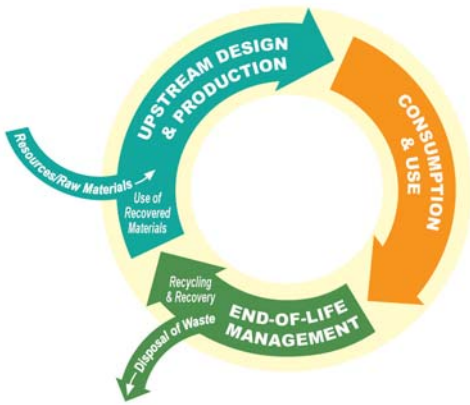




SUSTAINABLE MATERIALS MANAGEMENT PLAN



July 27, 2019



R3 CONSULTING GROUP, INC.
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Definitions

Alternative Daily Cover (ADC) - Material, other than soil, that is used to cover waste at a landfill, including green waste.

Anaerobic Digestion - A series of biological processes in which microorganisms break down biodegradable material in the absence of oxygen. One of the end products is biogas, which is combusted to generate electricity and heat, or can be processed into renewable natural gas and transportation fuel.

Bulky Waste - Solid waste that cannot or would not typically be accommodated within a solid waste cart. Bulky waste includes furniture, appliances, mattresses, wood and lumber.

CALGreen - California's green building regulations.

California Product Stewardship Council - The California Product Stewardship Council (CPSC) is a network of local governments, non-government organizations, businesses, and individuals supporting policies and projects where producers share in the responsibility for managing problem products at their end of life.

CalRecycle - The California Department of Resources Recycling and Recovery is a branch of the California Environmental Protection Agency that oversees the state's waste management, recycling, and waste reduction.

Capture Rate - The percentage of generated secondary materials actually recovered from a household or business.

Coast Waste Management - The city's contract hauler.

Construction and Demolition (C&D) Debris - Solid waste that is directly related to construction, remodeling, repair or demolition activities. Common C&D materials include lumber, drywall, metals, masonry (brick, concrete, etc.), carpet, plastic, pipe, rocks, dirt, paper, cardboard, or green waste related to land development.

Covered Generators - Commercial accounts that must comply with AB 341, AB 1826, and SB 1383 based on weekly solid waste or organic material service volumes (weekly cubic yards).

Disposal Bans - Bans that prohibit the disposal of specific materials (e.g., green waste and construction and demolition debris).

Diversions Rate - The percentage of generated materials that are recovered rather than disposed and includes green waste that is used as alternative daily cover.

Diversions - A term often used interchangeable to describe recycling.

E-Waste - Anything with a plug or battery (e.g., computers, televisions, radios).

Extended Producer Responsibility (EPR) - A mandatory type of product stewardship.

Green Waste - Also commonly referred to as "yard waste" is any vegetative matter resulting from normal yard and landscaping maintenance. Green waste includes plant debris, such as grass clippings, pruning, weeds, branches, brush, and other organic waste normally produced from gardens or landscape areas.

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Household Hazardous Waste - Hazardous waste generated at a residential property.

Life Cycle - A series of stages through which something (such as an individual, culture, or manufactured product) passes during its lifetime.

Material Bans - Also known as Product Bans, are bans on the use of certain materials in a jurisdiction (e.g., plastic bags).

Organic Waste (Organic Materials) - As defined in SB 1383 “Organic waste” means solid wastes containing material originated from living organisms and their metabolic waste products, including but not limited to food, green material, landscape and pruning waste, organic textiles and carpets, lumber, wood, paper products, printing and writing paper, manure, biosolids, digestate, and sludges.

Personal Care Products - Pharmaceutical and Personal Care Products (PPCPs) comprise a broad and diverse collection of thousands of chemical substances including unused or expired prescription medications, over-the-counter medications, therapeutic drugs, fragrances, cosmetics, sun-screen, diagnostic agents, natural health products, veterinary drugs and growth enhancing chemicals used in livestock operations.

Product Stewardship - A strategy whereby manufactures and other along the product supply chain share in the financial and physical responsibility for collecting and recycling products at the end of their useful lives.

Product Stewardship Institute (PSI) - A national, membership-based nonprofit committed to reducing the health, safety, and environmental impacts of consumer products across their lifecycle with a strong focus on sustainable end-of-life management.

Recovered Organic Waste Products - Products made from California, landfill-diverted recycled organic waste processed in a permitted or otherwise authorized facility.

Recovery - A term often used interchangeable to describe recycling.

Recycling - The action or process of converting waste into reusable material.

Recycling Rate - The percentage of generated materials that are recovered rather than disposed and unlike the Diversion Rate, does not include green waste that is used as alternative daily cover.

Recovered Organic Waste Products - Compost and/or renewable transportation fuel made from organic material recovered from the waste stream, as defined in SB 1383.

Republic Services - The city’s contract operator of the Palomar Transfer Station.

Roll-Off Service - Service provided using containers typically varying in size from 10 to 40+ cubic yards. Roll-off containers are designed to be transported by special roll-off trucks, and are commonly used to contain loads of construction and demolition waste, dirt and concrete, and other types of waste.

Sharps - Devices with sharp points or edges that can puncture or cut skin (e.g., needles).

Source Reduction - Also referred to as Waste Prevention (or waste reduction) is the elimination of waste before it is created (e.g., using a reusable rather than a disposable cup)

Sustainability | Sustainable Development - The UN World Commission on Environment and Development defines sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”

Sustainable Materials Management - A systematic approach to using and reusing materials productively over their entire life cycles, where waste from one activity becomes the resource for another.

Take-Back Ordinances - Ordinances that require retailers to take back certain products that they sell when they have reached the end-of-their useful lives.

Universal Waste | U-Waste - A category of hazardous waste that includes fluorescent lamps, cathode ray tubes, instruments that contain mercury, batteries, and other items.

Waste Prevention - Also referred to as Source Reduction (or waste reduction) is the elimination of waste before it is created (e.g., using a reusable rather than a disposable cup).

Acronyms

AD	Anaerobic digestion
ADC	Alternative daily cover
C&D	Construction and Demolition
CWM	Coast Waste Management
CRV	California Redemption Value
EPA	Environmental Protection Agency
EPR	Extended Product Stewardship
HHW	Household Hazardous Waste
PPCP	Pharmaceuticals and Personal Care Products
PTS	Palomar Transfer Station
RCRA	Resource Recovery Act
SMMP	Sustainable Materials Management Plan

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1.1 Sustainability in Carlsbad

The purpose of sustainability in Carlsbad - and its incorporation throughout the city's General Plan - is for the city to responsibly develop and account for long-term projected population growth and its potential impact on the environment. By accounting for sustainability in this process, and particularly with the development and implementation of this Sustainable Materials Management Plan (SMMP), Carlsbad can reduce its contribution to global climate change, minimize its reliance on fossil-fuel sources, decrease consumption of natural resources, promote active living and access to healthy food, and demonstrate its commitment and leadership in sustainability.

1.2 Sustainable Materials Management Plan

1.2.1 Purpose of the Plan

The purpose of the SMMP is to identify specific policies and ordinances, programs and services, service provider contractual requirements, and facility capacity that Carlsbad should pursue to achieve its sustainable materials management objectives. The SMMP is organized into the following three phases:

Phase 1 Ensure compliance with all state solid waste regulations currently in effect.

Phase 2 Achieve regulatory compliance with all SB 1383 regulations.¹

Phase 3 Establish sustainable materials management systems throughout Carlsbad.

Phase 1 and Phase 2

Phases 1 and 2 are both specific to ensuring Carlsbad's compliance with State of California solid waste regulations. Phase 1 is specific to complying with all regulations currently in effect (particularly Assembly Bill (AB) 939, AB 341, AB 1826, and AB 1594). Phase 2 is specific to ensuring Carlsbad's compliance with the regulatory requirements of Senate Bill (SB) 1383 (Short-Lived Climate Pollutants), which largely take effect on January 1, 2022, and address the management of residential and commercial organics.

Phase 3

Completing Phase 1 and Phase 2 will ensure the city's compliance with all state solid waste regulations currently in effect. Achieving those goals will also increase the diversion of materials in the city and increase the city's use of sustainably produced materials. It will not however result in the establishment of sustainable materials management systems. For that to occur, the city's efforts need to extend well beyond those necessary to simply achieve regulatory compliance (i.e., Phases 1 and 2).

For Carlsbad to sustainably manage the materials that are generated in the city there needs to be significant additional efforts specific to the upstream design and production, consumption

¹ SB 1383 (Short-Lived Climate Pollutants) is undergoing final rule making and it is expected to be final during the Fall 2019. Once the regulations have been finalized, the relevant SMMP actions should be reviewed to confirm they are consistent with the final regulations.

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and use, and end of life management of those materials. Phase 3 provides for the development of sustainable materials management systems in all city government departments and throughout Carlsbad.

Completing Phase 3 will result in the transformation of the city's current solid waste management system to a sustainable materials management system, aligning that system with, and supporting the city's overall sustainability goals, including but not limited to the reduction of greenhouse gases.

Carlsbad's "Sustainability" core value of its General Plan calls for building the city's sustainability initiatives to emerge as a leader in green development and sustainability, with particular focus on water, energy, recycling, and foods. For Carlsbad to be a leader in green development and sustainability it needs to make major progress toward, and ultimately complete Phase 3 of this SMMP.

Implementation of Carlsbad's SMMP and its completion of Phase 3 will result in the following:

1. **Sustainable materials management systems in all city government departments;**
2. **Sustainable materials management systems throughout Carlsbad's residential and commercial sectors, and public areas and venues; and**
3. **Establishing the city as a leader in sustainable materials management.**

1.2.2 Structure of the Plan

The SMMP's "actions" for each of the 3 Phases are presented in the context of the following three elements of sustainable materials management systems (life-cycle phases), with the major types of actions associated with each element noted:

1. **Upstream Design and Production** - Designing and producing sustainable materials and products that have high post-consumer recycled content and contain no or minimal raw (virgin) materials, have no or limited packaging, are non-toxic, and are readily recyclable. Major related actions include:
 - a. **Sustainable Procurement**
 - b. **Material Bans² | Disposal Bans**
 - c. **Product Stewardship | Take Back Ordinances**
2. **Consumption and Use** - Consuming and using sustainably produced materials and products in a manner that is consistent with the hierarchy of waste reduction, reuse, and recycling. Major related actions include:
 - a. **Waste Prevention | Source Reduction**
 - b. **Material Reuse**
 - c. **Sustainable Materials Market Development and Support**
3. **End-of-Life Management** - Maximizing diversion of materials and the production of post-consumer recycled content feedstock for upstream design and production of sustainable materials (i.e., closing the loop). Major related actions include:

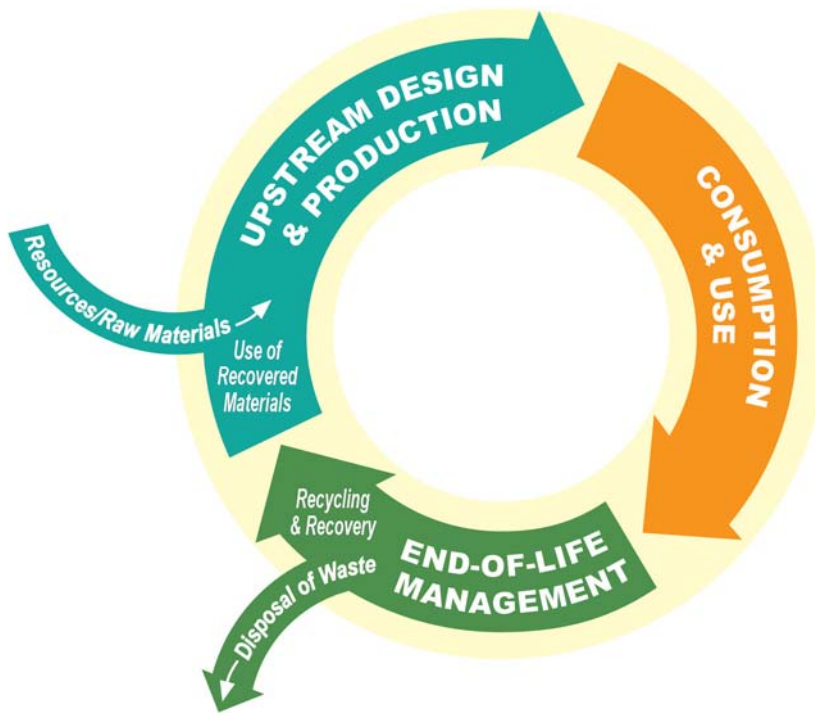
² Also referred to as Product Bans.

- a. **Diversion Programs**
- b. **Regional Advocacy and Support**

In support of city’s the end-of-life management objectives it will need to negotiate changes to its existing collection contract and Palomar Transfer Station (PTS) operating contract, and/or draft new agreements and conduct competitive procurement processes for collection and transfer station services when the current contract terms expire. The City will also need to establish policies, enact or amend ordinances, and provide other support activities as deemed appropriate in support of its sustainable materials management objectives.

The structure of the three elements discussed above is graphically represented in **Figure ES-1** below.

Figure ES-1
Sustainable Materials Management System Elements
 (i.e., Closed-Loop System)



1.3 Sustainable Materials Management Plan Actions

A summary of the SMMP actions for Phases 1, 2, and 3 is provided below, categorized according to the applicable sustainable materials management element.

1.3.1 Summary of Phase 1 Actions

The following actions will ensure city compliance with current state solid waste regulations. The applicable legislation associated with each action is noted.

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Upstream Design & Production

Sustainable Procurement

No action is required

Material Bans | Disposal Bans

No action is required

Product Stewardship | Take Back Ordinances

No action is required

Consumption & Use

Waste Prevention | Source Reduction

No action is required

Material Reuse

No action is required

Sustainable Materials Market Development

No action is required

End-of-Life Management

Diversion Programs

1. Compost the green waste that the city's contract hauler collects or deliver to an Anaerobic Digestion facility for Processing (AB 939 and AB 1594).
2. Process the construction and demolition (C&D) debris that the city's contract hauler collects for recovery of targeted materials (AB 939 and CALGreen).
3. Provide commercial organic waste collection services to all commercial covered generators (AB 1826).³

Regional Advocacy and Support

No action is required

1.3.2 Summary of Phase 2 Actions

The following actions will ensure the city's compliance with SB 1383 requirements, beginning on January 1, 2022.

Upstream Design & Production

Sustainable Procurement

1. Annually procure a quantity of "recovered organic waste products" (i.e., compost and renewable transportation fuel) that meets or exceeds the city's SB 1383 annual recovered organics waste product procurement target.

³ Covered generators are accounts that are subject to the regulations.

2. Ensure that at least 75% of city government’s annual purchase of paper products are recycled-content.

Material Bans | Disposal Bans

No action is required

Product Stewardship | Take Back Ordinances

No action is required

Consumption & Use

Waste Prevention | Source Reduction

No action is required

Material Reuse

No action is required

Sustainable Materials Market Development

1. Develop markets for recovered organic waste products and other recovered products within all city government departments and throughout Carlsbad.

End-of-Life Management

Diversion Programs

1. Implement required residential and commercial organics collection services.
2. Develop required edible food recovery program.

Regional Advocacy and Support

No action is required

1.3.3 Summary of Phase 3 Actions

The various upstream design & production, consumption and use, and end-of-life management actions listed below all support the development of sustainable materials management systems in Carlsbad.

Upstream Design & Production

Sustainable Procurement

1. Adopt a city government best practices Sustainable Materials Purchasing and Procurement Policy.

Material Bans | Disposal Bans

2. Material Bans - Evaluate and adopt appropriate material bans (e.g., single-use plastics, disposable food ware packaging).

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3. Disposal Bans - Ban the disposal of green waste and C&D debris at the PTS, and through the city's residential and commercial collection systems.⁴

Product Stewardship | Take-Back Ordinances

4. Consider adopting take-back ordinances for products that are difficult or costly to manage.
5. Advocate for product stewardship and extended producer responsibility (EPR).

Consumption & Use

Source Reduction

1. Identify and realize waste prevention opportunities in all city government departments.
2. Support waste prevention opportunities throughout Carlsbad.

Material Reuse

3. Identify and realize material reuse opportunities in all city government departments.
4. Support the expansion of a reuse economy throughout Carlsbad.

Sustainable Materials Market Development

5. Identify and realize opportunities for city government's use of sustainably produced materials in place of products made from raw materials.
6. Support the development of markets for sustainably produced products throughout Carlsbad.

End-of-Life Management

Diversion Programs

1. Maximize the diversion of commercial recyclables.
2. Maximize the diversion of green waste.
3. Maximize the diversion of C&D debris.
4. Develop prioritized list of other materials to target for sustainable management. Summarize recommended actions for managing those materials for review by the city council, and implement approved management strategies.
5. Expand recycling and organic waste collection in city controlled public areas and venues.

⁴ Under such a disposal ban, green waste and C&D debris would continue to be accepted at the PTS, however facility users would be required to segregate those materials, and the PTS contract operator would be required to process and divert those materials.

Regional Advocacy and Support

6. Advocate for and support the implementation of the County’s Food Donation Action Plan for the San Diego Region and pursue enhancements to Carlsbad’s food security infrastructure in conjunction with the development of the city’s required SB 1383 edible food recovery program.
7. Advocate for and support the development of regional markets and processing capacity for hard to recycle materials for which markets and processing capacity does not currently exist.
8. Advocate for and support the development of additional local and regional organic material processing capacity sufficient to manage all of the organic material generated in Carlsbad and San Diego County.

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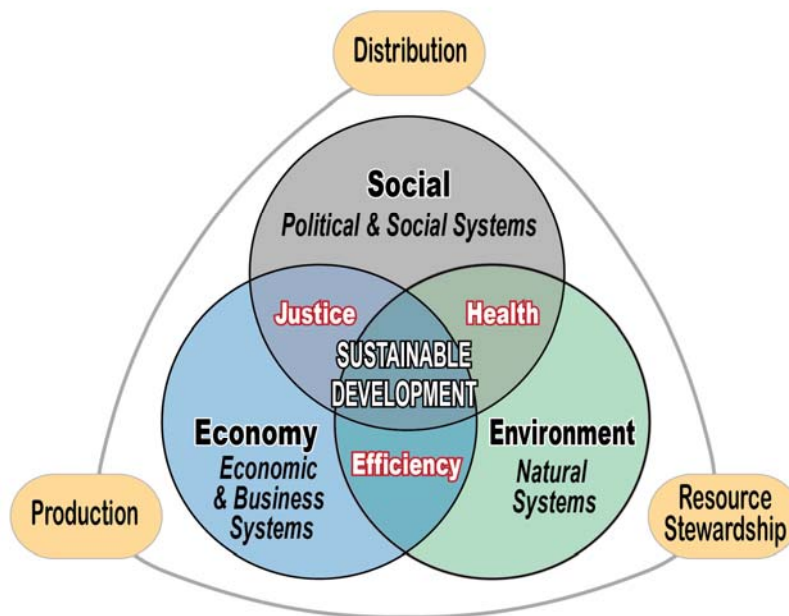
2.1 Sustainability and Sustainable Materials Management

2.1.1 Sustainability

The term “sustainability” can be applied in many contexts. Environmental sustainability, for example, can be exemplified by the way that a lumber company harvests trees over time to support continued use of the forest. Economic sustainability can pertain to how a business sets its prices to ensure that its employees are paid, its bottom line is met, and the company can sustain itself financially. Social sustainability includes providing equitable opportunities and outcomes for all community members, particularly the most vulnerable community members.

As discussed in the city’s General Plan, most recently updated in 2015, a cohesive sustainability framework needs to incorporate not only environmental, but also economic and social considerations, where the intersection of the three constitutes sustainable development (Figure 2-1):

**Figure 2-1
Sustainable Development**



2.1.2 Sustainable Materials Management

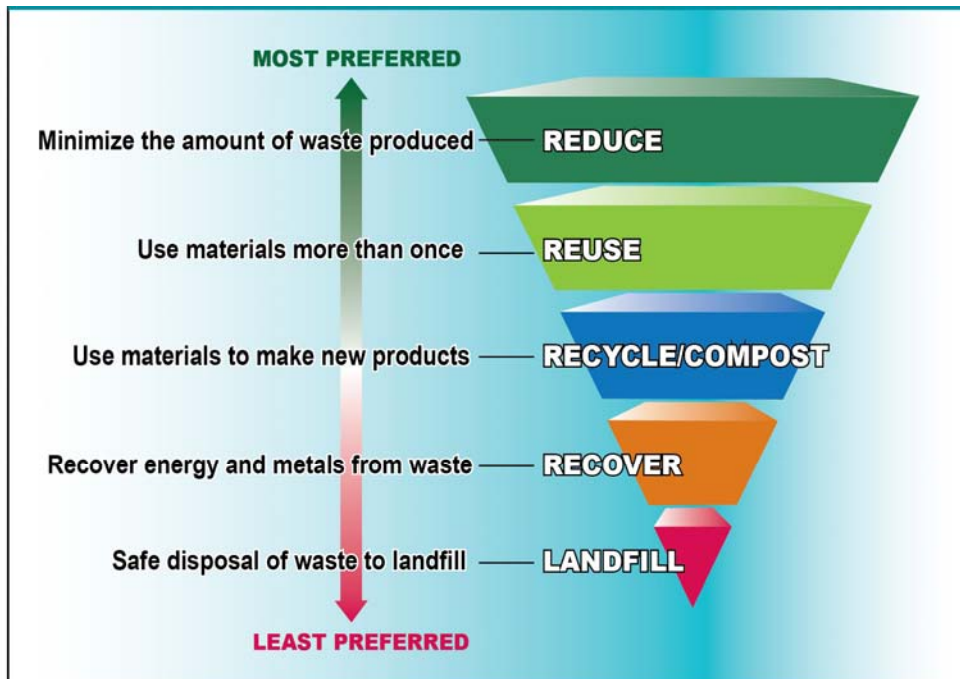
Sustainable materials management specifically addresses the environmental aspect of sustainability - it is a systematic approach to using and reusing materials more productively over their entire life cycles, where waste from one activity becomes the resource for another. Sustainable materials management represents a fundamental shift from waste management to materials management and can lead to the reduction of greenhouse gases from within the city, thus lessening Carlsbad’s impact on climate change.

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Sustainable materials management seeks to reduce the consumption of raw (virgin) materials in the production of new materials and products, minimize the generation of materials (source reduction), maximize the productive use of materials that are generated by reusing and/or repurposing those materials, and then minimize the amount of materials that are ultimately disposed when they reach the end of their useful life. Under this system, once a product reaches its end of life (i.e., it has no additional reuse potential), recycling/composting should first be attempted, followed by recovery for energy, and, as a last resort safe disposal to landfill (see **Figure 2-2**).

Figure 2-2
Waste Management (Materials Management) Hierarchy



2.1.3 Community Vision, Core Values and Sustainability Guiding Principles

The city’s General Plan includes a Community Vision - developed in 2010 after engaging the community for a two-year period - that identifies Carlsbad's most important core values and provides guiding principles for the city as it plans for the future. Those core values’ guiding principles include:

1. Small town feel, beach community character, and connectedness;
2. Open space and the natural environment;
3. Access to recreation and active, healthy lifestyles;
4. The local economy, business diversity, and tourism;
5. Walking, biking, public transportation, and connectivity;
- 6. Sustainability;**
7. History, the arts, and cultural resources;

8. High-quality education and community services; and
9. Neighborhood revitalization, community design, and livability.

Specific values that the city has identified as part of the Sustainability core value include:

1. Green Development
2. Water Conservation, Recycling, and Desalination
3. Water Quality
4. Energy Security
5. Recycling, Composting, and Waste Reduction
6. Healthy and Sustainable Food

Envision Carlsbad's *Existing Conditions and Issues Exploration* includes the following details about sustainability that were considered when developing this SMMP:

- **Waste reduction and recycling** - The city supports programs that manage the overall waste stream of the city and that maximize the amount of waste that is recycled by its residents, citizens, and businesses. The city promotes the ability to quickly and conveniently dispose of hazardous waste.
- **Efficient transportation and low emission fuel sources** - The city believes that effective traffic management is an important element affecting the quality of life within the city. The city supports programs that optimize the flow of traffic, the use of low-emission alternative fuel vehicles, and the increased availability and use of mass transit and other non-automotive modes of transportation. The city encourages participation in research programs designed to test and improve alternate fuel vehicles.
- **Sound procurement decisions** - The procurement of products and services by the city, its residents, businesses, and institutions result in environmental, social, and economic impacts both in this region and the country. Where possible, the city's procurement systems should support the use of recycled materials and products with low carbon footprints (low use of carbon or greenhouse gas producing products in the manufacture, installation, maintenance, or disposal of the product).

Additionally, the city has the following six guiding sustainability principles:

1. **Being a model community** - Carlsbad desires to be a model community by creating a sustainable, high quality of life for those who live, work, and play in the city.
2. **Creating a sustainable system** - Sustainability is based on achieving a long-term balance among social, economic, and environmental factors.
3. **The participation of Carlsbad residents is vital to its success** - The city recognizes that it takes the collective efforts of its citizens to make its vision a reality. Residents have a responsibility to be informed, involved, and engaged in the development of their community.
4. **A proactive approach to sustainability guides city policy** - Carlsbad is committed to proactively addressing existing and potential community needs without compromising

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future generations. The city encourages staff to participate in research opportunities that may further its goals of creating a sustainable community.

5. **Carlsbad recognizes the local and global impacts of decision making** - Local social, economic, and environmental issues cannot be separated from the bigger picture. Carlsbad recognizes the interconnectedness of citizens, associations, and communities and the profound impact that one community’s actions may have on another.
6. **Developing a sustainable community is based on employing cost-effective programs** - The city recognizes that both financial and staff resources are limited; therefore, those programs and activities providing the highest benefit to the community and representing best-cost solutions should be considered.

2.2 Sustainable Materials Management Plan

2.2.1 Purpose of the Plan

This SMMP is intended to be a living document, helping to guide the city, its residents, and businesses toward more sustainable use of our material resources. The purpose of the SMMP is to identify specific policies and ordinances, programs and services, service provider contractual requirements, and facility capacity that Carlsbad should pursue to achieve its sustainable materials management objectives. The SMMP is organized into the following three phases:¹

- Phase 1** Ensure compliance with all state solid waste regulations currently in effect.
- Phase 2** Achieve regulatory compliance with all SB 1383 regulations.²
- Phase 3** Establish sustainable materials management systems throughout Carlsbad.

2.2.2 Structure of the Plan

The SMMP’s “actions” for each of its three Phases are presented in the context of the following three elements of sustainable materials management systems (life-cycle phases), with the major types of actions associated with each element noted:³

1. **Upstream Design and Production** - Designing and producing sustainable materials and products that have high post-consumer recycled content and contain no or minimal raw (virgin) materials, have no or limited packaging, are non-toxic, and are readily recyclable. Major related actions include:
 - a. **Sustainable Procurement**

¹ Phases 1 and 2 are specific to the city achieving regulatory compliance and take priority over Phase 3. Once the city completes Phases 1 and 2 its attention and resources will shift to Phase 3.

² Those regulations begin to take effect as of January 1, 2022.

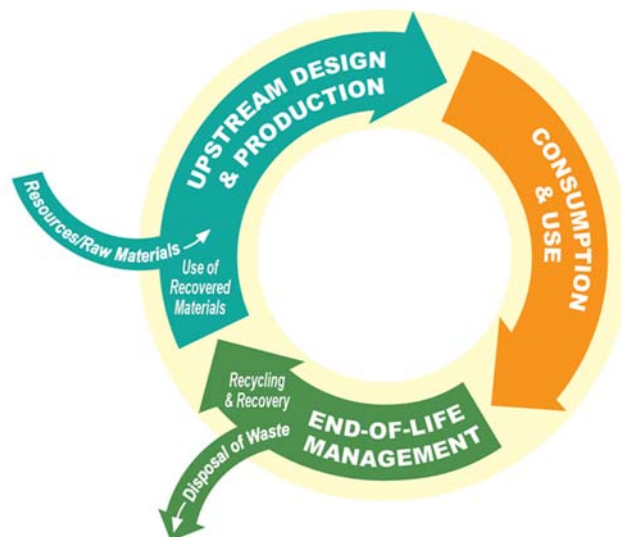
³ These three elements are used by various entities to reflect the elements of a sustainable materials management system. The also align with the 5 phases of Environmental Protection Agency (EPA)’s Life Cycle of Waste Management, as follows: **Materials Extraction** and **Manufacturing** = Element #1 - Upstream Design and Production; **Distribution** and **Usage** = Element #2 - Consumption and Use; and **End-of-Life Management** = Element 3 - End-of Life Management.

- b. **Material Bans | Disposal Bans**
 - c. **Product Stewardship | Take Back Ordinances**
 - 2. **Consumption and Use** - Consuming and using sustainably produced materials and products in a manner that is consistent with the hierarchy of waste reduction, reuse, and recycling. Major related actions include:
 - a. **Waste Prevention | Source Reduction**
 - b. **Material Reuse**
 - c. **Sustainable Materials Market Development and Support**
 - 3. **End-of-Life Management** - Maximizing diversion of materials and the production of post-consumer recycled content feedstock for upstream design and production of sustainable materials (i.e., closing the loop). Major related actions include:
 - a. **Diversion Programs**
 - b. **Regional Advocacy and Support**

In support of the end-of-life management strategies related to the above major actions, the city will need to negotiate changes to its existing collection contract and PTS operating contract, and/or draft new agreements and conduct competitive procurement processes for collection and transfer station services when the current contract terms expire.

The structure of the three elements discussed above is graphically represented in **Figure 2-3** below.

Figure 2-3
Sustainable Materials Management System Elements
 (i.e., Closed-Loop System)



In addition to the Phase 2 actions identified in this SMMP, there are a number of policies, ordinances, and other support activities that the city is required to undertake to comply with SB 1383, which are in some cases applicable to more than one of the three sustainable material

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management elements. **Appendix 2A** provides a summary discussion of those required actions.

2.2.3 Sustainable Materials Management Plan Vision

Phase 1 - Ensure compliance with all state solid waste regulations currently in effect.

The SMMP envisions the city ensuring compliance with all state solid waste regulations currently in effect by increased recovery of C&D debris, composting of green waste that the city’s contracted hauler delivers to the PTS, and the implementation of an AB 1826 commercial organics collection program, supported by required public education and outreach.

Phase 2 - Achieve regulatory compliance with all SB 1383 regulations

The SMMP envisions the city achieving full regulatory compliance with all applicable SB 1383 regulations, as of January 1, 2022, when those regulations largely take effect. This will require the city to provide SB 1383 organic collection services to all residents and businesses, and implement an edible food recovery program. The city will also need to complete the required SB 1383 planning, procurement, public education and outreach, ordinance development, enforcement, and monitoring activities.

Phase 3 - Establish sustainable materials management systems throughout Carlsbad.

Going beyond Phase 1 and Phase 2 regulatory compliance, the SMMP envisions the city becoming a leader in sustainable materials management through the development of sustainable materials management systems in each city government department and citywide.

Carlsbad’s city government plans to take a lead role and serve as an example to residents and businesses with respect to sustainable materials management. In support of that effort, Sustainable Material Management Strategic Plans will be developed for all city government departments as part of the development of the SMMP’s implementation plan. Those strategic plans will be based on an evaluation of each department’s purchasing and procurement practices (upstream design and production), consumption and use of materials, and end-of-life management practices, thereby covering the entire sustainability materials management life-cycle. The city plans to also actively seek out businesses interested in developing sustainable materials management “partnerships”, and assist those businesses with developing sustainable procurement, consumption and use, and end-of-life management practices.

Implementing sustainable materials management systems in Carlsbad will require a rethinking and restructuring of how city government, residents, and businesses purchase, use, and manage materials at the end of their useful lives. It will require commitment, hard work, and a well-designed implementation plan. Effective public education, outreach, technical assistance, and stakeholder involvement will be critical to success. Through a concerted commitment to and implementation of sustainable material management principles, the city can make meaningful progress towards achieving the SMMP’s vision.

Overall, Carlsbad’s SMMP envisions the following:

- **City as a Model** - Establishing city government as a model for the greater Carlsbad community through the implementation of sustainable materials management systems in

all city departments that incorporate best management practices specific to upstream design and production, consumption and use, and end-of-life management.

- **City Influence on the Greater Community** - Establishing specific sustainability expectations for various sectors of customers (residential, commercial, institutional, and schools) by developing policies and establishing programs, as well as collaborating with and providing appropriate incentives to the sectors.
- **Upstream Design and Production** - Influencing changes in the material extraction, manufacturing, and distribution of materials to the extent possible within the region by working with regional manufacturers and industries to effect positive change, while also supporting policies at the state and federal level.
- **Consumption and Use** - Providing opportunities to our community to reduce waste, including reducing single-use items, and developing and expanded reuse economy in the city.
- **End-of-Life Management** - Maximizing the diversion of recyclable and organic materials and supporting the development of regional recycling and organic material processing capacity.
- **Implementation Plan** - Developing a detailed implementation plan that reflects the goals and actions of this SMMP.
- **Community Involvement** - Including community decision making in the development of solid waste policies and programs.
- **Considers all Definitions of Sustainability** - Considering the financial and social impacts of creating a sustainable materials management system and reducing the impact to sensitive communities.

2.2.4 Supporting Public Education, Outreach and Technical Assistance Program

Public education and community outreach will play an important role in Carlsbad’s sustainable materials management planning and implementation. This is particularly true with respect to building community support for high diversion programs, and establishing sustainable materials management systems. To build that community support, community public education and outreach should start early, involve the community in making important decisions, use Carlsbad’s local traditions and culture to increase the impact of those efforts, and keep the community involved through public meetings, newsletters and public announcements.

The SMMP envisions that Carlsbad’s overall sustainable material management efforts will be supported by a comprehensive Sustainable Materials Management Public Education, Outreach, and Technical Assistance Program that supports the required and planned SMMP actions. **Appendix 2B** provides an overview of the city’s current public education and outreach efforts and recommendations for improvement, along with examples of successful public education and outreach programs in other jurisdictions.

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2.2.5 Key Items Needed for Implementation

Actions specific to each of the SMMP's three Phases can begin immediately, with a target date for substantial completion of Phase 1 by July 1, 2020, and Phase 2 by January 1, 2022. The later date corresponds with CalRecycle's timeline to begin enforcing SB 1383 residential and commercial organic recycling requirements.⁴ Key items that must be implemented include the following:

- Develop an Implementation Plan for this SMMP
- Adopt a Best Practices Sustainable Materials Purchasing and Procurement Policy
- Implement changes to collection contract and PTS operating contract
- Adopt city ordinances to support this SMMP

Additional resources, including staffing and funding will be needed to complete the SMM Plan Phases.

2.2.6 Performance Metrics

Establishing performance benchmarks, measuring progress against those benchmarks, and identifying opportunities for improvement is the foundation of an effective management system. For purposes of gauging the effectiveness of Carlsbad's progress toward its sustainable material management objectives, performance metrics should be identified, and performance should be tracked relative to the established metrics. **Appendix 2C** provides an initial list of recycled content material procurement metrics, and diversion metrics, which should be reviewed and adjusted as appropriate as the SMMP is implemented.

2.3 Federal (EPA) Sustainable Materials Management Planning

The United States Environmental Protection Agency (EPA) is responsible for protecting human health and the environment. As such, the department develops laws and regulations, resource guides, specific programs to address aspects like clean air and water, and also enforces policy.

The Resource Conservation & Recovery Act (RCRA) provides the legislative basis for EPA's Sustainable Materials Management Program, setting a strong preference for resource conservation over disposal. EPA's 2002 report, *Beyond RCRA: Waste and Materials Management in 2020* made the argument for focusing efforts on materials management. One of the findings of that report was the need for society to shift focus away from waste management toward materials management.

The EPA's 2009 report, *Sustainable Materials Management: The Road Ahead*, provided recommendations and an analytical framework for moving toward sustainable materials

⁴ Certain other SB 1383 requirements become effective at a later date (e.g., January 1, 2024).

management. In October 2015, the U.S. EPA's Sustainable Materials Management Program Strategic Plan was issued (**Appendix 2D**), which included the following objectives:

- **Decrease disposal rate** - Track and reduce the overall amount of materials disposed, which encompasses activities targeting source reduction, reuse, recycling, and prevention;
- **Reduce environmental impacts of materials** - Reduce the environmental impacts of materials across their life cycle, including reduced greenhouse gas emissions and water and energy use;
- **Increase socio-economic benefits** - Track and report material impacts on the economy as well as social aspects; and
- **Increase capacity of state and local governments, communities, and key stakeholders to adopt and implement sustainable materials management policies, practices, and incentives** - Increase the number of states and communities where sustainable materials management capacity has been expanded as a result of the EPA's technical assistance and support. It also involves increasing the per capita quantity and/or quality of recyclables recovered for manufacturing and increasing the number of households with access to organic collection and recycling.

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3.1 Introduction

Completing Phase 1 of this SMMP will ensure the city’s compliance with state solid waste regulations currently in effect. Completing Phase 2 of this SMMP will ensure the city’s compliance with SB 1383 regulations, effective as of January 1, 2022. The following five (5) pieces of legislation are the most impactful to the development the city’s solid waste management system. The first four relate specifically to Phase 1, the fifth (SB 1383) applies to Phase 2.¹

AB 939 Integrated Waste Management Act (1989)

AB 341 Mandatory Commercial Recycling (2011)

AB 1594 Green Use as ADC (2014)

AB 1826 Mandatory Commercial Organics Recycling (2014)

SB 1383 Short-Lived Climate Pollutants (2016)

This section includes relevant legislation, details related to material bans and extended producer responsibility.

3.2 Major Impacting Legislation

3.2.1 AB 939 – Integrated Waste Management Act

Overview

AB 939, among other things, established an integrated waste management hierarchy to guide the California Integrated Waste Management Board and local agencies in implementation, in order of priority: (1) source reduction, (2) recycling and composting, and (3) environmentally safe transformation and land disposal. AB 939 also required each city and county to develop a plan (i.e., Source Reduction and Recycling Element (SRRE)) to divert 25% of all solid waste from landfill or transformation by January 1, 1995 through source reduction, recycling, and composting activities, and percent by January 1, 2000. Local agencies report back their progress in achieving waste diversion annually via the Electronic Annual Report (EAR).

Impact on City

While the City is currently in compliance with the 50% minimum diversion requirement it will lose the diversion credit it is currently receiving for its green waste that is currently used as alternative daily cover (ADC) as of January 1, 2020. At current levels of ADC use, and assuming all other solid waste diversion factors remain the same, the city’s recycling rate will fall below AB 939’s 50% minimum diversion requirement at that time unless corrective actions are taken (e.g., the city’s green waste is composted or anaerobically digested so that it retains the diversion credit for that material).

¹ A complete accounting of California solid waste legislation can be found on CalRecycle’s website at <https://www.calrecycle.ca.gov/laws/legislation/calhist>.

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3.2.2 AB 341 - Mandatory Commercial Recycling

Overview

AB 341 (1) requires CalRecycle to issue a report to the Legislature that includes strategies and recommendations that would enable the state to divert 75 percent of the solid waste generated in the state from disposal by January 1, 2020; (2) requires businesses that meet specified thresholds in the bill to arrange for recycling services by January 1, 2012; (3) streamlines the amendment process for non-disposal facility elements, by allowing changes without review and comment from a local task force; and (4) allows a solid waste facility to modify their existing permit, instead of having to undergo a permit revision, under specified circumstances.

Impact on City

AB 341 requires all multifamily residential properties (with 5 units or more) (regardless of solid waste generation) and businesses that generate four (4) cubic yards of solid waste per week to sign up for recycling collection service (covered generators). CWM currently offers commercial recycling services to all commercial businesses, including AB 341 covered generators.

Phase 3 of the SMMP goes beyond AB 341 requirements with the implementation of universal commercial recycling serviced for all commercial accounts, not just covered generators.

3.2.3 AB 1594 – Green Waste Used as Alternative Daily Cover

Overview

Provides that the use of green material as alternative daily cover is disposal and does not constitute diversion through recycling, as of January 1, 2020. (Chapter 719). Green material can continue to be used as alternative daily cover (ADC), however it will not count as diverted material.

Impact on City

The majority of the green waste collected by CWM in Carlsbad is used as ADC, which does not qualify of diversion as of January 1, 2020. At current levels of ADC use, and assuming all other solid waste diversion factors remain the same, the city’s recycling rate will fall below AB 939’s 50% minimum diversion requirement as of January 1, 2020.

3.2.4 AB 1826 - Mandatory Commercial Organics Recycling

Overview

AB 1826 requires commercial businesses to arrange for recycling services for organic waste. Local jurisdictions are also required to adopt an organic waste recycling program.

Signed by Governor Brown in 2014, AB 1826 requires commercial businesses and multi-family properties² to implement organics recycling programs for the diversion of organic waste³ from landfills.

Under AB 1826, local jurisdictions are required to implement an organics recycling program appropriate for that jurisdiction, designed specifically to divert commercial organic waste. AB 1826 implementation includes the following four local jurisdiction requirements:

- Identify Covered Generators Component – Identify commercial businesses and multi-family properties (collectively, “covered generators”) that must comply with the regulations of AB 1826;
- Organics Recycling Service Component – Ensure that organics recycling services are available to all covered generators;
- Education and Outreach Component – Conduct education and outreach to covered generators about the state law and how to comply; and
- Compliance Monitoring Component – Identify covered generators that are not in compliance and inform them of their requirements and how to comply.

Impact on City

In accordance with AB 1826, Carlsbad must develop a full scale commercial organics recycling program. The city has conducted a review of options with its contract hauler and the PTS contract operator. The city has also been collaborating with the San Diego Association of Governments (SANDAG) Solid Waste Technical Advisory Committee on regional planning for required infrastructure, programs, and best practices for food waste reduction, and diversion. The city also conducted a Food Waste Reduction and Recycling Pilot Program, and city staff worked with the County of San Diego to develop a Food Donation Action Plan for the San Diego region.

3.2.5 SB 1383 - Short Lived Climate Pollutants

Overview

SB 1383 (1) codifies various aspects of the California Air Resources Board’s Short-Lived Climate Pollutant Plan; (2) requires the California Energy Commission to develop recommendations to increase the use of renewable gas; (3) sets organics disposal reduction targets; and, (4) provides CalRecycle the regulatory authority required to achieve the waste sector aspects of the Short-Lived Climate Pollutant Plan.

Passed in 2016, the bill aims to reduce Short Lived Climate Pollutants, or “Super Pollutants”, emitted in the state, including methane from the waste sector. SB 1383 sets a goal to reduce organic waste by 50% from the 2014 level by 2020 and 75% from the 2014 level by 2025. Additionally, the bill establishes a target of recovering 20% of currently disposed edible food for human consumption by 2025.

² For the purposes of AB 1826 compliance, a “multi-family property” is defined as a multi-family dwelling that consists of five or more units. Multi-family dwellings that consist of four units or fewer are exempt from all provisions of the law.

³ Organic waste, which is regulated under AB 1826, means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste.

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SB 1383 Article 16 (Administrative Civil Penalties for Violations of Requirements of this Chapter), requires that jurisdictions adopt an ordinance or enforcement mechanisms to impose penalties for violations that are equivalent to or stricter than those amounts specified in the Article, and as described further below.

Violations for property owners and organic waste generators include, but are not limited to the following:

- Failure of property owners to provide or arrange for organic collection service (i.e., 100% service subscription);
- Failure of organic waste generators to prohibit their employees from placing organic waste in a container not designated to receive organic waste (i.e., 100% participation/capture rate);
- Failure of organic waste generators to periodically inspect waste containers for contamination and inform employees if containers are contaminated; and
- Failure of edible food generators to arrange to recover edible food.

Jurisdiction imposed fines for these and certain other violations are structured in three levels:

- Level 1 (first violation) - \$50-\$100 per violation, per day.
- Level 2 (second violation) - \$100-\$200 per violation per day.
- Level 3 (Third and subsequent violations) - \$250-\$500 per violation per day.

Article 16 also establishes penalties that CalRecycle may impose on jurisdictions for failure to comply with requirements, including the following:

- Failure to implement required residential and commercial organic collection services;
- Failure to conduct required route audits and monitor containers for contamination;
- Failure to adopt required ordinances or similar enforcement mechanisms;
- Failure to enforce required ordinances or similar enforcement mechanisms;
- Failure to implement a required edible food recovery program;
- Failure to provide required public education;
- Failure to comply with required CALGreen building standards;
- Failure to keep required records; and
- Failure to provide required reports.

Jurisdictional penalties related to the above requirements are structured in three levels:

- Level 4 (first violation) - \$500-\$2,500 per violation, per day.
- Level 5 (second violation) - \$1,000-\$5,000 per violation per day.
- Level 6 (Third and subsequent violations) - \$5,000-\$10,000 per violation per day.

SB 1383 also establishes penalties for haulers, including self-haulers, and other entities.

Impact on City

SB 1383 requires jurisdictions, including Carlsbad, to take a wide range of specific actions, including:

- Imposing subscription, source separation, and education requirements and associated penalties on organic material generators including businesses and multi-family customers;
- Meeting certain targets for procurement of end-use organic waste products internally and/or as a requirement on contractors and/or haulers;
- Engaging in annual outreach efforts to organic waste generators, outreach to edible food generators, and quarterly contamination route monitoring that includes distribution of contamination tags to customers.
- Requiring edible food generators to donate edible food, and collecting records and enforcing requirements; and
- Requiring certain self-haulers of organic waste to source-separate, deliver for diversion, keep records of amounts delivered, and report annually to jurisdictions (residential self-haulers are exempt).

3.3 Legislative Material bans and Extended Producer Legislation

3.3.1 Extended Producer Responsibility

Extended producer responsibility (EPR) is a strategy of holding product developers, manufacturers, distributors and other material companies responsible for the products that they are creating and thus putting into the waste stream. Specific strategies can include take-back programs of certain materials for proper management and disposal/diversion (such as with pharmaceuticals and sharps), placing a cost on a product for the funding of proper management of that waste stream (such as with mattresses and carpet) or requiring proper labeling and instructions on packaging/products. EPR programs add the environmental costs associated with a product throughout the product life cycle to the market price of that product.⁴ EPR legislation is a driving force behind the adoption of remanufacturing initiatives because it “focuses on the end-of-use treatment of consumer products and has the primary aim to increase the amount and degree of product recovery and to minimize the environmental impact of waste materials”.⁵

3.3.2 Material bans

The goal of enacting a product ban is to stimulate the use of products or materials that are more sustainable by disallowing the sale/distribution of less environmentally-conscious option from the waste stream and driving attention/incentive (socially, financially, etc.) to the better option. It is not clear, however, whether substitute products are in fact better for the environment. Some experts contend that bans do not reduce waste but merely change its composition, or even create more of it, while others contend that bans provide a greater

⁴ OECD (2001). *Extended Producer Responsibility: A Guidance Manual for Governments*. Paris, France.

⁵ Johnson, Michael R.; McCarthy, Ian P. (2014-10-01). "Product recovery decisions within the context of Extended Producer Responsibility". *Journal of Engineering and Technology Management*. Engineering and Technology Management for Sustainable Business Development. **34**: 9–28. doi:10.1016/j.jengtecman.2013.11.002.

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benefit of starting or continuing the conversation of proper waste habits, and may motivate greater change within the industry.

3.3.3 Proposed and Existing Extended Producer Responsibility Legislation⁶

Proposed Legislation

SB 54 - Single-Use Plastic Waste: Reduction (Introduced December 11, 2018)

The goal of this bill is to reduce the amount of single-use plastic in the waste stream by requiring that CalRecycle develop a scoping plan to address the following regulations: source reduce, to the maximum extent possible, single-use packaging and products; to source reduce or recycle at least 75% of single-use plastic packing and products by 2030; and to require that all single-use packaging and products distributed or solid in California be recyclable or compostable on and after 2030. Manufacturers/distributors of single-use plastic in California would be required to demonstrate a recycling rate of not less than 20% on and after January 1, 2022 and 40% as of January 1, 2026. This bill has the potential to reduce the amount of single-use plastic waste entering California's waste stream, polluting our oceans, littering our local communities and beaches, and costing local governments millions of dollars in cleanup costs.

Existing Legislation

SB 212 - Statewide Drug and Sharps Take Back Program (2018)

SB 212, which was signed into law on October 1, 2018, and requires entities selling drugs or home-use medical sharps in California to individually, or in cooperation with other entities, develop and implement a statewide drug and/or home-generated sharps waste stewardship plan for the collection and disposal of home-generated drug and sharps waste. For drug stewardship plans, the plan must have five collection sites per county or one per 50,000 people, whichever is greater. For home-generated sharps stewardship plans, collection is done through prepaid mail-back containers, for which distribution is made or initiated at the point of sale with no cost to the consumer. It also requires CalRecycle to adopt specific regulations no later than January 1, 2021.

AB 1884 - Plastic Straws (2018)

AB 1884, which went into effect as of January 1, 2019, prohibits full-service restaurants from providing single-use plastic straws to consumers unless requested by the consumer. This covers full-service dining, but not takeout establishments like fast-food restaurants. The goal of this bill is to reduce the amount of single-use plastic straws in the waste stream and particularly was created to address plastic waste in coastal communities and California beaches. Financial penalties to a restaurant for violations include \$25 per day not to exceed

⁶ Source: California Product Stewardship Council.

\$300 annually. Several California cities have already adopted ordinances similar to AB 1884, including Manhattan Beach, which in June 2018 banned plastic straws, stirrers and utensils.

SB 254 - Used Mattress Recovery and Recycling Act (2013)

SB 254, which went into effect on January 1, 2014 is aimed at reducing the amount of mattresses that end up in landfills as well as reducing the illegal dumping of mattresses. The bill requires retailers to provide consumers the option to have old mattresses picked up, requires the mattress recycling organization to develop a state plan for recycling used mattresses, and prohibits a manufacturer, renovator or retailer from selling in or importing a mattress into the state under noncompliance circumstances. This bill helped to establish the website Bye Bye Mattress which helps residents find drop-off locations for their used mattresses.

AB 2398 – Producer Responsibility for Carpet (2010)

AB 2398 is a Carpet Stewardship law, signed by the governor of California, on September 30, 2010. The purpose of the law is to increase the diversion and recycling of carpet in the state of California. As of July 1, 2011, the State began charging a \$.25/square yard of carpet sold in California called the Carpet Stewardship Assessment. Retailers must include the \$.10/sq. yd. Carpet Stewardship Assessment fee as an after-tax line item on a customer invoice. Unlike other proposed stewardship legislation that are intended to fund the entire burden of end-of-life management, this law is designed to find ways to incentivize the growth of carpet reclamation and recycling and still allow the market to work.

AB 1343 – Architectural Paint Stewardship (2010)

AB 1343 creates a producer managed post-consumer paint recovery program. It requires architectural paint manufacturers to develop and implement a stewardship plan to reduce the generation of post-consumer paint, promote reuse of paint, and manage the end-of-life post-consumer paint in an environmentally sound manner.

SB 346 – Brake Pad Partnership (2010)

SB 346 phased copper out of brake pads sold in California. It was a negotiated agreement with the producers to stop copper pollution at the source. This measure was the only feasible way to reduce the single most significant source of copper in urban watersheds, which kills marine organisms and fatally impairs the viability of salmon and other fish, frustrating State, regional and local government efforts to meet our water quality objectives in the Bay Area and Southern California.

AB 1879 – Green Chemistry Program (2008)

AB 1879 required the California Department of Toxic Substances Control (DTSC) under the Green Chemistry Initiative to adopt, by January 1, 2011, regulations to establish a process by which chemicals or chemical ingredients in products may be identified and prioritized for consideration as being chemicals of concern.

AB 2347 – Recycling Mercury Thermostats (2008)

AB 2347 established a shared responsibility program for the recycling of mercury thermostats and relieved pressure on cash-strapped local governments. This bill took a producer

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responsibility approach for establishing effective mercury recycling collection programs, allowing Californians to return waste thermostats to retail locations that sell new ones, establishing convenient collection sites for contractors, and requiring companies that produce thermostats to fund the recycling program.

AB 1860 – Unsafe Products: Recall or Warning (2008)

The Product Recall Safety and Protection Act (Act) requires the immediate removal from the market and notice to consumers for products subject to recall or warnings. The Act also requires a product manufacturer whose product is subject to a recall and/or warnings to provide for the safe return of the product to the manufacturer at no cost to the end consumer or retailer, and requires the manufacturer to properly dispose of the product and not export the product, or permit the product to be exported, for disposal in a manner that poses significant risk to the public health or the environment.

4.1 Introduction

Coast Waste Management (CWM), a division of Waste Management Inc., has an exclusive contract for the provision of residential and commercial solid waste, recycling and green waste collection services in Carlsbad. With the exception of residential and commercial recyclable materials, E-waste, white goods, and a portion the construction and demolition debris collected by CWM, all franchised materials collected by CWM are delivered to the PTS, which is operated by Republic Services (Republic) under contract to the city. The majority of solid waste from the PTS is landfilled at Republic’s Otay Landfill in Chula Vista.

The PTS is the one of only two large volume transfer station in northern San Diego County, with more than 50% of the material that passes through that facility coming from outside of the city. EDCO Waste and Recycling Services also operates a large volume transfer station in Escondido, and a C&D debris processing facility in San Marcos, which currently receives CWM C&D debris that is not delivered to the PTS.

4.2 City Historical Diversion and Recycling Rates

AB 939, which was passed in 1989, required jurisdictions in California to meet diversion goals of 25% by 1995 and 50% by the year 2000. In 2011, the Legislature passed AB 341, which among other things, established a new statewide goal of 75-percent recycling through source reduction, recycling, and composting by 2020.

Table 4-1 provides historical diversion rates and recycling rates for the past 10-years for both the city of Carlsbad and statewide.¹ As shown, the city’s diversion rate was 53% in 2017,² down from a high of 67% in 2010. While the city’s diversion rate was generally comparable to the statewide rate from 2008 to 2012, over the past 5-years it has been less than the statewide average.

On the other hand, Carlsbad’s recycling rate was 44% in 2017, and has outpaced the statewide average, although less so in recent years. Of particular note is that the statewide recycling rate of 44% in 2016, the most recent year for which statewide data is available, is well below the 2020 75% recycling goal.

The difference between Carlsbad’s Diversion Rate (53% in 2017) and Recycling Rate (44% in 2017) is due to the use of the city’s green waste as alternative daily cover (ADC) at Republic’s Otay Landfill. If that material, which does not count toward diversion under AB 341 were composted, the city’s Recycling Rate and Diversion Rate would be the same.

¹ Several activities which ***count toward diversion*** under AB 939 ***do not count toward recycling*** under AB 341, including ADC, alternative intermediate cover (AIC), other beneficial reuse at landfills, transformation credit and waste derived fuel. These five activities are instead defined as “disposal-related activities.”

² The most recent year for which data is currently available.

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Overview of Solid Waste Management System & Service Contracts

**Table 4-1
City and Statewide Diversion and Recycling Rates**

Year	Carlsbad		Statewide	
	Diversion Rate	Recycling Rate	Diversion Rate ⁽¹⁾	Recycling Rate ⁽²⁾
2008	61%	57%	59%	<i>Not Reported</i>
2009	65%	60%	65%	
2010	67%	60%	65%	49%
2011	66%	59%	65%	49%
2012	66%	59%	66%	50%
2013	61%	55%	65%	50%
2014	57%	51%	65%	50%
2015	57%	52%	63%	47%
2016	54%	47%	61%	44%
2017	53%	44%	<i>Not yet reported</i>	

(1) includes alternative daily cover (ADC) diversion

(2) Does not include ADC diversion

CalRecycle reported that a major reason the state’s recycling rate has been decreasing is the rise over the past several years of both total disposal and per capita disposal. CalRecycle pointed to several reasons for the rising disposal volumes including relatively low disposal costs, higher wages driving increased consumption, slow-to-develop domestic markets for recyclable materials, declining international markets for recyclables and a lack of in-state infrastructure to process organics.

4.3 Contracted Service Providers

4.3.1 Coast Waste Management

Single-Family Services

Residents are provided weekly solid waste, recycling and green waste collection services in containers provided by CWM. Solid waste, recycling and green waste containers are provided in three sizes: 35, 64, and 96-gallons. Residents are allowed up to three recycling carts and three green waste carts at no additional cost. Extra solid waste carts are provided at an additional monthly rate.

Multi-Family and Commercial Services

CWM provides solid waste services to commercial and multi-family accounts using commercial cans and bins ranging in size from 2 cubic yards to 6 cubic yards, and 3-cubic yard commercial compactors. Service is provided up to six days per week. Commingled recycling, and source

separated cardboard and mixed paper recycling services are also provided to commercial accounts. Commercial green waste collection service is also provided at an additional cost.

CWM also offers 3-cubic yard special haul (temporary service), and 3 and 4-cubic yard C&D debris recycling service.

Roll-Off Services

CWM provides industrial customers with roll-off services for 10-cubic yard to 40-cubic yard bins, as well as specialized compactors.

Other Services

Bulky Item Collection - For items that are too large to fit into the trash can, residents may request the pickup of household bulky goods. Residents may dispose of up to five bulky household items, three times annually, at no charge. Residents may schedule additional pick-up appointments at a cost of \$35 for the first item and \$5 for each subsequent item.

Christmas Tree Recycling - CWM collects Christmas trees the first two weeks following Christmas on the regularly scheduled collection day. There are also a number of drop-off locations within the city where residents can take their trees for recycling.

Drop-Off / Buy-Back Center - CWM operates a non-franchised drop-off buy-back center at the PTS. The Center accepts California Redemption Value (CRV) bottles and cans in for cash. Also accepted for drop off are non-CRV bottles and cans, newspaper, mixed paper and cardboard.

CWM Franchised Diversion Rate

Table 4-2 provides a summary of CWM’s collection contract diversion rate for the residential, commercial and roll-off waste streams, and overall for the past 5 years. As shown, over the past five years there has been relatively little change in CWM’s total diversion rate.

**Table 4-2
CWM Collection Contract Diversion Rate**

Waste Stream	2014	2015	2016	2017	2018	5-Year Average
Commercial Diversion %	10.2%	12.3%	12.4%	13.3%	14.0%	12.4%
Residential Diversion %	54.7%	54.5%	53.7%	54.8%	53.1%	54.2%
Roll-Off Diversion %	21.5%	17.4%	26.6%	32.5%	28.7%	25.3%
Total Diversion %	32.2%	31.9%	33.2%	35.4%	33.8%	33.3%

4.3.2 Republic Services | Palomar Transfer Station Inc.

Republic Services operates the Palomar Transfer Station (PTS), which is located in Carlsbad. The PTS is a large volume transfer/processing facility that is owned by the County, leased to Carlsbad, and operated by Republic under contract to the city. It is permitted to accept mixed municipal, construction/demolition, and industrial waste, and green materials.

PTS Incoming and Outgoing Tonnages

Table 4-3 provides a summary of the incoming and outgoing tons from the PTS for 2018. As shown, with the exception of 22 pounds of solid waste that was disposed of at the El Sobrante

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Landfill in Riverside County, all of the solid waste received at PTS in 2018 was disposed at Republic’s Otay Landfill in Chula Vista.

Of particular note is Republic’s management of the C&D debris and green waste received at the PTS:

- Of the 3,470 tons of C&D debris received at the PTS, 1,010 tons (29%) were delivered to Republic’s Otay Landfill C&D processing facility for processing, with the remaining 71% disposed as municipal solid waste (MSW); and
- Of the 47, 546 tons of green waste received at the PTS, 4,078 tons were composted (9%), while the remaining 38,387 tons (81%) were used as alternative daily cover (ADC) at the Otay Landfill.

**Table 4-3
PTS Incoming and Outgoing Tonnages (2018)**

	Tons	% of Total
PTS Incoming Tons		
MSW ⁽¹⁾	391,603	88%
Recycling	2,756	1%
C&D ⁽²⁾	3,471	1%
Green Waste	47,546	11%
Mattress	-	0%
Total	445,376	100%
PTS OutgoingTons		
Otay Landfill		
MSW	395,263	
Recycling	-	
C&D	1,010	29% Processed
Green Waste	38,387	81% ADC
Mattress	-	
Total	434,660	
El Sobrante Landfill		
MSW	22	
Total	22	
Agromin		
Green Waste	4,078	9% Composted
Total	4,078	
Orange MRF		
Recycling	2,353	
Total	2,353	
Total Outgoing Materials		
MSW	395,285	
Recycling	2,353	
C&D	1,010	
GW	42,465	
Mattress	-	
Total	441,113	

PTS Tonnages by Jurisdiction

Table 4-4 provides a summary of the total tons delivered to the PTS in 2018 and the city’s portion of that tonnage.

**Table 4-4
PTS Tonnages by Jurisdiction (2018)**

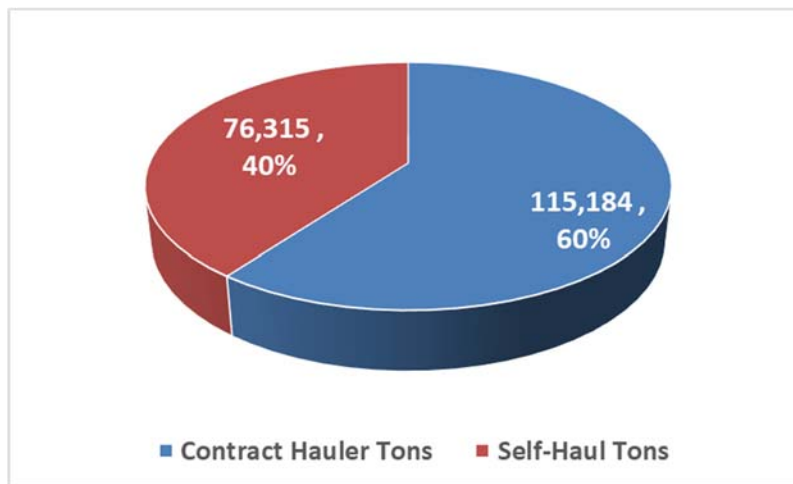
Jurisdiction	Tonnages					
	Buried		Non-Buried		Total	
	Tons	% of Total	Tons	% of Total	Tons	% of Total
Carlsbad	155,297	39%	36,203	72%	191,500	43%
All Other Jurisdictions	239,777	61%	14,174	28%	253,952	57%
Totals	395,074	100%	50,376	100%	445,452	100%

As shown, 43% of the tonnage received at the PTS in 2018 came from the city, while 57% came from outside the city. This tonnage distribution highlights the regional use of the PTS.

PTS City Self-Haul Tonnages

Figure 4-1 provides a breakdown of the portion of the total 2018 city tons delivered to the PTS by CWM versus self-hauled by residential and commercial generators. As shown, 40% of the total material Republic reported as delivered to the PTS from sources within the city was attributed to self-haulers, while 60% was delivered by PTS.³ The self-haul tonnage attributed to the city, as a percentage of total city tons (40%), is twice as high as the statewide self-haul average of 20% of total tons. This raises a concern as to the accuracy of the reporting of city self-haul tonnages delivered to the PTS, and warrants additional review by the city. Any reduction in the total self-haul tons attributed to the city would increase the city’s calculated diversion rate.

**Figure 4-1
City Contract Hauler and Self-Haul Tonnage to PTS (2018)**



³ City self-haul tonnage represented 44% of the total city tonnage delivered to the PTS in 2017.

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4.4 Disposal Tonnages by Facility

Table 4-5 provides a summary of the city’s 2018 disposal tonnages by facility. As shown, more than 96% of the city’s disposal tonnage was landfilled at the Otay Landfill. The vast majority of that tonnage transferred through the PTS (97%). The city’s disposal facility profiles for 2013, 2014, 2015, 2016 and 2017 are generally similar.

**Table 4-5
City Disposal Tonnages by Facility (2018)**

Destination Facility	Disposed	
	Tons	% of Total
Otay Landfill	156,693	96.2%
Sycamore Landfill	2,773	1.7%
El Sobrante Landfill	2,646	1.6%
West Miramar Sanitary Landfill	471	0.3%
Kettleman Hills - B18 Nonhaz Codisposal	69	0.0%
Mid-Valley Sanitary Landfill	69	0.0%
McKittrick Waste Treatment Site	50	0.0%
Azusa Land Reclamation Co. Landfill	46	0.0%
Olinda Alpha Sanitary Landfill	11	0.0%
Frank R. Bowerman Sanitary LF	3	0.0%
Lamb Canyon Sanitary Landfill	2	0.0%
Simi Valley Landfill & Recycling Center	1	0.0%
Total	162,834	100.0%

Historically as much as 10% or more of the total tonnage assigned to the city that was reported as disposed at the Otay Landfill was not reported as transferred through the PTS. As such, that tonnage would have had to have been directly hauled to the Otay Landfill more than 50 miles away. Going forward, it is suggested the city review the sources of city tonnage that is delivered to the Otay Landfill but is not transferred through the PTS to confirm that it is being correctly reported as originating from the city of Carlsbad.

4.5 Analysis of Additional Diversion

For purpose of gauging the potential impact of the various SMMP required and planned actions, an analysis was conducted of the additional diversion Carlsbad may be able to achieve through those required and planned diversion actions. The analysis calculated the additional diversion associated with the following materials contained within the residential, commercial

and self-haul waste streams, assuming capture rates for the targeted materials of 10%, 25%, 75% and 100%:⁴

- Recyclable materials;
- Organic materials;
- Household Hazardous Waste (HHW), Electronic waste (E-waste), Universal Waste (U-waste);
- Textiles;
- Carpet;
- Bulky Items;
- C&D Debris; and
- Tires.

The resulting additional diversion associated with the residential, commercial and self-haul waste streams are shown in **Table 4-6**, **Table 4-7**, and **Table 4-8**, respectively, with corresponding **Figure 4-2**, **Figure 4-3**, and **Figure 4-4** providing a comparison of the potential increase in the city’s overall diversion rate. Each of these tables provides the city’s current “Baseline” with respect to the total tons generated, diverted and disposed that are attributed to Carlsbad, and the associated city diversion rate, which was 53% in 2017. The Tables then show the increase in the tons diverted, and decrease in tons disposed associated with capturing 10%, 25%, 50% and 100% of the targeted materials listed above. The corresponding figures show the related increase in the city’s diversion rate associated with each of the noted targeted material capture rates.

Table 4.9 and **Figure 4-4** show the overall increase in the city’s diversion rate accounting for the combined impacts of the additional residential, commercial and self-haul diversion for the associated capture rates. As shown, were the city to recovery 100% of the targeted materials from its those waste streams, the city’s diversion rate would increase by 30%, from 53% to 83%.

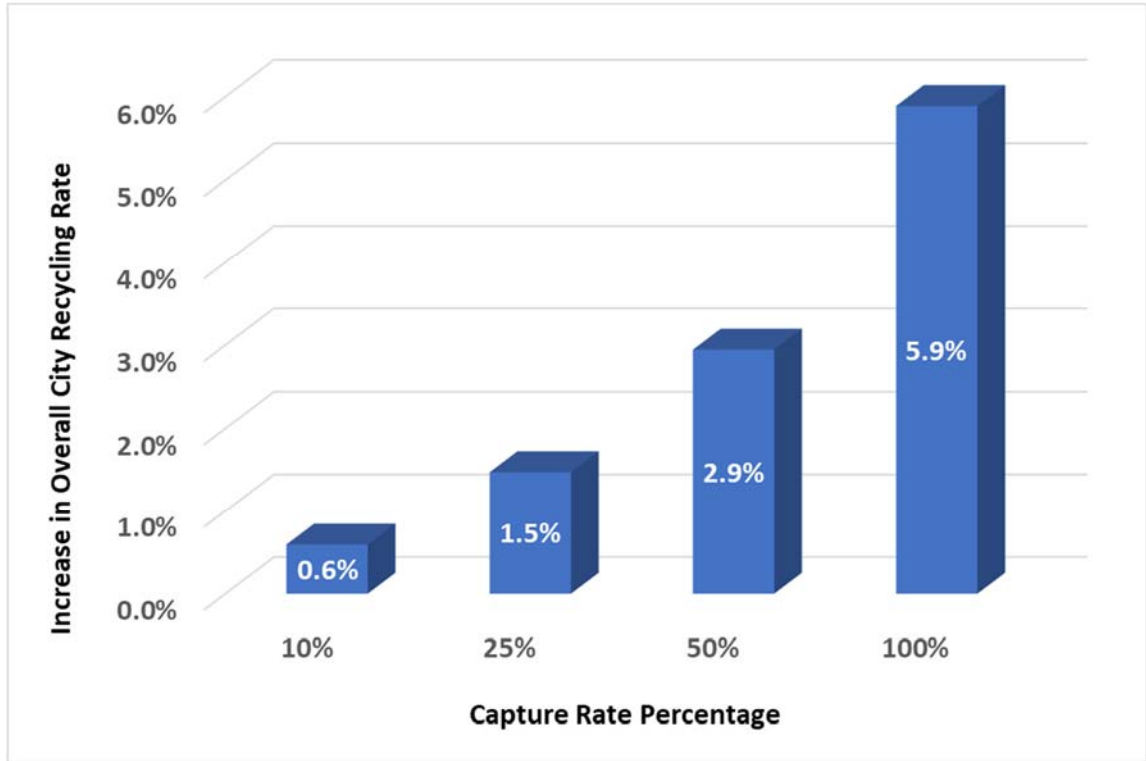
It should be noted that this analysis is based on general statewide waste composition data and is not specific to Carlsbad. Additionally, the self-haul analysis considers all self-haul tonnages, including those that are not delivered to the PTS and over which the city has no contractual control. With that said, the analysis shows that while there is potential for recovering additional material from both the residential and commercial waste streams, the potential for recovery of self-haul material exceeds the combined totals of both the residential and commercial waste streams, with the majority of that self-haul diversion associated with C&D debris, bulky items, and green waste.

⁴ Waste residential, commercial, and self-haul waste composition data was taken from CalRecycle’s 2014 Disposal-Facility-Based Characterization of Solid Waste in California.

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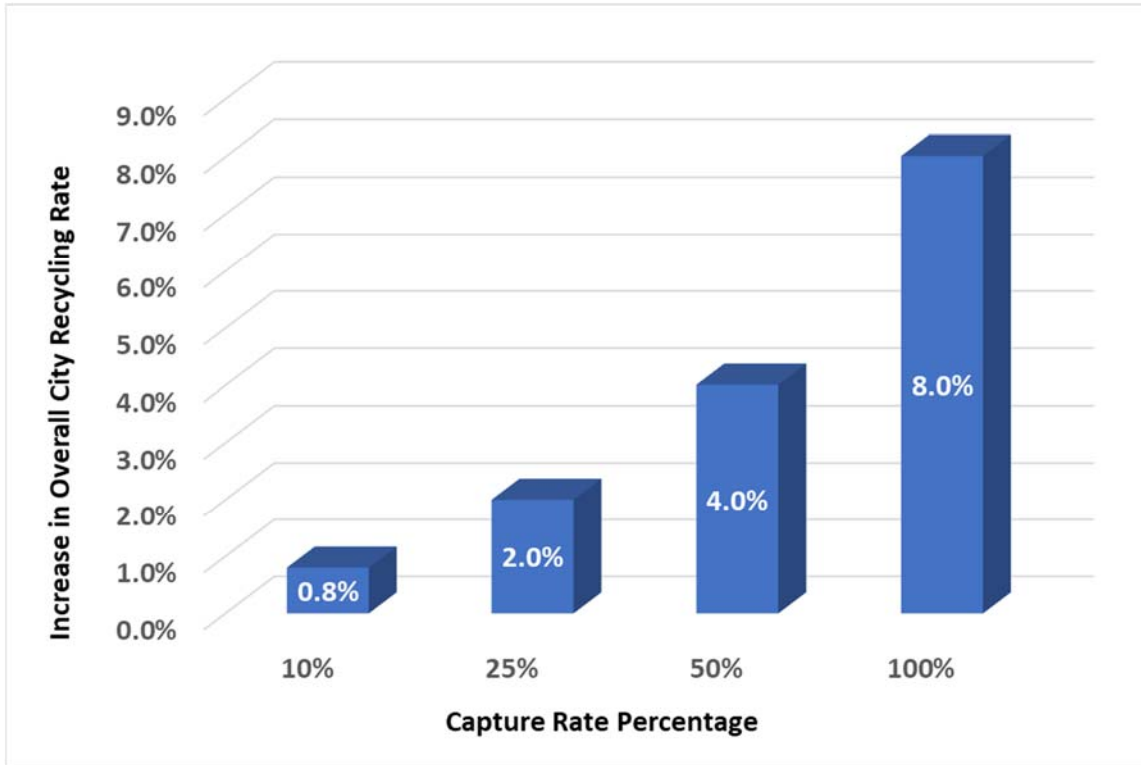
**Figure 4-2
Additional Residential Diversion Potential**



**Table 4-6
Additional Residential Diversion Potential**

	Current Baseline	Assumed Capture Rate Tons Recovered			
		10%	25%	50%	100%
Current City Material Generation Rate	347,860	347,860	347,860	347,860	347,860
Tons Diverted	184,283	186,331	189,402	194,521	204,759
Tons Disposed	163,577	161,529	158,458	153,339	143,101
Diversion Rate	53.0%	53.6%	54.4%	55.9%	58.9%
Diversion Rate Increase vs. Baseline	0.0%	0.6%	1.5%	2.9%	5.9%

**Figure 4-3
Additional Commercial Diversion Potential**



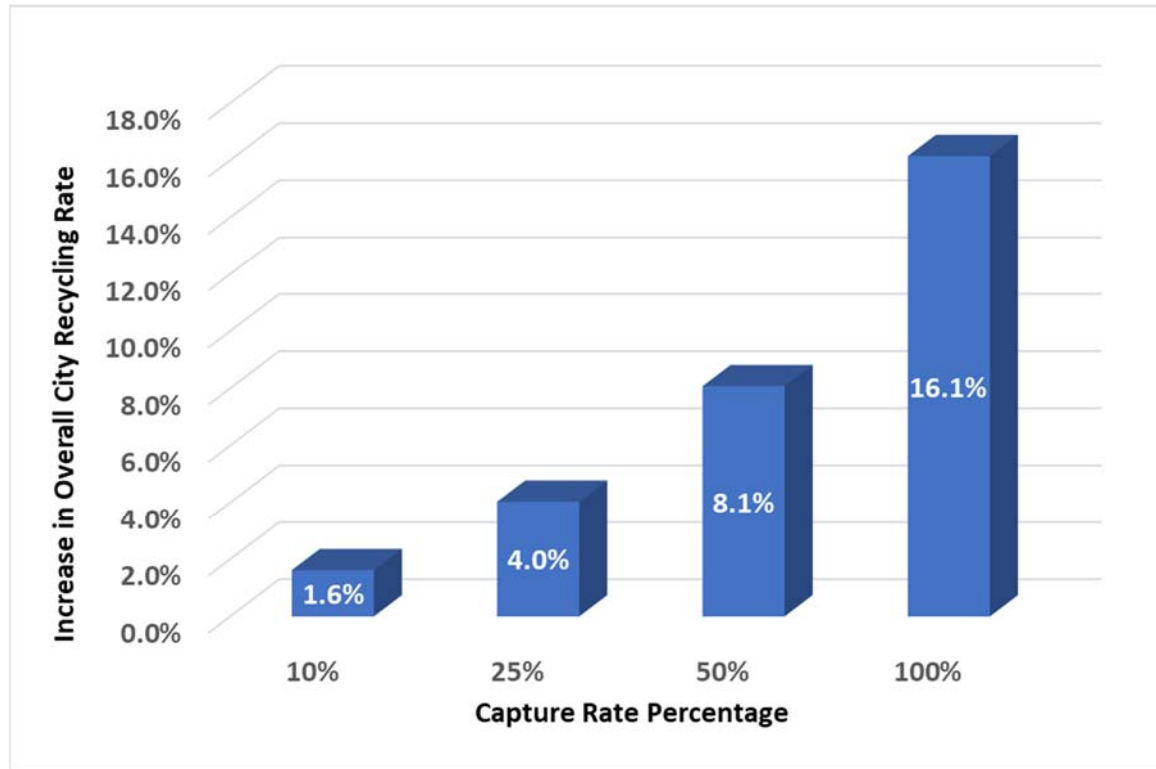
**Table 4-7
Additional Commercial Diversion Potential**

	Current Baseline	Assumed Capture Rate Tons Recovered			
		10%	25%	50%	100%
Current City Material Generation Rate	347,860	347,860	347,860	347,860	347,860
Tons Diverted	184,283	187,072	191,255	198,227	212,171
Tons Disposed	163,577	160,788	156,605	149,633	135,689
Diversion Rate	53.0%	53.8%	55.0%	57.0%	61.0%
Diversion Rate Increase vs. Baseline	0.0%	0.8%	2.0%	4.0%	8.0%

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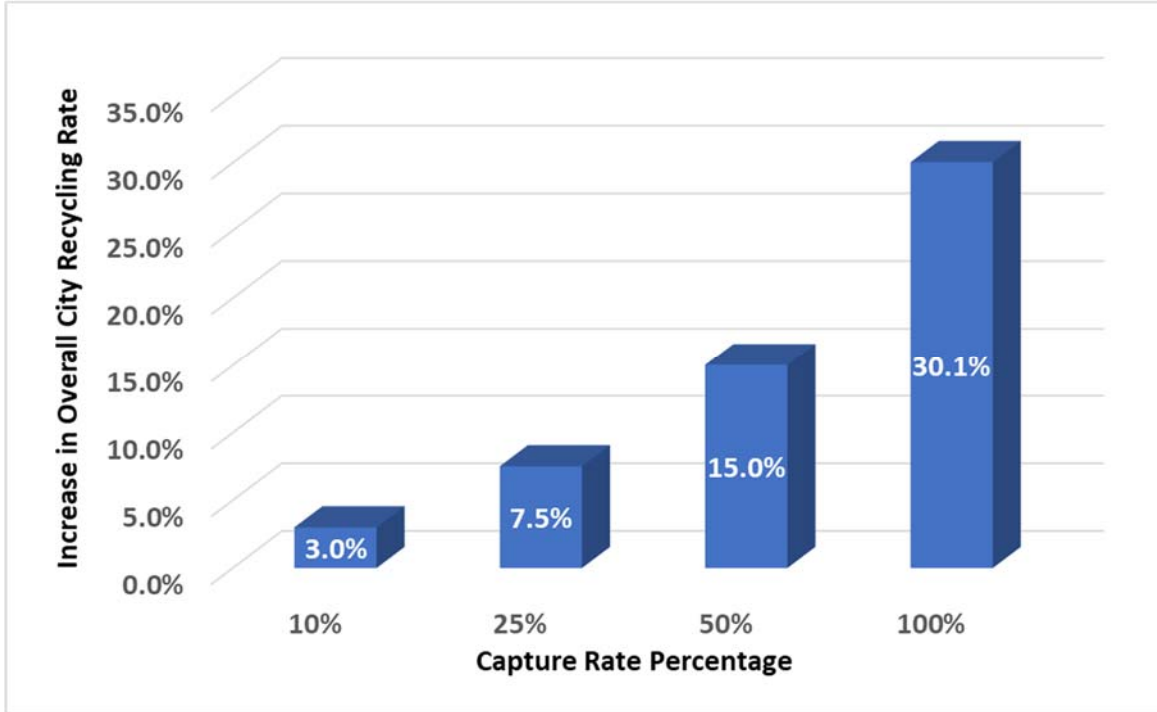
**Figure 4-4
Additional Self-Haul Diversion**



**Table 4-8
Additional Self-Haul Diversion Potential**

	Current Baseline	Assumed Capture Rate Tons Recovered			
		10%	25%	50%	100%
Current City Material Generation Rate	347,860	347,860	347,860	347,860	347,860
Tons Diverted	184,283	189,900	198,326	212,370	240,457
Tons Disposed	163,577	157,960	149,534	135,490	107,403
Diversion Rate	53.0%	54.6%	57.0%	61.1%	69.1%
Diversion Rate Increase vs. Baseline	0.0%	1.6%	4.0%	8.1%	16.1%

**Figure 4-5
Cumulative Additional Diversion**



**Table 4-9
Cumulative Additional Diversion Potential**

Waste Stream	Current Baseline	Assumed Capture Rate Increase in Overall City Diversion Rate			
		10%	25%	50%	100%
Residential		0.6%	1.5%	2.9%	5.9%
Commercial		0.8%	2.0%	4.0%	8.0%
Self-Haul		1.6%	4.0%	8.1%	16.1%
Diversion Rate Increase vs. Baseline		3.0%	7.5%	15.0%	30.1%
Overall City Diversion Rate	53.0%	56.0%	60.5%	68.0%	83.0%

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4.6 Review of Service Contracts

4.6.1 Renegotiation of Service Contracts | Competitive Procurement of Contract Service Providers

Carlsbad’s collection contract with CWM expires on July 1, 2022, after SB 1383 commercial organic compliance requirements begin to take effect on January 1, 2022. The PTS operating contract with Republic expires on July 1, 2027. Changes to both of these contractual arrangements will be required to support the city’s sustainable materials management objectives. It is the city’s intention to hire a qualified contractor to assist with any necessary contract negotiations or competitive procurement processes related to these two service contracts.

4.6.2 Collection Contract

The city entered into its current contract with CWM on July 1, 2012. Due to the passage of time, and new legislation such as AB 1826 and SB 1383, the terms and conditions of that contract are now inadequate. Ultimately, a new collection contract will need to be drafted that aligns with all relevant legislation. That new contract should include the following general components and support the city’s maximum diversion and sustainable materials management objectives:

- Clear and specific definitions applicable to new requirements;
- Clear delineation of all regulatory, operational and financial responsibilities;
- Clear, objective and quantifiable performance standards applicable to new requirements;
- Regular reporting of performance relative to each established objective and quantifiable performance standard;
- Indemnity/coverage for new regulatory requirements for which the contractor has been assigned responsibility;
- Diversion and sustainable materials management programs, services and standards;
- How payments to the city are to be calculated– gross revenue, flat fee, etc.;
- Recycled material contamination protocols and cart/container overage protocols applicable to new requirements; and
- An effective means for holding the contractor to its contractual obligations, short of breach of contract (i.e., meaningful liquidated damages |administrative charges)).

4.6.3 Palomar Transfer Station Operating Contract

The city entered into its current PTS operating contract with Republic Services on June 1 2002 (Effective Date). The term of the contract was twenty-five (25) years, ending at midnight on May 31, 2027. The initial ten years of that 25 year term, was the “PTS Initial Operation Period”, during which time the city agreed to direct all city contract hauler waste, and all other waste it controlled to the PTS. Amendment No. 3 to the PTS operating contract, executed in February

2012, extended the Initial PTS Operating Period by ten (10) years and one (1) month to July 1, 2022. The PTS operating contract will also need to be revised to support the city’s sustainable materials management objectives. As with the city’s collection contract, any new PTS operating contract should include the general components listed above for the city’s collection contract, as applicable.

4.7 Rates and Rate Structure

Appendix 4A provides a review of the city’s current residential and commercial rates and rate structure.

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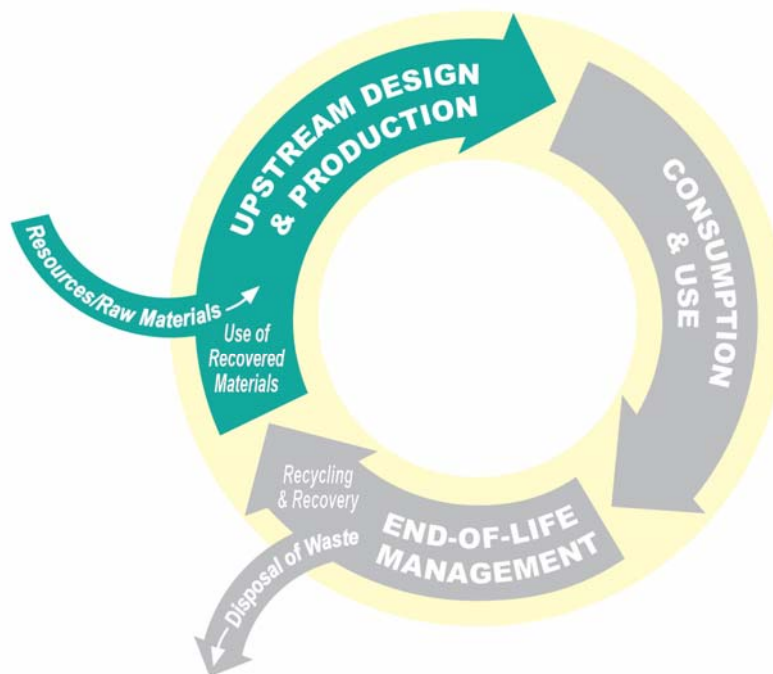
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5.1 Introduction

The sustainable materials life-cycle starts with the upstream design and production of sustainable materials and products (**Figure 5-1**), which incorporate the following:

- Designing products for long-life that can be repaired and reused; rather than designing single use disposable products, or designing products for planned obsolescence;¹
- Maximizing the use of post-consumer recycled materials and minimizing the use of raw (virgin) materials in the production process;
- Producing products that are recyclable and can be easily recycled;
- Eliminating all unnecessary packaging; and
- Eliminating toxic components.

Figure 5-1
Upstream Design & Production



¹ Producing consumer goods that rapidly become obsolete and so require replacing, achieved by frequent changes in design, termination of the supply of spare parts, and the use of nondurable materials.

Section 5

Upstream Design and Production

5.2 City Ability to Influence Upstream Design and Production | Summary of Required and Planned Actions

Carlsbad has the ability to influence sustainable upstream design and production through the following three (3) major types of actions, which are summarized below:

1. **Sustainable Procurement**
2. **Material Bans | Disposal Bans**
3. **Product Stewardship | Take-back Ordinances**

The specific upstream design and production actions that are covered in Sections 5.3, 5.4 and 5.5 are organized into one of the above major types of actions, as applicable.

5.2.1 Sustainable Procurement

City’s Ability to Influence

As one of the largest purchasing entities in the city, Carlsbad’s city government has significant leverage to support the production of sustainably produced materials and demonstrate its commitment to sustainability through its purchasing and procurement policies and practices.

Summary of Required and Planned Actions

The SMMP envisions Carlsbad’s city government, residents, and businesses maximizing their purchase and use of sustainable materials, thereby supporting the development of a local market (demand) for sustainable materials, and “closing the loop”. In this regard, Carlsbad’s city government will help lead the way, establishing a best practice Sustainable Materials Purchasing and Procurement Policy under which the purchase of sustainably produced products and materials by city government and contracted service providers is a requirement not simply a preference.

5.2.2 Material Bans | Disposal Bans

City’s Ability to Influence

The city can enact material bans (product bans) and disposal bans to accomplish the following:

- **Material Bans** - Prevent the generation of hard-to-recycle materials and/or materials that have significant negative environmental impact.
- **Disposal Bans** - Ban the disposal of materials for which available recycling alternatives exist (e.g., green waste, C&D debris).

Summary of Required and Planned Actions

The SMMP envisions the city establishing material bans for targeted materials (e.g., single use plastics) that are costly or hard to manage and/or have a significant local negative environmental impacts, as directed by the City Council.

The SMMP also envisions the city establishing green waste and C&D debris disposal bans in support of maximizing the diversion of those materials, and considering disposal bans for other targeted materials in the future.²

5.2.3 Product Stewardship | Take-Back Ordinances

City's Ability to Influence

The city can continue and expand its support for regional, state, and national product stewardship efforts. It can also require local retailers to take-back certain products that they sell that are difficult or costly to manage (e.g., batteries, sharps, pharmaceuticals and personal care products).

Summary of Required and Planned Actions

The SMMP envisions that the city will expand its support for product stewardship and will incorporate extended producer responsibility (EPR) requirements into its Sustainable Materials Purchasing and Procurement Policy. The city will also consider establishing take-back ordinances for hard and/or costly to manage materials.

5.3 Required Phase 1 Actions

Sustainable Procurement

No action is required

Material Bans | Disposal Bans

No action is required

Product Stewardship | Take-back Ordinances

No action is required

5.4 Required Phase 2 Actions

The following upstream design and production actions will ensure the city's compliance with SB 1383:

Sustainable Procurement

1. Annually procure a quantity of recovered organic waste products that meets or exceeds the city's SB 1383 annual recovered organics waste product procurement target.
2. Ensure at least 75% of city government's annual purchases of paper products are recycled-content.

² The intent of such bans, which are not uncommon, is to require generators to use available diversion programs for the targeted material types or potentially face fines or penalties. SB 1383 effectively bans disposal of green waste, as well as food waste.

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Upstream Design and Production

Material Bans | Disposal Bans

No action is required

Product Stewardship | Take-back Ordinances

No action is required

A more detailed discussion of the above actions is provided below.

5.4.1 Sustainable Procurement

1. Annually Procure a Quantity of Recovered Organic Waste Products that Meets or Exceeds Carlsbad’s Annual Recovered Organics Waste Product Procurement Target

Summary

SB 1383 requires California jurisdictions to procure compost and/or renewable transportation fuel made from organic materials recovered from their waste streams. SB 1383 provides a formula for calculating the recovered organic material targets for a jurisdiction, which works out to the following annual targets for Carlsbad:

- 4,700 tons of compost (~18 tons per day 5 days per week)³
- 153,000 diesel gallon equivalents

Required Actions

- Establish “recovered organic waste product” purchasing guidelines as a component of the city’s Sustainable Materials Purchasing and Procurement Policy that supports maximizing the productive use of recovered organic waste products in city government functions.
- Annually procure a quantity of recovered organic waste product that meets or exceeds the city’s SB 1383 annual target.

2. Ensure At Least 75% of City’s Annual Purchases of Paper Products Are Recycled-Content

Summary

SB 1383 requires that at least 75 percent of a jurisdiction’s paper products be recycled content paper. Paper products include, but are not limited to paper janitorial supplies, cartons, wrapping, packaging, file folders and hanging files, building insulation and panels, corrugated boxes, tissue, and toweling.

Currently all printer paper supplied to city government machines is required to be at least 30% post-consumer waste. The Purchasing Department is pursuing quotes for paper with a higher

³ Compost, mulch and other materials made from recovered organic waste products have multiple uses, and applying compost (organic fertilizer) to land can increase the amount of carbon stored in these soils and contribute to the reduction of greenhouse gas emissions in support of Carlsbad’s Climate Action Plan objectives.

percentage of post-consumer recycled content percentage and is considering a pilot program of using 100% recycled-content paper. The city is also pursuing enhanced access to other environmentally friendly supplies from its contracted office supply vendor.

Required Actions

- Establish recycled content paper product purchasing guidelines that meet or exceed the SB 1383 requirements as a component of the city's Sustainable Materials Purchasing and Procurement Policy.

5.5 Planned Phase 3 Actions

The following upstream design and production actions will support the development of sustainable materials management systems throughout Carlsbad's city government, residential and commercial sectors, and public spaces and venues.

Sustainable Procurement

1. Adopt a city government best practices Sustainable Materials Purchasing and Procurement Policy.

Material Bans | Disposal Ban

2. Material Bans - Evaluate and adopt appropriate material bans (e.g., single-use plastics).
3. Disposal Bans - Ban the disposal of green waste and C&D debris at the PTS, and through the city's residential and commercial collection systems.⁴

Product Stewardship | Take-Back Ordinances

4. Consider adopting take-back ordinances for products that are difficult or costly to manage.
5. Advocate for product stewardship and EPR.

A more detailed discussion of the above actions is provided below

5.5.1 Sustainable Procurement

1. Adopt a Sustainable Materials Purchasing and Procurement Policy

Summary

Carlsbad's current purchasing policy is "to purchase and use recycled products except when such use negatively impacts health, safety or operational efficiency." The Purchasing Department grants "a 15 percent preference, not to exceed \$1,000 per contract," for recycled products, with "The preference percentage is based on the lowest bid or price quoted by the vendor or contractor offering non-recycled products."⁵

⁴ Under such a disposal ban, green waste and C&D debris would continue to be accepted at the PTS, however facility users would be required to segregate those materials, and the PTS contract operator would be required to process and divert those materials.

⁵ <http://www.carlsbadca.gov/services/depts/finance/contracting/default.asp>

Section 5

Upstream Design and Production

While the current policy has moved the city in the right direction, there is a need to do more than simply provide preferences for environmentally preferable materials if broader markets for those materials are to be established. Establishing effective municipal sustainable purchasing and procurement policies is an important part of any comprehensive sustainable materials management plan. Carlsbad’s interest in environmentally preferable procurement measures for both government operations and the wider community is forward-thinking and has the potential to create a significant environmental impact both within and outside city boundaries.

Enacting a city sustainable materials purchasing and procurement policy will improve the efficiency by which public money is spent, while at the same time using market power to bring about major environmental and social benefits. The impact of sustainable materials purchasing and procurement policy measures extends beyond sustainable materials management and supports overall sustainability by reducing waste, lowering carbon emissions, reducing energy and water consumption, protecting biodiversity, and supporting fair and sustainable economic growth, and will deliver social benefits within and beyond the city.

Appendix 5A outlines a framework and best practices for a city government Sustainable Materials Purchasing and Procurement Policy, and provides a summary of options for citywide sustainable purchasing policies.

Planned Actions

- Draft, adopt and implement a city government Sustainable Materials Purchasing and Procurement Policy.

5.5.2 Material Bans | Disposal Bans

2. Evaluate Material Bans

Summary

Material bans are very effective at preventing hard-to-recycle materials from winding up in the waste stream or from becoming litter. Examples of products that the city could consider targeting as part of a material ban include:

- Polystyrene Foam; and
- Single-Use Plastic Straws, Stirrers, and Cutlery.

A more detailed discussion of material bans (product bans) is provided in **Appendix 5A**.

Planned Actions

- Develop a list of materials to be considered for bans along with the rationale for banning those materials and present to the city council for review.
- Implement city council approved material bans.

3. Adopt Green Waste and C&D Debris Disposal Bans

Summary

One of the most efficient and cost effective means for increasing diversion is to maximize the recovery of materials through existing recycling programs. That is the rationale of SB 1383 as

it relates to organic material and its requirement that all commercial accounts must subscribe to service and actively divert the targeted organic materials.⁶ This rationale also applies to all other materials for which there are existing recovery programs, and extends to PTS and other facility recovery operations, as well as source separated collection programs.

Collection programs and PTS recovery operations exist for green waste and C&D debris generated in Carlsbad. While some of that material is recovered, substantial quantities are still being landfilled. To manage any material sustainably, efforts need to support maximizing the diversion of that material.

Planned Actions

- Ban the disposal of green waste and C&D debris at the PTS, and throughout the city's residential and commercial solid waste collection systems.⁷
- Implement additional bans for targeted materials as diversion programs are made available (e.g., textiles, carpets, mattresses).

5.5.3 Product Stewardship | Take-Back Ordinances

4. Consider Adopting Take-Back Ordinances for Products that are Difficult or Costly to Manage

Summary

Take-Back ordinances (mandatory retailer take-back programs) require local retailers to take-back various materials (HHW, E-waste, batteries, sharps, fluorescent lights, and pharmaceuticals and personal care products (PPCP)) from consumers at no charge. Many local governments have passed take-back ordinances as one means for helping to manage problem materials. Take-back ordinances are not EPR or product stewardship, since they do not directly engage the producer, but they can place pressure on the retailers to pressure the producers to change product design and packaging and to start EPR collection programs.

Planned Actions

- Develop a list of materials to be considered for a take-back ordinance along with the rationale for requiring retailers to take-back those materials and present to the city council for consideration.
- Implement city council approved take-back ordinances.

⁶ Consistent with this requirement, the city plans to require that all commercial accounts subscribe to, and actively participate in the city's existing commercial recycling program (see Section 7.4.1 #3).

⁷ Under such a disposal ban, green waste and C&D debris would continue to be accepted at the PTS, however facility users would be required to segregate those materials, and the PTS contract operator would be required to process and divert those materials.

Section 5

Upstream
Design and
Production**5. Advocate for Product Stewardship and Extended Producer Responsibility**Summary

Product stewardship is a strategy whereby manufactures and others along the product supply chain share in the financial and physical responsibility for collecting and recycling products at the end of their useful lives. When manufacturers share the costs of managing the materials they produce they have an incentive to use recycled materials in new products and design products to be less toxic and easier to recycle, incorporating environmental concerns into the earliest stages of product design and effectively supporting sustainable materials management.⁸

EPR is a mandatory type of product stewardship that includes, at a minimum, the requirement that the manufacturer's responsibility for its product extends to post-consumer management of that product and its packaging. There are two related features of EPR policy: (1) shifting financial and management responsibility, with government oversight, upstream to the manufacturer and away from the public sector; and (2) providing incentives to manufacturers to incorporate environmental considerations into the design of their products and packaging.⁹

Planned Actions

- Support the California Product Stewardship Council, Product Stewardship Institute and/or other regional and national product stewardship organizations.
- Advocate for statewide and national packaging and product design policies that encourage items to be repairable, reusable, fully recyclable/compostable, and less toxic.
- Advocate for and support a regional initiative to encourage businesses to produce sustainable materials, products, and packaging.
- Consider providing sustainable materials management incentives to local manufacturers, distributors, and retailers.

⁸ Source: Product Stewardship Recommendations Report, Minnesota Pollution Control Agency.

⁹ Source: Product Stewardship Institute.

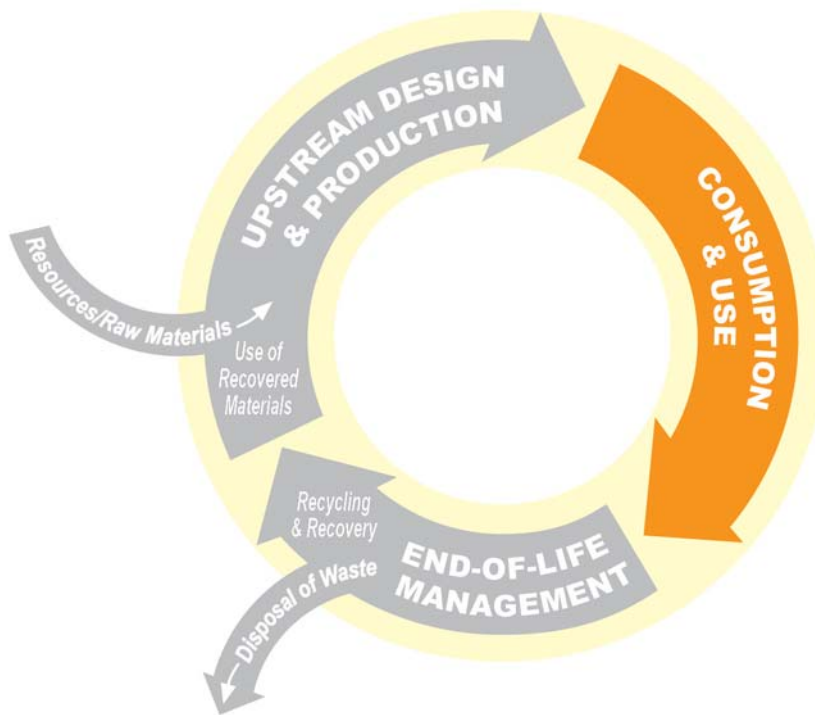
6.1 Introduction

Sustainable consumption and use of a product or material is the second phase of the three sustainable materials management phases (**Figure 6-1**). Once materials have been sustainably produced they are distributed for consumption and use.

Sustainable consumption and use first seeks to use less materials (waste prevention or source reduction), thereby eliminating the need to manage materials once that have been generated. Having focused on minimizing the generation of materials as the first priority, attention shifts to maximizing the useful life of those products that are produced by consuming those products efficiently (i.e., not wasting them), and maximizing their useful life through repair, reuse, and repurposing, as applicable.

Sustainable consumption also requires that the materials that are being consumed and used have been sustainably produced. Purchasing sustainably produced materials creates the demand (markets) for recycled content products that is required to close the loop.

Figure 6-1
Consumption and Use



6.2 City Ability to Influence Consumption and Use | Summary of Required and Planned Actions

Carlsbad has the ability to influence sustainable consumption and use of materials and products that are generated in the city through the following three (3) major types of actions, which are summarized below.

1. **Waste Prevention | Source Reduction**
2. **Material Reuse**
3. **Sustainable Materials Market Development**

The specific consumption and use actions that are covered in Sections 6.3, 6.4 and 6.5 are organized into one of the above major types of actions, as applicable.

6.2.1 Waste Prevention | Source Reduction

City's Ability to Influence

The city can take steps to reduce the amount of materials that are used throughout all city government functions and operations, and provide waste prevention public education, outreach and technical support to residents and businesses.

Summary of Required and Planned Actions

Sustainable Materials Management Plans will be developed for all city government departments as part of the development of the SMMP's implementation plan. Those strategic plans will include identifying waste prevention and source reduction opportunities in each city department. The city will also develop a residential and commercial waste prevention component of the city's Sustainable Materials Management Public Education, Outreach, and Technical Assistance Program that supports waste prevention opportunities throughout Carlsbad

6.2.2 Material Reuse

City's Ability to Influence

The city can take steps to maximize the repair, reuse and/or repurposing materials that are used throughout all city government functions and operations, and provide material reuse public education, outreach and technical support to residents and businesses.

Summary of Required and Planned Actions

The city will take a lead role with respect to material reuse by identifying and realizing material reuse opportunities in all city government departments through the development and implementation of department specific Sustainable Materials Management Plans. The city will also actively support the expansion of a reuse economy in the city that will include establishing a reuse component of the city's bulky item collection program, and working with the city's repair community stakeholders to explore ways to create a permanent, sustainable repair function in the city.

6.2.3 Sustainable Materials Market Development

City's Ability to Influence

The city can support the production of sustainable materials by purchasing sustainable materials in place of virgin materials, and requiring all of its contracted service providers to do the same. It can also provide sustainable purchasing related public education, outreach and technical support to residents and businesses.

Summary of Required and Planned Actions

Carlsbad's city government will maximize its productive use of recovered organic waste products in support of achieving the city's SB 1383 procurement target for those materials. The city plans to also actively promote and support the use of recovered organic waste products within Carlsbad's home gardening, small-scale urban farming, and agricultural sectors.

While the city's sustainable materials market development and support efforts will initially focus on recovered organic waste products due to SB 1383's associated procurement requirements, the city intends to undertake a concerted effort to also maximize city government's purchase of other sustainably produced materials, and support the expanded use of sustainably produced materials citywide.

It is city government's objective to purchase materials that contain as much or more total post-consumer content than the total quantity materials that are recovered from city government operations through the city's end-of-life materials management system (i.e., a zero or net positive sustainable materials management impact).

6.3 Required Phase 1 Actions

Waste Prevention | Source Reduction

No action is required

Material Reuse

No action is required

Sustainable Materials Market Development

No action is required

6.4 Required Phase 2 Actions

The following consumption and use action will contribute to ensuring the city's compliance with SB 1383, effective as of January 1, 2022.

Waste Prevention | Source Reduction

No action is required

Material Reuse

No action is required

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& Use

Sustainable Materials Market Development

1. Develop markets for recovered organic waste products (compost and renewable transportation fuel), and other recovered products within all city government departments and throughout Carlsbad.

A more detailed discussion of the above action is provided below.

6.4.1 Sustainable Materials Market Development

1. Develop Markets for “Recovered Organic Waste Products” within all City Government Departments and throughout Carlsbad.

Summary

One of the most significant challenges to the development of sustainable materials management systems is developing markets for materials that have been sustainably produced. In this regard, one of the most immediate challenges is developing practical markets for the significant quantities of “recovered organic waste products” that will be generated as a result of SB 1383.

Section 5.4.1 - Item #1 addresses city government’s procurement of quantities of recovered organic waste products (compost and renewable transportation fuel) that meet or exceed its calculated annual targets. To accomplish that objective and maximize its use of sustainably produced material, the City needs to assess the opportunity for the use of sustainably produced products in place non-sustainably produced products in each city government department, operation and service.

Required Actions

- Evaluate opportunities for the use, or increased use of recovered organic waste products and other sustainably produced materials by all city government departments and realize available opportunities.
- Annually procure for Carlsbad city government’s use, quantities of recovered organic waste products that meet or exceed the city’s SB 1383 procurement target. Require all contract service providers to use recovered organic waste products, as applicable.
- Actively promote and support the use of recovered organic waste compost products within Carlsbad’s home gardening, small-scale urban farming, and agricultural sectors.
- Develop a Strategic Plan to Maximize Local Use of Recovered Organic Waste Products that considers and provides a context for the above Required Actions, and any other appropriate related actions.

6.5 Planned Phase 3 Actions

The city will pursue the following consumption and use actions to support the development of sustainable materials management systems throughout Carlsbad’s city government, residential and commercial sectors, and public spaces and venues.

Waste Prevention | Source Reduction

1. Identify and realize waste prevention opportunities in all city government departments.¹
2. Support waste prevention opportunities throughout Carlsbad.

Material Reuse

3. Identify and realize material reuse opportunities in all city government departments.²
4. Support the expansion of a reuse economy in Carlsbad.

Sustainable Materials Market Development

5. Identify and realize opportunities for city government's use of sustainably produced materials in place of products made from raw materials.³
6. Support the development of markets for sustainably produced products throughout Carlsbad.

A more detailed discussion of the above actions is provided below.

6.5.1 Waste Prevention | Source Reduction

1. Identify and Realize Waste Prevention Opportunities in All City Government Departments

Summary

Waste prevention, also known as source reduction, is the elimination of waste before it is created. It is the most preferable option for managing waste. In making solid waste management decisions consideration should be given to purchasing practices to determine if materials can be moved "upstream" into the waste prevention and reuse categories instead of focusing on recycling as the first and only materials management option. By minimizing the volume of raw materials, supplies or packaging used, direct savings are realized.

Planned Actions

- Identify and realize waste prevention opportunities in all city government departments.
- Develop, adopt, and implement a city government Waste Prevention and Reduction Policy.

¹ To be done in conjunction with the assessment that is undertaken in support of developing Sustainable Materials Management Strategic Plans for all city government departments.

² Ibid.

³ Ibid.

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2. Support Waste Prevention Opportunities Throughout Carlsbad

Summary

As discussed above, waste prevention is the preferable waste management option, and the city plans to support and promote waste prevention options citywide.

Planned Actions

- Develop a residential and commercial waste prevention component of the city’s Sustainable Materials Management Public Education, Outreach, and Technical Assistance Program that includes food waste prevention.

6.5.2 Material Reuse

3. Identify and Realize Material Reuse Opportunities in all City Government Departments

Summary

Reusing materials and/or repurposing them so that those materials do not end up in the waste stream is the most preferable waste management action after waste prevention. Reuse prevents material from entering the landfill, and has been an important way of getting needed materials to disadvantaged populations. In many cases, reuse supports local community and social programs, while providing donating businesses with tax benefits and reduced disposal fees.

While reuse may be a foreign concept to those raised in the “disposable economy”, it is a concept that is very real in communities throughout the world. Reuse is gaining renewed attention in California and nationally, and offers practical application to Carlsbad in support of its sustainability goals and objectives.

The SMMP envisions Carlsbad undertaking a concerted effort to increase the reuse of materials generated in the city, facilitate through the development and implementation of a Strategic Plan to Maximize Material Reuse, as a component of the SMMP’s overall Implementation Plan.

Planned Actions

- Identify opportunities for reuse and repurposing of all materials used by all city government departments with consideration for the following, in order or priority:
 - Reuse by the same department;
 - Reuse by another department;
 - Reuse by a non-city governmental entity; and
 - Repurposing.

4. Support the Expansion of a Reuse Economy in the City.

Summary

As discussed above, reducing the amount of waste generated is the most preferable waste management activity, and the city plans to support and promote waste prevention options citywide.

Planned Actions

- **Develop Material Repair Capacity in the City** - Work with repair community stakeholders to explore ways to create a permanent, sustainable repair function in the city.
- **Consider Incentives for the Reuse, Rental, Repair Industry** - Explore the potential for providing incentives for reuse, rental and repair through contract incentives, material exchanges, and direct assistance.
- **Establish Reuse Component of Bulky Item Collection Program** - Establish material reuse requirements as part of the city's contract hauler's bulky item collection program.
- **Support the Development of a Private Sector or Non-Profit Building Material Reuse Center / Reuse Exchange** - Investigate the feasibility of creating a Building Material Reuse Center in the region for the sale of salvaged building materials.
- **Require Deconstruction and Source Separation of Construction Materials** - Consider the development of an ordinance to require deconstruction⁴ as a condition of demolition permits.
- **Advocate for Statewide Packaging and Product Design Policies** - Advocate for policies that encourage items to be repairable, reusable, fully recyclable/compostable, and less toxic.

6.5.3 Sustainable Materials Market Development

6. Identify and Realize Opportunities for City Government's Use of Sustainably Produced Materials in Place of Products Made from Raw Materials

Summary

To be successful in its efforts to sustainably manage materials, Carlsbad plans to procure significant quantities of recovered organic waste products, as discussed above. It also plans to require that its suppliers to provide sustainable produced material options, and require its contractors to purchase and use sustainable produced materials, as available.

Planned Actions

- Support Carlsbad's residents and businesses access to affordable sustainable materials and develop a sustainable purchasing component of the city's Public Education, Outreach, and Technical Assistance Program.

⁴ The selective dismantlement of building components, specifically for re-use, repurposing, recycling, and waste management.

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& Use

- Identify and realize all opportunities for Carlsbad city government’s widespread use of sustainably produced materials.

7. Support the Development of Markets for Sustainable Products Throughout Carlsbad

Summary

To achieve its overall sustainable materials management goals, Carlsbad plans to pursue the widespread purchase and use of sustainably produced materials throughout the city.

Planned Actions

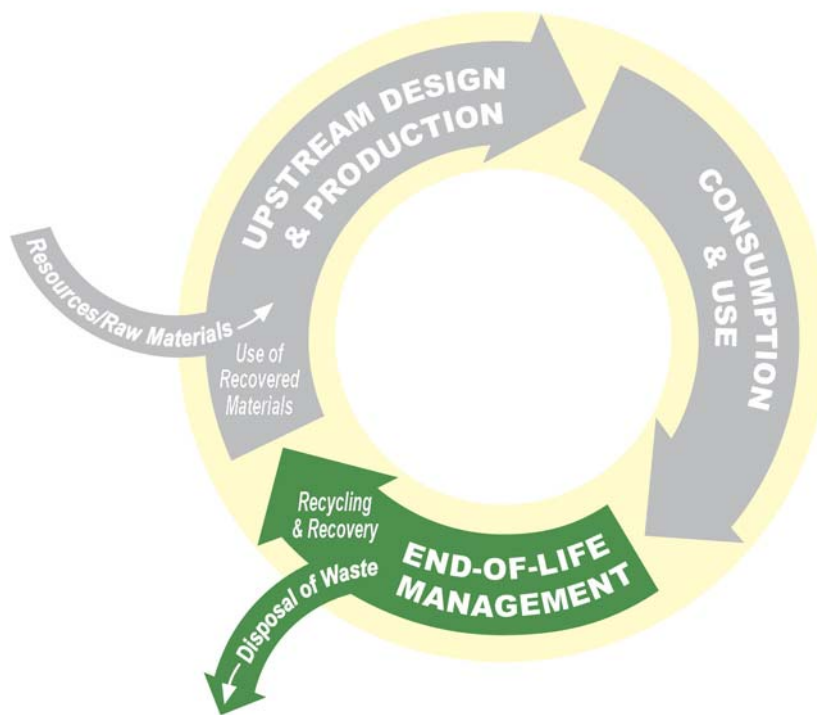
- Support Carlsbad’s residents and businesses access to affordable sustainable materials and develop a sustainable purchasing component of the city’s Public Education, Outreach, and Technical Assistance Program.

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7.1 Introduction

Sustainable end-of-life management is the third phase of the three sustainable materials management phases (**Figure 7-1**). Having sustainably produced and consumed a material or product and that material has reach the end of its useful life, it needs to be properly and sustainably managed. Sustainable end-of-life management involves creating opportunities for the recovery and diversion of materials from the landfill through policies, regulations, collection programs and services, and material recovery operations.

Figure 7-1
End-of-Life Management



7.2 City Ability to Influence End-of-Life Management | Summary of Required and Planned Actions

Carlsbad has significant control over the end-of-life management of the materials and products that are generated in the city through the following two (2) major types of actions, which are summarized below:

1. **Diversion Programs**
2. **Regional Advocacy and Support**

The specific end-of-life management actions that are covered in this Sections 7.3, 7.4 and 7.5 are organized into one of the above major types of actions, as applicable.

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End-of-Life Management

In support of the city’s end-of-life management objectives, it will need to negotiate changes to its existing collection contract and PTS operating contract, and/or draft new agreements and conduct competitive procurement processes for collection and transfer station services when the current contract terms expire.

7.2.1 Diversion Programs

City’s Ability to Influence

Collection Programs - The city has the ability to provide every residential and commercial account in Carlsbad with comprehensive recycling and organic material collection services that support maximizing the diversion of those materials.

Material Recovery Operations - The city has the ability to require the recovery of targeted materials that are received at the PTS through the terms of the PTS operating contract, and to establish supporting disposal bans on those targeted materials. The city also has the ability to direct material that its contract hauler collects to the PTS and/or other facilities and to have that material processed for diversion of targeted materials.

Summary of Required and Planned Actions

Carlsbad’s residents and businesses will be provided with public education, outreach, and technical assistance to support their efforts to maximize their recovery of the targeted materials, and to produce high quality recyclable and organic material streams.

Carlsbad’s end-of-life management actions include a focus on maximizing the diversion of all materials for which current recovery programs exist. This will be accomplished by providing every residential, commercial and city government account with comprehensive recycling and organic material collection services (i.e., service subscription is not optional). These comprehensive collection services will be supported by policies and regulations that require residential and commercial generators to actively participate in the collection programs that are provided, and produce quality recyclable and organic material streams, free from contamination.

Carlsbad’s end-of-life management actions also focus on maximizing the recovery of green waste, and C&D debris, as well as other materials that the city may want to target in the future. This will be facilitated through recovery of those materials at the PTS and/or other facilities and will be supported by the city’s adoption of green waste and C&D debris disposal bans that require generators (including PTS residential and commercial self-haulers) to segregate those materials to facilitate their recovery.

7.2.2 Regional Advocacy and Support

City’s Ability to Influence

While there are many aspects of the city’s end-of-life management system that the city has control over, others require regional planning and coordination, which the city can advocate for and support (e.g., regional material processing capacity).

Summary of Required and Planned Actions

In addition to the above efforts to maximize diversion, Carlsbad plans to advocate for and support regional efforts to develop regional processing capacity for organic materials and to

expand regional markets for recovered organic waste products. Carlsbad plans to also advocate for and support the development of regional capacity for hard to recycle materials for which markets and processing capacity does not currently exist. Additionally, Carlsbad plans to advocate for countywide and statewide bans on hard to manage materials and materials that have a significant negative environmental impact. Finally, recognizing that recovery and distribution of edible food to food insecure individuals and families is the highest and best use of any material that is disposed, Carlsbad is committed to not only achieving the 20% edible food recovery goal of SB 1383, but to exceeding that goal.

7.3 Required Phase 1 Actions

In addition to taking all actions necessary to maintain compliance with AB 341 (Mandatory Commercial Recycling), the city plans to also undertake the following end-of life management actions to comply with all current state solid waste management regulations:

Diversion Programs

1. Compost the green waste that the city's contract hauler collects or deliver to an anaerobic digestion facility for processing.
2. Process the C&D debris that the city's contract hauler collects for recovery of targeted materials.
3. Provide AB 1826 commercial organic waste collection services to all commercial covered generators.¹

In addition to the above actions, the city should seek to increase the number of commercial accounts that currently subscribe to commercial recycling services and the amount of recyclable materials that are recovered from each account. Specific actions for maximizing the diversion of commercial recyclables are discussed in Section 7.5.1.

Regional Advocacy and Support

No action is required

A more detailed discussion of the above actions is provided below.

7.3.1 Diversion Programs

1. Compost the Green Waste that the City's Contract Hauler Collects or Deliver it to an Anerobic Digestion Facility for Processing

Summary

In 2017 the city's contract hauler delivered more than of 21,000 tons of city green waste to the PTS. All of that green waste was used as alternative daily cover (ADC) and the city received diversion credit for that material. The city's 2017 diversion rate was 53%. Had Carlsbad not received diversion credit for that green waste its 2017 diversion rate would have been 44%, lower than AB 939's 50% minimum diversion requirement. Assuming all other factors remain the same, if the city's green waste continues to be used as ADC, as of January 1, 2020 the city

¹ Covered generators are accounts that are subject to the regulations.

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will not be in compliance with AB 939's 50% minimum required diversion rate.² The city has two major options for processing its green waste, composting that material or sending it to an anaerobic digestion (AD) facility for processing. Composting and AD capacity is limited in the region and the city will need to secure sufficient processing capacity for its green waste.

Required Actions

- Secure processing capacity for the city's green waste.
- Compost or anaerobically digest the green waste that the city's contract hauler collects.
- Secure required commercial organics processing capacity through regional solid waste management service providers.

2. Process the C&D Debris that the City's Contract Hauler Collects for Recovery of Targeted MaterialsSummary

CalRecycle notified the city in May 2017 that its C&D debris diversion program may negatively impact its ability to meet the AB 939 requirement in the next jurisdictional review cycle. A small portion of the C&D debris that is received at the PTS is currently being transferred to Republic's C&D processing facility at its Otay Landfill in Chula Vista, however the vast majority of the C&D debris received at the PTS is currently being landfilled. Additional recovery of materials from C&D loads is one of the most cost efficient options the city has to increase its diversion rate, and is necessary if the city is to sustainably manage C&D debris.

Required Actions

- Process all C&D debris collected by the city's contract hauler.

3. Provide AB 1826 Commercial Organic Waste Collection Services to all Commercial Covered GeneratorsSummary

AB 1826 requires that multi-family accounts be offered green waste collection services, and commercial accounts be offered organic waste collection services, with organics including food waste. The city's contract hauler currently offers multi-family and commercial green waste collection services. It does not however provide commercial organic waste collection services, nor is it contractually obligated to do so. As such, the city is not in compliance with AB 1826 as it relates to offering commercial organic waste collection service.

Required Actions

- Provide commercial organic waste collection services to all SB 1826 commercial covered generators.
- Satisfy all other AB 1826 compliance requirements.

² Note: A small portion of the city contract hauler's green waste is now being composted and qualifies as diverted under AB 1594. That small portion, however, is not sufficient for the city to meet the minimum 50% diversion rate requirement, all other factors the same as they were in 2017.

- Secure required commercial organics processing capacity through regional solid waste management service providers.

7.4 Required Phase 2 Actions

As of the drafting of this SMMP, SB 1383 is the only new solid waste legislation that the city will need to comply with that is not covered under the required Phase 1 actions above. Therefore, the following items are all specific to SB 1383.

The city plans to undertake the following end-of life management actions needed to comply with SB 1383 regulatory requirements:

Diversion Programs

1. Implement required residential and commercial organics collection services.
2. Develop required edible food recovery program.

Regional Advocacy and Support

No action is required.

A more detailed discussion of the above actions is provided below.

7.4.1 Diversion Programs

1. Implement Required Residential and Commercial Organics Collection Services

SB 1383 requires that jurisdictions adopt and implement residential and commercial organics waste collection services. A three-container organic waste collection service is planned for the city consistent with the existing three-container residential and commercial solid waste, recyclables, and green waste collection systems that are now in place.

a. Residential Organics Collection Services

Summary

The city's contract hauler currently provides weekly residential collection of green waste. The city can satisfy the residential organic waste collection requirements of SB 1383 by incorporating food waste into the residential green waste collection program.

Required Actions

- Incorporate residential organic material into the current residential green waste collection program.
- Provide for the transfer of residential organics to a city-approved organic material processing facility.

b. Commercial Organics Collection Services

Summary

As discussed above, the city's contract hauler does not currently provide commercial organic waste collection services. To comply with SB 1383, commercial organic waste collection

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services must be ***provided*** to every commercial covered generator not just ***offered***, which is all that AB 1826 Phase 1 requires.

Required Actions

- Provide commercial organics collection service to all commercial accounts, unless granted a waiver by the city.³
- Provide for the transport of commercial organics to a city-approved organic material processing facility.
- Secure required commercial organics processing capacity through regional solid waste management service providers.

2. Develop Required Edible Food Recovery Program

Summary

SB 1383 has a goal of recovering and distributing the equivalent of 20% of the total amount of (recoverable) commercial edible food that is currently disposed to food insecure individuals and families by 2025. In support of that objective, SB 1383 requires that jurisdictions implement an edible food recovery program to achieve the 20% recovery goal.

Required Actions

- Develop and implement an edible food recovery program that complies with the regulations.

7.5 Planned Phase 3 Actions

The city plans to pursue the following end-of-life management actions to support the development of sustainable materials management systems throughout Carlsbad’s city government departments, residential and commercial sectors, and in public spaces and venues.

Diversification Programs

1. Maximize the diversion of commercial recyclables.
2. Maximize the diversion of green waste.
3. Maximize the diversion of C&D debris.
4. Develop prioritized list of other materials to target for sustainable management. Summarize recommended actions for managing those materials for review by the city council, and implement approved management strategies.
5. Expand recycling and organic waste collection in city controlled public areas and venues.

Regional Advocacy and Support

³ The city may grant exemptions to the requirements of SB 1383 for commercial accounts that generate little or no organic materials.

6. Advocate for and support the implementation of the County’s Food Donation Action Plan for the San Diego Region, and pursue enhancements to Carlsbad’s food security infrastructure in conjunction with the development of the city’s required SB 1383 edible food recovery program.
7. Advocate for and support the development of regional markets and processing capacity for hard to recycle materials for which markets and processing capacity does not currently exist.
8. Advocate for and support the development of additional local and regional organic material processing capacity sufficient to manage all of the organic material generated in Carlsbad and San Diego County.

A more detailed discussion of the above actions is provided below.

7.5.1 Diversion Programs

1. Maximize the Diversion of Commercial Recyclables

Summary

Maximizing the diversion of the city’s commercial recyclables (and all source separation programs) requires:

1. Maximizing subscription to the diversion program; and
2. Maximizing the capture rate of targeted recyclable materials.

The city is currently in compliance with AB 341’s mandatory commercial recycling requirements, meaning that recycling service is available to all commercial accounts, education and outreach information is being provided, and noncompliant covered generators are being provided with followed up information. However, not all of the city’s commercial businesses are subscribed to commercial recycling services, and those that are subscribed are not necessarily recycling all of the targeted materials. There is an opportunity to increase both the number of commercial accounts that subscribe to commercial recycling services, and the amount of recyclables recovered from those commercial accounts that subscribe to service in support of maximizing the diversion of commercial recyclables from Carlsbad’s waste stream.

Planned Actions

1. Establish property owner, and commercial account requirements for commercial recycling that are equivalent to the SB 1383 commercial organic service requirements, including but not limited to securing service, monitoring for contamination, and educating employees.

2. Maximize the Diversion of Green Waste

Summary

To support sustainable management of green waste in the city and throughout the PTS service area all green waste that is received at the PTS needs to be composted, not just that delivered by the city’s contract hauler.

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Planned Actions

- Adopt a city ordinance that bans the disposal of green waste in the city, or its use as ADC.

3. Maximize the Diversion of C&D Debris

Summary

To support the sustainable management of C&D debris in the city and throughout the PTS service area all C&D debris that is received at the PTS needs to be processed for material recovery, not just that delivered by the city’s contract hauler.

Planned Actions

- Adopt a city ordinance that bans the disposal of C&D debris in the city.

4. Develop Prioritized List of Other Materials to Target for Sustainable Management, Summarize Recommended Actions for Managing Those Materials for Review by the City Council, and Implement Approved Management Strategies

Summary

To sustainably manage a material that material must be recovered when it comes to the end of its useful life. It then needs to be processed, as necessary, to provide feed stock for the subsequent production of new recycled content products. Materials that are not recoverable, or for which no markets exists cannot be sustainably managed. The city has in place diversion programs directed at many of the materials that are generated by residents and businesses, however there are other materials that are currently disposed that have value (e.g., textiles), and others that are problematic and may best be managed by material bans or other means (e.g., single-use plastics, cigarette butts, non-compostable food ware).

Planned Actions

- Develop a prioritized list of additional materials to target for sustainable materials management. Present recommended actions for managing those materials to the city council, and implement approved strategies.

5. Expand Recycling and Organic Waste Collection In Public Areas and Venues

Summary

The development of sustainable materials management systems in Carlsbad needs to consider not only city government buildings, residences, and businesses but also public spaces and venues. As part of the city’s sustainable materials management efforts, Carlsbad needs to determine how to best manage materials that are generated, and/or deposited in collection receptacles in those public spaces and venues.

Planned Actions

- Evaluate and assess current public space and large venue material management practices and develop plan for the implementation of sustainable material management systems in public spaces and venues.

7.5.2 Regional Advocacy and Support

6. Advocate for and Support the Implementation of the County's Food Donation Action Plan and Pursue Enhancements to Carlsbad's Food Security Infrastructure in Conjunction with the Development of the City's Required SB 1383 Edible Food Recovery Program.

Summary

California's hunger relief and edible food recovery system is organized largely at the county level, which is the case in San Diego County. That system is comprised of many dedicated professionals and volunteers across a wide range of programs, services and organizations. A fundamental weakness of that system, however, is the lack of overall coordination among all stakeholders. San Diego County has been one of the most proactive counties in California with respect to addressing food insecurity and yet an estimated 1 in 7 residents of the County are food insecure.

Planned Actions

- Advocate for the ongoing implementation of the County's Food Donation Action Plan for the San Diego Region. Specifically with respect to Carlsbad, advocate for and pursue the enhancement of the city's food security infrastructure (organizations, programs and services) to provide 100% food security to every resident of Carlsbad. This should be done in conjunction with the development of the city's required SB 1383 edible food recovery program, which presents a unique opportunity for supporting and ultimately achieving 100% food security in Carlsbad.

7. Advocate for and Support the Development of Regional Markets and Processing Capacity for Hard to Recycle Materials for which Markets and Processing Capacity Does not Currently Exist

Summary

Absent the banning of materials that cannot be effectively recycled, or the manufacturer's product stewardship of those materials, materials for which there are no established markets will continue to be landfilled.

Planned Actions

- Advocate for and support the development of regional markets and processing capacity for hard to recycle materials (e.g., textiles, hard to recycle plastics like film packaging and rigid plastic products) and other targeted materials.

8. Advocate for and Support the Development of Additional Local and Regional Organic Material Processing Capacity Sufficient to Manage All of the Organic Material Generated in Carlsbad and San Diego County.

Summary

It is estimated that to achieve the targets outlined in SB 1383 California will need to recycle at least 20 million tons of organic waste. Depending on facility size, CalRecycle estimates the state

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will need 50 to 100 new or expanded composting and AD facilities — at roughly \$2 billion in capital costs.

Planned Actions

- Advocate for and support the development of additional regional organic material processing capacity.