recycling containers at some parks and bus stops
- Provides residents with Green Cones, backyard composting bins, kitchen food scraps collection buckets, and compostable bags
- City Council uses iPads instead of printed meeting packets, avoiding 85 reams of paper used and half a metric ton of CO_2e emissions annually
- Washington State Recycling Association named Shoreline the 2012 Public Agency Recycler of the Year for city partnerships that increase recycling
- Expanded recycling and organics collection in 2008
- Hosts two collection events annually for residents to turn in difficult-to-recycle items like carpet and Styrofoam

To reduce GHG emissions from materials used and food consumed, Shoreline has taken these actions:

- Adopted Environmentally Preferable Purchasing (EPP) Guidelines in 2012 – "to reduce the potential adverse environmental impact of City purchasing decisions by buying goods and conducting business with manufacturers, vendors, contractors, and consultants who share the City's commitment to the environment"

Next Steps:

At the time of this writing, Shoreline was less than one year into its Climate Action Plan and working on implementing the strategies originally outlined in the plan.

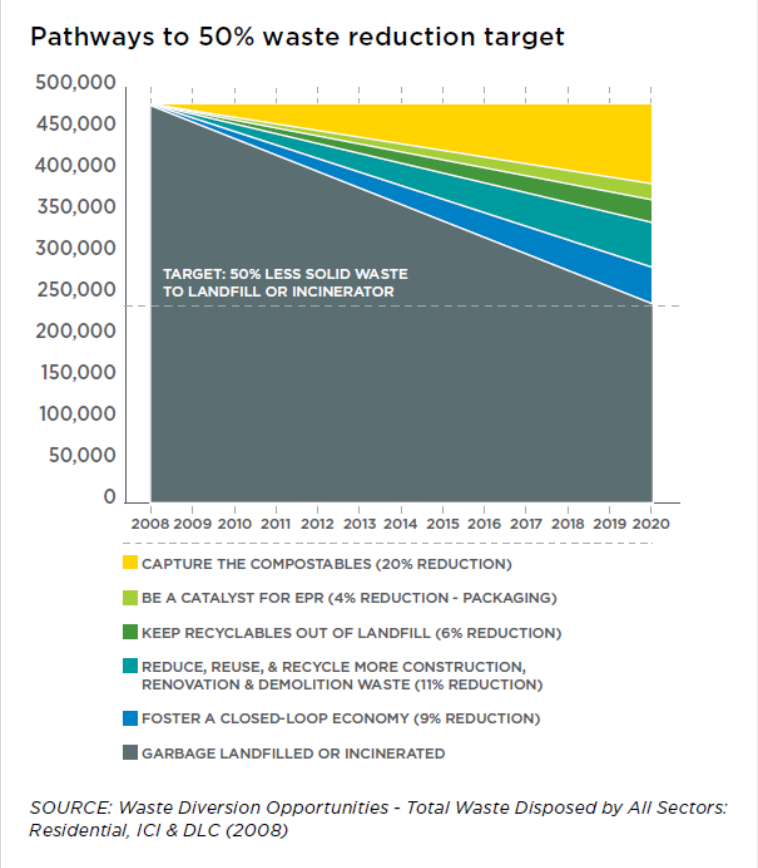
Additional Resources:

- Shoreline Climate Action Plan
- Shoreline Climate Protection information
- Shoreline 2012 Greenhouse Gas Emissions Inventory
- Forevergreen
- Shoreline City Hall Green Building Practices

CAP Case #9 - City of Vancouver, British Columbia

"Greenest City 2020 Action Plan (2009)"

Jurisdiction: City of Vancouver, British Columbia
Plan Year: 2009
Update Year: 2013-14, 2012-13, 2011-12
Progress Report Year: Included in Updates



SOURCE: Waste Diversion Opportunities - Total Waste Disposed by All Sectors: Residential, ICI & DLC (2008)

Background:

In 2009, Mayor Gregor Robertson's Greenest City Action Team published "Vancouver 2020: A Bright Green Future," which used best practices from green cities around the world to develop the goals and targets for Vancouver to meet in order to become the greenest city in the world. Through a collaborative process, the City then developed the Greenest City 2020 Action Plan (GCAP), which outlines exactly how Vancouver can achieve its goal of becoming the world's Greenest City. Over 35,000 people across the globe contributed their opinions through social media and in-person workshops and events. To decide the best method to achieve Vancouver's goal, the plan incorporated ideas and feedback from over 9,500 individuals, primarily Vancouver residents. City Council approved the GCAP in July 2011. Vancouver reports annually on the goals, targets, and progress.

The plan focuses on three main areas:

1. Carbon
2. Waste
3. Ecosystems

The GCAP is comprised of 10 smaller plans that have both medium-term (year 2020) and long-term (year 2050) targets. The 10 plans include the following goals:

1. Green economy
2. Climate leadership
3. Green buildings
4. Green transportation
5. Zero Waste
6. Access to nature
7. Lighter footprint
8. Clean water
9. Clean air
10. Local food

Materials Management Goals:

> "The first two of the 'three Rs'—reducing and reusing—are even more important for a zero waste society than recycling. This strategy helps to avoid the extraction of raw resources and conserves the energy used to produce new products."

Three of the 10 plans involve materials management goals, including:

Goal 3: Green buildings

- Require all buildings constructed from 2020 onward to be carbon neutral in operations
- Reduce energy use and greenhouse gas emissions in existing buildings by 20% over 2007 levels

Goal 5: Zero Waste
Reduce solid waste going to the landfill or incinerator by 50% from 2008 levels

Strategies:

Vancouver outlines current programs in place that are making progress toward reaching its goals. Some of these programs include:

- Extended Producer Responsibility (EPR) programs reduce environmental impact of products across their life cycles
- Green demolition (deconstruction) practices so building materials can be salvaged and reused
- New green building requirements for all new one- and two-family homes
- The Green Bin Program: curbside organic waste collection for Vancouver residents
- Proposed zero-waste energy center: non-incineration resource and energy recovery in South Vancouver
- Compost for residential gardens available for sale from the Vancouver Landfill
- Launched world's first cigarette butt recycling program

Learn more about all the strategies for green building and zero waste.

Progress Report:
All 10 categories improved over their baselines. In its 2013-14 Implementation Update, Vancouver reported:

- Overall 6% reduction in GHG emissions since 2007
- 3% decrease in CO_{2e} emissions from residential and commercial buildings (between 2007 and 2013)
- 12% decrease in annual solid waste disposed to landfill or incinerator (between 2008 and 2012)
- In 2014, a typical home built in Vancouver produces half the greenhouse gas emissions compared to one built to the Provincial building code (British Columbia)

Next Steps:

- Targeted for 2015: Metro Vancouver regional ban on all compostable material from landfill and incinerator
- Expanding pilot program for retrofitting rental buildings to increase energy efficiency

Additional Resources:

- Greenest City Action Plan information
- Greenest City 2020 Action Plan
- 2013-14 Implementation Update
- 2012-13 Implementation Update
- 2011-12 Implementation Update
- Extended Producer Responsibility programs
- Green demolition (deconstruction) practices

CAP Case #10 - Fort Collins

"City of Fort Collins Climate Action Plan, 2008"

Jurisdiction: Fort Collins, CO
Plan Year: 2008
Progress Report Year: 2013, 2012

Background:

Fort Collins updated its 2001 Climate Action Plan in December 2008, adopting GHG emissions targets of 20% reduction by 2020 and 80% reduction by 2050, compared to 2005 levels. In 2014, the city issued a resolution to consider developing a new, more aggressive CAP to achieve 80% reduction by 2030 compared to 2005 levels and carbon neutrality by 2050. In its 2013 Status Report, the city recognizes the potential challenge of such ambitious new goals, as an increasing population and economic activity led Fort Collins to experience small increases in GHG emissions in 2013 and 2012. However, the overall community emissions are still down by close to 5% and per capita emissions are down 17.7%, compared to 2005 levels.

One interesting feature of this plan is its inclusion of upstream emissions in its emissions inventory. In order to "take credit" for upstream reductions in emissions resulting from community recycling, the City's inventory includes the upstream emissions associated with producing targeted recovered materials that are landfilled. Thus, a reduction in landfilling and increase in recycling and composting allows the City to "reduce emissions" compared to the new baseline inventory.

Materials Management Goals:

- 2008 plan goal: 50% diversion
- 2013 City Council goal: 75% diversion by 2020 and zero waste by 2030

Strategies:

- Target specific materials including electronics, cardboard, paper and glass, construction and demolition materials
- Yard waste collection
- Enhanced Pay-As-You-Throw
- Commercial recycling co-ops
- Ban cardboard from waste stream
- Increase residential education

Progress Report:

2013:

- Waste Reduction and Recycling Assistance Program (WRAP) began in 2012 and reached over 7,500 individuals in 2013
- Banned landfill disposal of cardboard in 2013 – cardboard-only collection increased by 94.8 % in first nine months
- Increased concrete recycling by 85% and asphalt recycling by 24 % since 2012
- Community diversion rate (including residential, commercial, and industrial materials) increased 5.9% between 2012 and 2013

2012:

- Municipal solid waste diversion rate dropped 5% from 2011 to 2012
- Recycling rate grew 16%
- Cartons like beverage containers were added to single-stream recycling program in 2012
- Helped register 1,608 residents opt out of junk mail, preventing 20 tons of unwanted mail
- Recovered over 110,000 tons of asphalt, concrete, and aggregates to be made into new road-based materials

Next Steps:

In December 2013, City Council adopted new targets of 75% diversion rate by 2020 and zero waste by 2030. It also set a goal to reduce the generation of annual landfilled material per resident to 2.8 pounds by 2025. As a result of the 2014 City Resolution that steps us the emissions goal to 80% reduction compared to 2005 levels by 2030 and carbon neutrality by 2050, Fort Collins will likely be working on a new CAP and strategies that accompany it.

Additional Resources:

- Fort Collins Climate Action Plan
- 2013 Climate Action Status Report

- 2012 Climate Action Status Report
- Archive of past CAPs and Status Reports

CAP Case #11 – Kansas City "Climate Protection Plan"

Jurisdiction: Kansas City, Missouri
Plan Year: 2008

Background:
In August 2006, Kansas City's Mayor and City Council, City Manager, and Chief Environmental Officer decided to develop a communitywide climate protection plan. By October 2006, the Mayor had appointed an 11-member Steering Committee to oversee the planning process. Other stakeholders included local businesses, Mid-America Regional Council (MARC) staff, Environmental Management Commission, environmental and other non-profit organizations, local neighborhoods, and the EPA, State of Missouri, Jackson County, and City staff.

Work groups were created in November 2006 to develop suggested action plans in specific areas:
- Energy
- Transportation
- Carbon Offsets and Waste Management
- Policy and Outreach

In April 2007, Kansas City adopted Phase 1 of the Climate Protection Plan, and created four Working Groups to develop recommendations for the Steering Committee regarding government goals. Phase 2 was created in July 2008 and consisted of two Working Groups convened to produce recommendations for community-wide action and objectives, including developing a baseline inventory and establishing a GHG reduction goal.

The CAP includes overall emission reduction goals of the following:
- By 2010: City reduce emissions by 10% from 2000 levels; Community reduce emissions to 2000 levels
- By 2015: City reduce emissions by 20% from 2000 levels; Community reduce emissions by 15% from 2000 levels
- By 2020: City reduce emissions by 30% from 2000 levels; Community reduce emissions by 30% from 2000 levels
- By 2050: City and community reduce emissions by 80% from 2000 levels

Materials Management Goals:
- Reduce community-wide GHG emissions by 80% by 2050
- Achieve an 80% diversion rate of organic material (buildings and infrastructure)

Strategies:
Kansas City's Carbon Offsets and Waste Management Work Group included several sustainable materials management strategies in its recommendations. The total annual emissions reductions for this work group (including some strategies unrelated to materials management, such as expanding the city's urban forestry program) were 40,600 metric tons for the City's actions, and 183,525 metric tons for the community.

- Develop a comprehensive solid waste management plan
- Increase and expand curbside recycling program
- Expand city government recycling and green purchasing
- Make construction and demolition recycling mandatory for city-support projects

The Buildings & Infrastructure Work Group included a "No Waste" component that estimated possible emissions reductions of 1,000 metric tons for the City and 109,210 metric tons for the community. Their strategy recommendation included:

- Reorganize the Solid Waste Management Division of Public Works into a Resource Recovery Management Department
- Develop a Regional Resource Recovery and Management Facility and Environmental Campus
- Manage and reduce construction and demolition waste to achieve an 80% diversion rate

Progress Report:
None available at this time.

Next Steps:
At the time of this writing, Kansas City was updating its GHG emissions inventory with 2013 data.

Additional Resources:

- Kansas City Climate Protection Plan
- General information about the Climate Protection Plan
- Kansas City Environmental Management Commission Climate Protection Report (2006)

State CAPs

CAP Case #12 – Oregon State

"Oregon Strategy for Greenhouse Gas Reductions 2004" and Oregon Global Warming Commission's "Interim Roadmap to 2020" (2010)

Jurisdiction: Oregon State
Plan Year: 2004
Progress Report Years: 2013, 2011, 2009

Background:

In 2010, the Oregon Global Warming Commission (OGWC) drafted the "Roadmap to 2020," which included recommendations for how the state could meet its 2020 and 2050 greenhouse gas reduction goals set by the Oregon Legislature in 2007. The Roadmap to 2020 includes a "Materials Management Roadmap" with nine key actions to reduce greenhouse gas emissions associated with materials use in Oregon (see strategies below). In its 2013 Report to the Legislature, OGWC noted that 35-48 percent of Oregon's 2010 consumption-based greenhouse gas emissions resulted from the purchase of materials, most of which are associated with the production of those materials.

The Materials Management Committee, which put together the recommendations for this section, considered products used in Oregon, which made the scope of how the state contributes to climate change much broader than other sections in the overall report. The committee notes that many of the emissions associated with materials used in Oregon do not actually occur in the state, so they are not part of its greenhouse gas emissions inventory. As such, some of the strategies below would result in reductions that would not be captured in Oregon's inventory.

Materials Management Goals:

- Reduce greenhouse gas emissions associated with materials use to meet Oregon's 2020 greenhouse gas reduction goal

Strategies:

1. Advocate for carbon price signal across life cycle of products and materials (either by an emissions cap and/or a carbon tax), including imports (border adjustment mechanism/carbon tariff if necessary).
2. Search and integrate a consumption-based GHG inventory methodology with the State's conventional inventory, and identify high-carbon product categories
3. Develop and disseminate information: easy-to-use life cycle metrics for different food types
4. Establish standards, incentives, and/or mandates for carbon footprinting, labeling of products
5. Focus product stewardship on upstream emissions and design for appropriate durability, repairability, reusability, efficiency, and recovery
6. Establish higher standards for new buildings: "net zero" plus offset of materials
7. Provide consumer education, information, outreach on consumption, materials use, and prevention/reuse, including low-GHG food and diet choices
8. Reduce (prevent) waste of food at the retail and consumer level by 5-50%
9. Conduct research on highest/best use for organic wastes and the carbon impact of different conversion technologies

Progress Report:

In its 2013 Report to the Legislature, the Oregon Global Warming Commission (OGWC) stated that limited progress was made on the recommendations from the Materials Management Roadmap. The only action for which it gave an "A" score (meaning it is "on track to meet State goals or Roadmap outcomes") was action #2: Conduct research to develop a consumption-based GHG inventory and inventory methodology. Among other accomplishments for this action, a consumption-based inventory was updated and published for 2010 and a number of local governments are reportedly developing their own consumption-based emissions inventories. See pages 37-38 of the 2013 Legislative Report for more details.

In October 2014, Oregon DEQ published a report entitled Evaluation of Climate, Energy, and Soils Impacts of Selected Food Discards Management Systems, which aligns with action #9. (Note: Pete Pasterz of Oregon DEQ spoke during a West Coast Climate Forum webinar in October 2014 about the report. You can access the presentation and materials here.)

Next Steps:

Oregon admits it has a long way to go to achieve the recommended actions from its Materials Management Roadmap, and that one of the major strategies it was relying on to help stimulate greenhouse gas reductions has not been achieved.

> "A carbon price signal across the life cycle of products and materials remains the single untapped policy option with the greatest potential for emissions reductions. To be most effective, such a price signal should address not only in-state production but also imports. At the same time, much more can be done by producers of high-impact products, including food, to identify emissions hot spots and work to reduce emissions through supply chain, process, and other changes."

Additionally, OGWC listed several areas where the state has already begun work and will continue to do so in the next few years. Some of the next steps include:

- Demonstrating the "cost of carbon" embedded in materials and waste
- Research of business opportunities, co-benefits, challenges, and perceptions regarding carbon footprinting of products
- Food footprint pilot project in 2014, likely to focus on helping producers identify "hot spots" for potential improvement
- Better understand and document the carbon footprint of building materials

See pages 37-38 of the 2013 Legislative Report for the complete list.

Additional Resources:

- Oregon Strategy for Greenhouse Gas Reductions
- Oregon Global Warming Commission Interim Roadmap to 2020
- Keep Oregon Cool
- Report to the Legislature 2013
- Report to the Legislature 2011
- Report to the Legislature 2009
- About the Oregon Global Warming Commission

CAP Case #13 – Washington State

Path to a Low-Carbon Economy (2010)

Jurisdiction: Washington State
Plan Year: 2008
Update Year: 2010
Progress Report Years: 2010, 2012

Background:

In 2007, Governor Christine Gregoire signed Executive Order 07-02, which states that Washington must reduce emissions to:

- 1990 levels by 2020
- 25% below 1990 levels by 2035
- 50% below 1990 levels by 2050

In 2008, Washington State Department of Ecology and Washington Community, Trade, and Economic Development, under the direction of Governor Gregoire, developed a Climate Action Plan. The plan was created under the direction of an appointed Climate Advisory Team (CAT), which was served by Technical Work Groups (TWG), including a combined Agriculture and Waste TWG. A "Beyond Waste" Implementation Work Group (IWG) also provided recommendations related to reducing GHG emissions through increased recycling, reuse, and anaerobic digestion.

The CAP was updated in 2010 by the Washington Departments of Ecology, Commerce, and Transportation (WSDOT) and focuses on the emissions reductions required by 2020. The original strategies in the 2008 CAP were designed around Western Climate Initiative's emissions trading program, which limits GHG emissions and relies on the market to determine how best to achieve those reductions at the lowest cost. However, when state and federal lawmakers did not adopt the emissions trading program, Washington State determined other ways to work with state and federal partners to achieve its emissions reduction targets sector-by-sector. The 2010 CAP does not make significant mention of the sustainable materials management strategies that were part of the original 2008 plan.

Many elements of the CAT's Beyond Waste recommendations were incorporated into the State's revised and updated Beyond Waste Plan, which aims to: "eliminate wastes and toxics whenever we can and use the remaining wastes as resources." The 30-year plan, which was being updated at the time of this writing, states:

> "Avoiding wastes and the use of toxic chemicals is the smartest, cheapest, and healthiest approach to waste management. The Beyond Waste Plan shifts from a reactive approach, focusing on management and clean-up, to a proactive approach, with an emphasis on preventing waste in the first place."

Materials Management Goals:

- Increase statewide recycling rate to 80%
- Develop a market for diverted organics
- Promote environmentally preferable purchasing programs in government
- Work with retailers to reduce consumer waste

Strategies:

- Develop product stewardship framework
- Optimize the collection of recyclable materials
- Expand Washington electronics recycling program to other products, such as carpet, paint, rechargeable batteries, and mercury-containing lighting and thermostats

Progress Report:

Washington State has issued two progress reports on efforts to reduce greenhouse gas emissions within state government operations. It has not reported on community achievements to reduce GHG emissions based on actions outline in its 2010 comprehensive plan.

In its 2010 progress report on state operations, Washington State reported on the status of waste reduction and environmentally preferable purchasing efforts, highlighting the following:

- All state agencies are implementing Paper Conservation Action (2009) which means they are using high recycled-content paper and reducing their paper use
- 85% of agencies established recycling or resource conservation programs
- 2/3 of state agencies followed the Environmentally Preferable Purchasing (EPP) guide
- 52 agencies started composting organic materials since 2005

Next Steps:

Washington State's 2013 Legislature passed an act to develop recommendations to achieve the state's GHG emissions reduction targets. The Climate Legislative and Executive Workgroup issued a report in January 2014 that found that existing state and federal policies will enable the state to make progress over halfway toward its 2020 emission goals. The group identified a set of actions that could achieve the additional emissions reductions needed to meet the 2020 target. While the state's climate comprehensive plan has not been updated, the Beyond Waste plan was being updated again at the time of this writing in 2014.

Additional Resources:

- Path to a Low-Carbon Economy: An Interim Plan to Address Washington's Greenhouse Gas Emissions (December 2010)
- Reducing GHG Emissions in Washington State Government: Second Biennial Progress Report (December 2012)
- Reducing GHG Emissions in Washington State Government: First Progress Report (December 2010)
- Growing Washington's Economy in a Carbon-Constrained World A Comprehensive Plan to Address the Challenges and Opportunities of Climate Change (December 2008)
- Beyond Waste

CAP Case #12 – State of California
Global Warming Solutions Act of 2006

Materials Management Goals

- Achieving net-zero GHG emissions from the waste sector by mid-term (between 2020 and 2050)
- 2050 goal: Achieve a 24% reduction in direct GHG emissions from mid-term levels

Progress Report Highlights

- Published a Scoping Plan, which focuses on six major sectors including waste, is central to developing regulations that will reduce emissions to 1990 levels by 2020
- Established a 75% recycling rate for California

- Established a $25 million program for CalRecycle to provide financial incentives for capital investments in composting/anaerobic digestions infrastructure and recycling manufacturing facilities that will result in reduced greenhouse gas emissions

Read more…

Jurisdiction: State of California
Plan Year: 2006
Update Years: 2014 Scoping Plan updated which define ARB's climate change priorities for the next five years and lay the groundwork to reach long-term goals. It also highlights progress toward meeting the near-term 2020 GHG emission reduction goals.

Background:
California's greenhouse gas (GHG) emissions program represents the first multi-sector cap-and-trade program in North America. This legislation requires California to reduce its greenhouse gas emissions to 1990 levels by 2020.

The AB 32 Scoping Plan identifies a cap-and-trade program as one of the strategies California will employ to reduce the greenhouse gas (GHG) emissions that cause climate change. This program will help put California on the path to meet its goal of reducing GHG emissions to 1990 levels by the year 2020, and ultimately achieving an 80% reduction from 1990 levels by 2050. Under cap-and-trade, an overall limit on GHG emissions from capped sectors will be established by the cap-and-trade program and facilities subject to the cap will be able to trade permits (allowances) to emit GHGs.

The Scoping Plan update includes a focus on six major sectors where the challenges and rewards of successful future climate action are most compelling: 1) transportation and fuels (including infrastructure and land use); 2) energy generation (including transmission infrastructure and efficiency); 3) waste; 4) water; 5) natural lands; and 6) agriculture.

CalRecycle and Air Resources Board (ARB) staff have worked together to develop a Waste Management Sector Plan addressing greenhouse gas emissions from waste management activities to achieve the 75%recycling goal of AB 341 and inform the development of the AB 32 2013 Scoping Plan Update.
The draft framework consists of a Waste Management Sector Overview paper, accompanying technical papers covering the various waste management options and Implementation Plan (below).

Materials Management Goals from Scoping Plan

- Achieving net-zero GHG emissions from the waste sector by mid-term (between 2020 and 2050)
- 2050 goal: Achieve a 24% reduction in direct GHG emissions from mid-term levels

California's Scoping Plan also included these principles and priorities to guide the work:

- Take full ownership of the waste generated in California
- Maximize recycling and diversion from landfills
- Build the infrastructure needed to support a sustainable, low-carbon waste management system within California
- Improve the sustainability of California's Waste Management Infrastructure
- Reduce the volume of waste generated

Progress Report Highlights:

- Published a Scoping Plan, which focuses on six major sectors including waste, is central to developing regulations that will reduce emissions to 1990 levels by 2020.
- Established a 75% recycling rate for California
- Established a $25 million program for CalRecycle to provide financial incentives for capital investments in composting/anaerobic digestions infrastructure and recycling manufacturing facilities that will result in reduced greenhouse gas emissions

Next Steps:

- Revise, update and develop emissions reduction factors
- Identify permitting redundancies, conflicts and opportunities with current and future programs
- Investigate and identify funding and incentives for infrastructure
- Initiate and provide education for the public, project developers and local jurisdictions including benefits of recycling and remanufacture in California and purchasing California recycled products
- Evaluate and promote markets for diverted materials and standardize quality of products
- Develop and promote source reduction principles and new product stewardship programs.
- Conduct research that supports various aspects of the waste scoping plan implementation
- Investigate a Cap and Trade program to incentivize waste sector goals and objectives
- Evaluate and recommend regulatory options including but not limited to disposal of organics, landfill emission standards, and mandatory recycling of specific materials.
- Provide education on State Procurement requirements to all State agency purchasing officials and all staff within agencies, as well as state contractors, who purchase materials.
- Identify and support markets for recycled, reused, and remanufactured materials.
- Evaluate opportunities to source reduce and promote reuse of materials
- Promote front end design parameters to foster recycling and recyclability

Additional Resources:

- Waste Sector Working Paper (2014)
- **Waste Management Sector Plan Revised Technical Papers (Sept. 4, 2013)**
  - Overview of the Waste Management Sector Recycling, Reuse, and Remanufacturing
  - Composting and Anaerobic Digestion
  - State Procurement (Draft)
  - Biomass Conversion
  - Municipal Solid Waste Thermal Technologies
  - Landfilling of Waste
  - Implementation Plan