



CHULA VISTA'S ROAD PLAN TO ZERO WASTE

JANUARY 2022

2022-2035

*Waste Reduction
Strategic Plan*



www.chulavistaca.gov/clean

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Message from the City Manager

The City of Chula Vista's Zero Waste Plan presents a unique opportunity to carry on the progressive transformation needed by our community to more effectively manage our waste

stream while also combating climate change. The Zero Waste concept considers the life cycle of a product to emphasize roles for the producer, supply chain and end user. How to reuse, repurpose and recycle products is an important part of Zero Waste planning.

As called for in the City's 2017 Climate Action Plan, developing and implementing a comprehensive Zero Waste Plan over the next decade and beyond will help us meet our goals of a cleaner, healthier, and more manageable environment. This approach expands our existing programs and brings in new ideas and actions under one umbrella that is executable and measurable.

The goal of 90 percent waste diversion is a big leap forward and a major challenge for all sectors of our community - residents, businesses, local organizations, academic institutions, and our City government. It involves all these sectors working together to meet our recycling and waste diversion goals and provide long-term benefits for all.

Thank you for helping the City meet this goal.

Sincerely,

Maria V. Kachadoorian

Chula Vista City Manager

EXECUTIVE SUMMARY

The City of Chula Vista (the City) was among the first local governments in the world to formulate a strategic plan addressing threats and impacts from climate change. When the City introduced its first Climate Action Plan in 2000, the visionary planning initiative was rooted in clear data and proactive care for the community and the planet.

In September 2017, the City approved an updated Climate Action Plan (Resolution 2017-186) to update the original plan and recommend that City staff develop a Zero Waste Plan for Council approval. This action followed the original Carbon Dioxide Reduction Plan (2000), Climate Mitigation Plans (2008) and Climate Adaptation Plans (2011). In 2011, Chula Vista served as a founding member of the San Diego Regional Climate Collaborative, a network for public agencies funded by the National Science Foundation that works with academia, nonprofit organizations, and business and community leaders to share expertise and leverage resources toward advancing climate change solutions.

Since 2000, Chula Vista's forward-thinking steps, regional leadership, and sustained practice of regularly monitoring greenhouse gas (GHG) emission inventories have helped guide implementation of the City's prescient Climate Action Plan as well as development of this Zero Waste Plan more than two decades later.

Chula Vista was the first city to plan with sea level rise in mind, putting its comprehensive Climate Action Plan into place. "2050 is Calling" Report, Climate Education Partners (CEP)

Purpose and Key Goal

The Chula Vista Zero Waste Plan seeks 90% waste diversion by 2035, consistent with the goals set by the City's Climate Action Plan. The purpose of this Plan is to recommend specific approaches and short- to long-term actions to help the City achieve this goal. The City seeks to maximize efforts to increase the reuse of materials and recycling efforts to further divert the amount of wasted resources Chula Vista residents send to the Otay Landfill. Our efforts will lessen environmental impacts by reducing the amount of GHGs entering the atmosphere to exacerbate global warming, while creating healthier communities, and spurring economic activity.

Each of the steps outlined in the Zero Waste Plan support Chula Vista's visionary culture shift to achieve the multi-faceted, long-term benefits of prepared, climate-conscious communities.



Implementation of a Zero Waste Plan will combat the current wasteful and inefficient system of “extract, consume, and discard.” The City is committed to implementing an overarching waste reduction plan to achieve Zero Waste by 2035. Our Zero Waste Plan goal exceeds the state's goal of 75% in the same timeframe. To achieve this, detailed and measurable Zero Waste Plan Strategies and Actions are included in this plan, presented as six key tasks. Each task contains specific actions and includes the estimated reduction of corresponding GHG emissions.



These actions, coupled with the City’s current waste reduction activities, will further enhance efforts to achieve our Zero Waste goals. Each action will incorporate innovative technologies aligned with the City of Chula Vista Smart City Goals, wherever appropriate.

Implementation of the Zero Waste Plan also presents an opportunity for all sectors of our community – from academic institutions, nonprofit groups, the private sector, and other organizations – to develop innovative practices and technologies that the City can employ to achieve waste reduction improvements for everyone. Implementation of the Zero Waste Plan will include the City’s goals and efforts to include and be mindful of social equity for all residents and businesses.

This Plan follows Zero Waste best practices by considering “People, Planet, and Prosperity” as the “triple bottom line” to achieving social, environmental, and economic sustainability on a local and global basis. This emphasis helps to guide our Zero Waste Plan to support and contribute to the development of a more sustainable and green local economy and community.

The six key tasks presented in this plan include a mix of specific short-term, medium-term and long-term actions that will help to reduce, reuse, recycle and further divert resources being wasted and sent to the Otay Landfill. Over time, we will continue to lessen environmental impacts through concerted actions to reduce the amount of GHGs entering our atmosphere. This will all result in a cleaner environment and healthier community for Chula Vista residents, businesses and visitors, for generations to come.

By recognizing and building upon Chula Vista’s legacy of leadership in sustainability, this Plan and our collaborative efforts can continue to implement actions that will continue to evolve our community mindset around resource management over the next decade and beyond. Each of the steps outlined in this plan continue to support Chula Vista’s visionary culture shift to achieve the multi-faceted, long-term benefits of prepared, climate-conscious communities. After five years a reevaluation will be conducted to determine the validity of the actions in the Zero Waste Plan. Actions could be discontinued or revised. The Zero Waste Plan will be flexible allowing for development of new, innovative actions. The City Council and public will remain updated on the ongoing progress of implementation efforts through concise evaluations and reports prepared every three years.



ZERO WASTE BACKGROUND AND BENEFITS

The U.S. EPA estimates that every ton of waste buried in a landfill generates an average of 20 tons of waste as part of its “upstream” production.

What is Zero Waste?

The first step toward the future we seek to create is for an understanding of the terminology and goals presented in this Plan. The City recognizes the definition of Zero Waste presented by the Zero Waste International Alliance as,

“The conservation of all resources by means of responsible production, consumption, reuse, and recovery of products, packaging, and materials without burning and with no discharges to land, water, or air that threaten the environment or human health.”

In the past, waste has been considered a natural and unavoidable byproduct to be discarded. These materials are now recognized as valuable “resources” available for new uses. Materials that were wasted in the past may also be the byproduct of design methodologies that do not consider the total lifecycle of a product or material. These valuable resources often end up discarded and wasted due to consumer and manufacturer convenience instead of being reused, repaired, or recycled. In addition, the amount of material discarded is just a portion of the resources used to create the product.

Zero Waste planning is based on science-backed design frameworks that promote reuse, recycling, and conservation programs with measured improvements and success. Zero Waste programs over the decades have emphasized sustainability throughout the entire life cycle of a product, shifting the focus from 100% recycling and composting to waste reduction, product redesign, and overall elimination of wasteful practices. Such frameworks can reduce generations of wasted resources while also maximizing the diversion of reusable resources from landfills in our communities.

In an ideal Zero Waste system, any materials that cannot be easily and conveniently reduced, reused, recycled, or composted are either returned to the manufacturer directly or through retail channels, or are no longer used. Complete Zero Waste may not be fully attainable. However, the goal allows us to focus our planning on three proven objectives that have helped communities achieve significant sustainability and waste reduction goals:

1

Reduce the volume and toxicity of waste by eliminating them in the first place.

2

Use materials and products for their original intended uses and then reuse them for other uses before recycling.

3

Recycle or compost all remaining materials to their highest and best use after they have been reduced and reused as much as possible.

The City’s Zero Waste planning recognizes the importance of fostering local and regional public-private partnerships to continue supporting established and forthcoming infrastructure and services needed to accomplish our sustainability goals.



State of California

Waste Reduction Legislation



The California Integrated Waste Management Act of 1989 (AB 939) required that all California jurisdictions achieve a landfill diversion rate of 50% by the year 2000; and to reduce, reuse, recycle, and compost all discarded materials to the maximum extent feasible prior to sending materials to landfills or using other destructive disposal methods.



Senate Bill 1383 (SB 1383) was adopted in 2016 and sets the target goals to reduce organics waste in landfills with a 50% reduction statewide by 2020 and a 75% reduction by 2025. The legislation attempts to fix a lack of progress in reaching recycling goals statewide. Full implementation of SB 1383 is anticipated to occur in 2022.

1989

2011

2014

2016



Assembly Bill 341 requires GHG reduction by diverting commercial solid waste to recycling efforts and to expand the opportunity for additional recycling services and recycling facilities in California.



Senate Bill 1826 requires businesses to arrange for organic waste recycling services.

Overview of the Waste Stream from Beginning to End



A 2016 U.S. Environmental Protection Agency (U.S. EPA) report covering the economics of recycling estimated that every ton of waste buried in a landfill generates an average of 20 tons of waste as part of its “upstream” production. Another study estimated that for every ton of material landfilled locally, 71 tons of wasted resources are generated upstream during the mining, manufacturing, and distribution processes. Electronics may generate up to 1,000 tons of wasted material upstream for every ton of finished product. Reducing, reusing, and recycling uses less energy than extracting and processing raw materials. Therefore, making new products from used materials saves energy and reduces GHG emissions. Similarly, products made from recycled materials require less energy to produce than the same products made from raw resources and materials.

Examples of resources and materials that can be recycled include aluminum, steel, cardboard, and paper products. Fourteen tons of GHG emissions are created for every ton of raw aluminum produced, while using recycled aluminum to create a product or material creates 95.9% less GHGs. Making products or materials from recycled steel creates 81% less GHGs than extracting raw iron to make the same steel product. Recycled cardboard products create 55.3% less GHGs, and recycled paper products produce 61.5% less GHGs.



95.9%
*less GHGs
produced from
recycled aluminum*



61.5%
*less GHGs
produced from recycled
paper products*



81%
*less GHGs
produced from
recycled steel*



55.3%
*less GHGs
produced from recycled
cardboard products*

**Reducing short-lived uses of
materials that clog our landfills
makes sense for a community that
values sustainability and seeks to
achieve GHG reduction goals.**



Factors Impacting Waste Diversion and Recycling

A 2019 report from the California Department of Resources Recycling and Recovery (CalRecycle) documented the state's recycling goal of 50% landfill diversion (reached in 2012) fell to 44% in 2017. The California Department of Finance also added a warning to this report about increasing landfill disposal. The report cautions that as labor markets, real estate markets, and residential construction continue to grow steadily, solid waste generation will also continue to increase. If strong waste diversion and recycling programs are not in place when the local population increases, higher levels of materials will be disposed of in landfills throughout the state.

In 2001, the California Integrated Waste Management Board (now CalRecycle) set a goal of "Zero Waste" in its strategic plan for the state. As CalRecycle adopted this waste reduction target, many counties and cities have gradually adopted a goal of achieving Zero Waste in response, including the counties of San Francisco, Santa Cruz and San Luis Obispo; the cities of Palo Alto, Oakland and Los Angeles, as well as local cities, including San Diego, Oceanside and El Cajon. Each jurisdiction identified strategies to reach Zero Waste, which coincides with the overarching goal of each successive generation leaving a smaller ecological footprint than the previous generation. Chula Vista's recycling rate of 62% in 2016 had decreased to 61% in 2019. Implementing the Zero Waste Plan is intended to counter this trend.

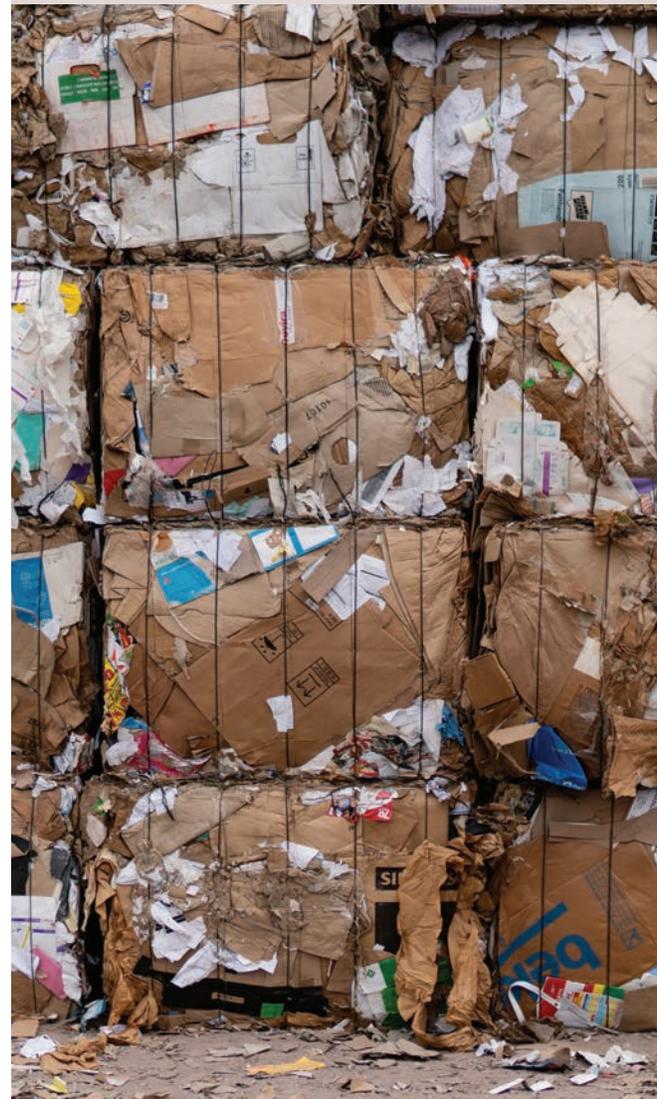
If strong waste diversion and recycling programs are not in place when the local population increases, higher levels of materials will be disposed of in landfills throughout the state.

The updated Chula Vista Climate Action Plan in 2017 called for a Zero Waste Plan, guiding the City to begin planning while also considering factors that greatly affected the waste and recycling industry. A subsequent decline in recycling markets and the slow development of regional and local infrastructure to manage organic waste posed challenges to creating an adequate plan with reachable targets. Since 2018, China's National Sword policy, China has set new strict limits and contamination standards on imported recyclable material at a 0.5% contamination rate. This resulted in restrictions to waste import licenses and more stringent inspections of imported materials (including cardboard, newspaper, mixed paper, and low-grade plastics). These actions have impacted markets for recyclable materials and will require improvements to Chula Vista's recycling programs and practices to handle the increase.

While this Zero Waste Plan presents significant target goals, the Chula Vista community can look back to data compiled and successful sustainability programs to guide our steps forward. Since the early 1990s, Chula Vista has implemented various plans to divert its waste from landfill disposal. These efforts include adoption of a Source Reduction Recycling Element which outlined 25 short-term goals and 50 long-term waste reduction goals, public education programs, a City operations waste reduction plan, conducting residential and business waste reduction programs, implementing mandatory recycling ordinances, and lobbying for state legislation.

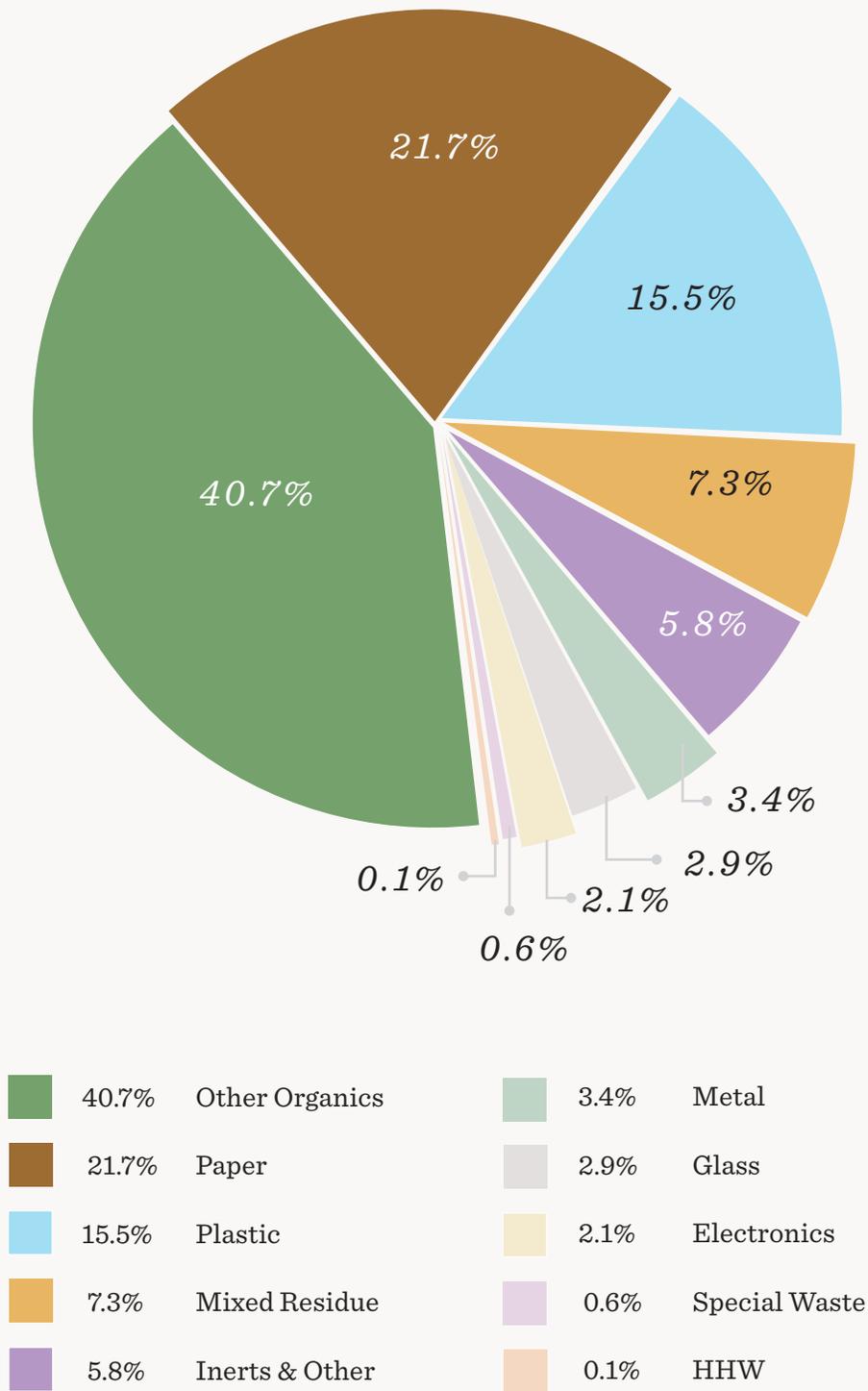
A Waste Characterization Study was completed in 2016 to measure the effectiveness of the Chula Vista's waste minimization strategies and programs. Waste sampling was conducted at the Otay Landfill in 2015. The sampling program consisted of hand sorting 89 waste samples, each weighing approximately 200 pounds. The study estimated the overall composition of waste materials generated by single family and multi-family residents, commercial businesses, and waste self-hauled to the landfill. Results provided a breakdown of materials in the waste stream as presented in Exhibit 1 (page 12). The composition of the waste stream in Chula Vista is similar to waste streams characterized by CalRecycle in 2014 and 2018 in studies of 34 landfills throughout the state.

The composition of the waste stream in Chula Vista is similar to waste streams characterized by CalRecycle in 2014 and 2018 in studies of 34 landfills throughout the state.



Overall Chula Vista Waste Composition

— Exhibit 1



Note: HHW – Household Hazardous Waste
 Due to rounding the total percentage of waste materials is 100.1 percent.

The 2016 Waste Characterization Study also evaluated the recoverability of materials disposed of based on materials accepted as part of the City’s recycling program at that time. Recoverability refers to materials in the waste stream that are recyclable or compostable. Overall, about 66% of the City’s waste stream is recoverable for recycling (21.8%) and composting (44.4%) using City programs utilized in 2016.

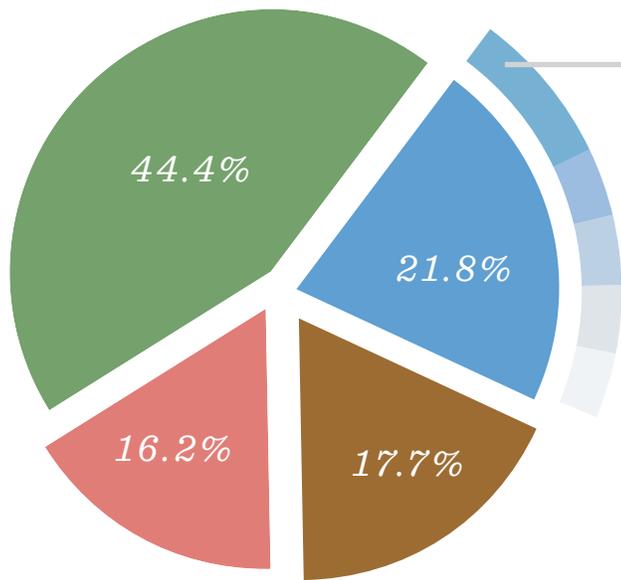
A breakdown of the recyclable and compostable portions of the waste stream is presented in Exhibit 2 (page 13). Paper was the most significant portion of the materials that could be captured for recycling (10.4%) while Edible Food waste (28.2%) comprised the largest portion from the compostable waste stream. Four recoverability classifications were determined by material: compostable, recyclable, potentially recoverable and non-recoverable.

Potentially recoverable materials refer to disposed, discarded items that can be reused or applied to new purposes.

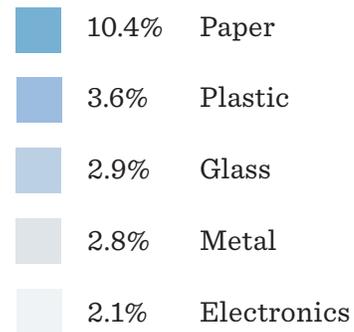
Recoverability Analysis for Overall Chula Vista Waste Stream

– Exhibit 2

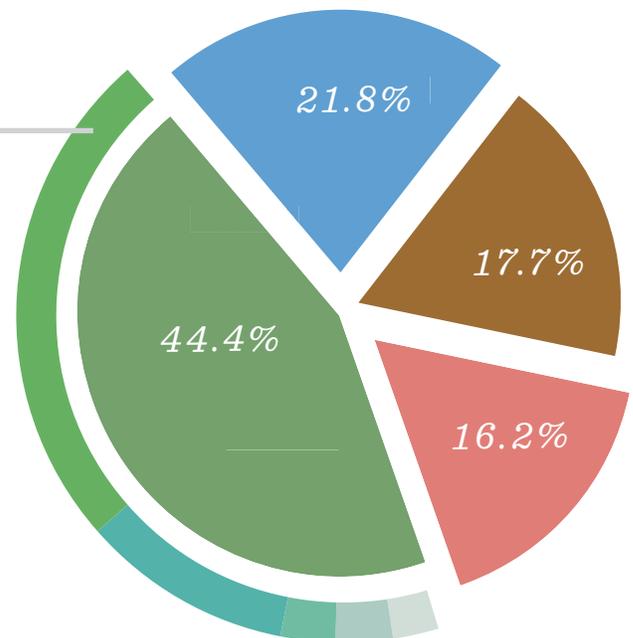
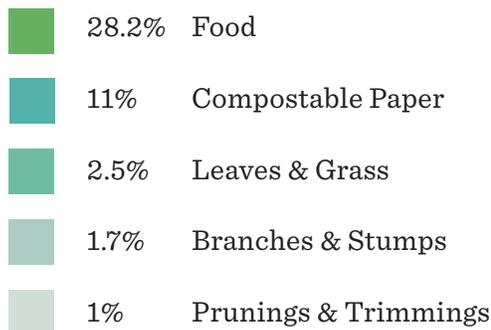
■ 44.4% Compostable
 ■ 16.2% Potentially Recoverable
 ■ 17.7% Non-Recoverable
 ■ 21.8% Recyclable



Analysis of Recyclable Material in the Waste Stream



Analysis of Compostable Material in the Waste Stream



These four classifications provide the basis for developing and implementing programs to divert materials from the landfill and recover them for other uses. The chart on page 14 lists the recoverability classifications by material, as reported in the 2016 report.

Recoverability Classifications by Material

– Table 1

Compostable	Recyclable	Potentially Recoverable	Non-Recoverable
<ul style="list-style-type: none"> • Food Waste • Leaves and Grass • Prunings and Trimmings • Branches/Stumps • Manures • Other Misc. Paper: Compostable • Remainder/ Composite Paper: Compostable 	<ul style="list-style-type: none"> • Uncoated Corrugated Cardboard • Paper Bags • Newspaper • White Ledger Paper • Other Office Paper • Magazines and Catalogs • Phone Books and Directories • Other Misc. Paper: Other • Remainder and Composite Paper: Rigid Food & Beverage Cartons • PETE #1 Containers (CRV/non) • HDPE #2 Containers (CRV/non) • Misc. Plastic Containers (CRV/non) • Clear, Brown, Green, Colored Bottles/ Containers (CRV/non) • Tin/Steel Cans (CRV/non) • Major Appliances • Other Ferrous • Aluminum Cans (CRV/non) • Other Non-Ferrous • Electronics • Household Hazardous Waste 	<ul style="list-style-type: none"> • Remainder/Comp. Paper • Plastic Grocery and Merchandise Bags • Non-Bag Commercial & Industrial Packaging Film • Film Products • Other Film: Flexible Plastic Pouches • Other Film: Other • Durable Plastic Items: #2 & 5 Bulky Rigids • Durable Plastic Items: Other • Remainder/Composite Plastic • Used Oil Filters • Textiles • Carpet • Clean Dimensional Lumber • Clean Engineered Wood • Clean Pallets and Crates • Other Wood Waste • Tires <hr style="border-top: 1px dashed #000;"/> <ul style="list-style-type: none"> • Concrete* • Asphalt Paving* • Asphalt Roofing* • Gypsum Board* • Rock/Soil/Fines* <p><i>*NOTE: Today, these materials are considered Potentially Recoverable instead of Non-Recoverable as in 2016.</i></p>	<ul style="list-style-type: none"> • Plastic Trash Bags • Flat Glass • Remainder/Composite Glass • Remainder/Composite Metal • Remainder/Composite Organic • Concrete • Asphalt Paving and Roofing • Gypsum Board • Rock/Soil/Fines • Remainder/Composite Inerts & Other • Ash • Treated Medical Wastes • Remainder/Composite Special Waste • Mixed Residue



Results from the 2016 study provide a reasonable guideline for understanding different types of waste materials. However, this data does not reflect population and economic growth, and a corresponding increase in the collection of disposed materials. For planning purposes, the 2018 total of 146,002 tons of waste materials collected through commercial and residential pickup operations serves as the baseline for Zero Waste planning.

Zero Waste Plan Opportunities for Chula Vista – *Including Recovered Materials*

With the overarching goal of GHG (greenhouse gas) reduction to combat climate change, this Zero Waste Plan helps to lessen environmental impacts by implementing beneficial tasks that help to reduce the amount of GHGs entering the atmosphere. These programs also help to create healthier communities and spur local economic activity.

Keeping recyclable materials, especially organics, out of landfills is key toward meeting the State of California's emission reduction goals. Decomposing organic materials in landfills release methane, the predominant gas produced by our landfills. According to CalRecycle, landfills emit 20% of the state's total methane gas released into the atmosphere. CalRecycle considers methane to be a climate super pollutant that is 84 times more potent as a GHG than carbon dioxide.¹

Most organic materials can be processed for reuse and are turned into compost or energy as biogas for electricity and transportation fuel. Using compost for landscape and agricultural purposes reduces water use, prevents soil erosion, avoids the use of chemical fertilizers, and further reduces impacts of GHGs.



Management of discarded materials and products is an environmental necessity to help achieve Zero Waste goals.

Equally important are the economic opportunities this approach provides.

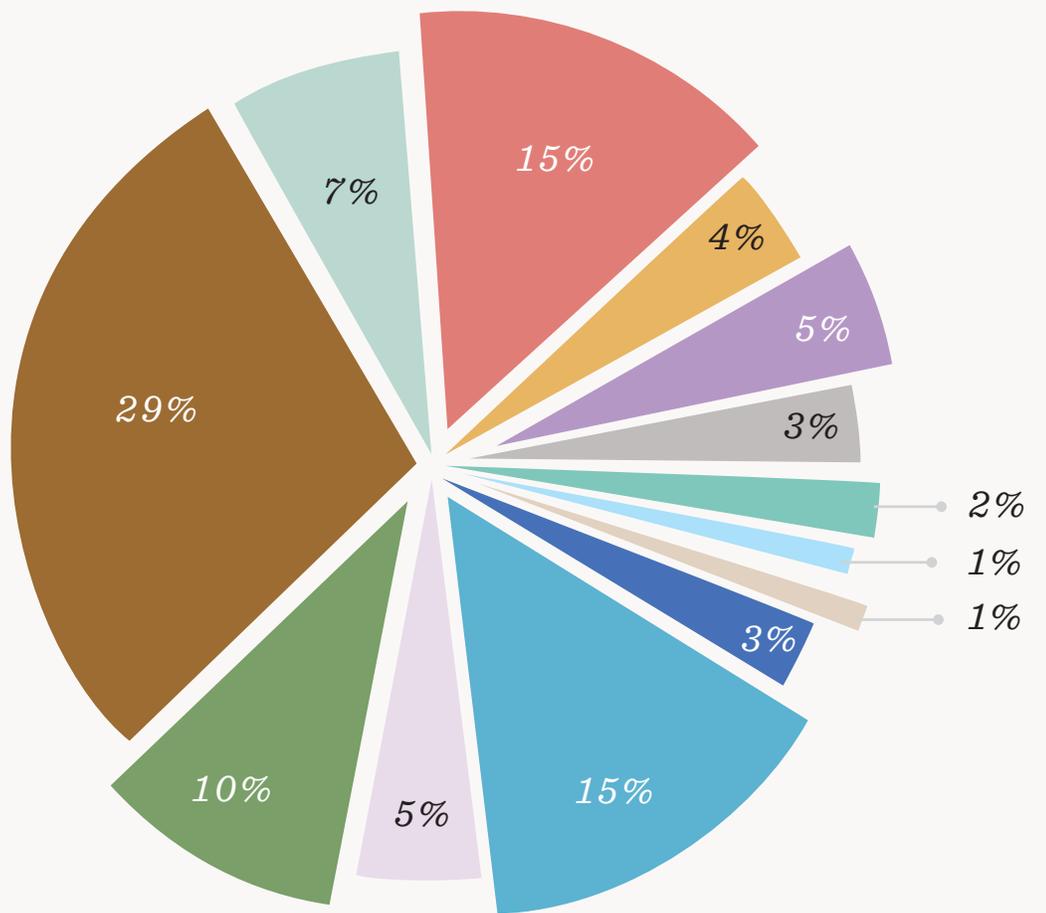


Opportunities for Recovered Materials

Management of discarded materials and products is an environmental necessity to help achieve Zero Waste goals. Equally important are the economic opportunities this approach provides. Applying the 2016 Waste Characterization Study to the City of Chula Vista's 146,002 tons of waste disposed of in 2018, Exhibit 3 (page 16) shows the 12 types of materials and the percentages when disposed in the Otay Landfill. Organics, including non-recyclable and food-soiled paper, composes half of the material disposed into the landfill that could be composted and/or digested. As such, opportunities exist for organics recovery systems and for reuse of materials already discarded.

¹ <https://www.calrecycle.ca.gov/organics/slcp>

Twelve Market Categories and Percentages of Discarded Materials – *Exhibit 3*



 29% Paper	 5% Textiles	 2% Ceramics
 15% Putrescibles (Food)	 5% Metals	 1% Soils
 15% Polymers	 4% Wood	 1% Chemicals
 10% No Market	 3% Glass	
 7% Plant Debris	 3% Reuse	

This listing identifies available materials generated that could be recoverable via private investment in recycling processes to create value-added material or products in Chula Vista and the region at large.

As recoverability, reuse, recycling, and composting of discarded materials increases, efforts to achieve Zero Waste goals are improved, as these materials are kept out of the landfill. In turn, this can lead to creation of jobs to support recycling businesses in Chula Vista and the South Bay. Investment in this industry could spur further economic development to bring in new facilities that remanufacture sorted and discarded materials into raw materials or products.

Producer Responsibility and Packaging

A significant amount of work needs to be done to encourage producers and retailers to take responsibility for products and packaging that are not safe or suitable for landfilling. Currently, many packaging items (film plastics and polystyrene) have no markets in the region; therefore, much of this material is sent to the landfill or ends up in the environment as trash. As a coastal community, it is important to realize that over 30% of roadside litter consists of plastic and plastic bags, which are among the top three items found littered on beaches and in storm drains and waterways. Federal Clean Water Act policies prohibit these materials from entering our storm drain systems. Plastic also breaks down into smaller pieces, which can end up in the food chain.

Producer responsibility programs could have “take-back” elements where producers are responsible for the full life of the products and packaging. This could include developing markets for these materials for reuse or recycling. In lieu of such actions, products could be banned or gradually eliminated from use in Chula Vista based on being an environmental health hazard. Consumer voices are powerful and can be expressed via social media posts or emails directly to manufacturers’ management staff or customer service departments to express the need for full producer responsibility.



As a coastal community it is important to realize that over 30% of roadside litter is plastic and plastic bags which are among the top three items found littered on beaches and in storm drains and waterways.



It is estimated that an additional 84,810 tons of material could be diverted from local landfill disposal each year. This would decrease Chula Vista's disposal rate to 2.4 pounds per person per day, a diversion rate equivalent to 77%.

Potential Savings in Tons of Waste and Greenhouse Gas Emissions

In January 2020, the City of Chula Vista conducted a study to estimate waste diversion potential and the corresponding rate of reductions of GHGs by implementing the six key tasks recommended in the Zero Waste Strategies and Actions presented in this Zero Waste Plan. Their study results demonstrated that Chula Vista residents and businesses could significantly reduce the amount of waste sent to the landfill through participation in these actions and reduce the amount of GHGs released into the atmosphere. The model developed to conduct this evaluation uses disposed waste composition data for each waste generator sector (i.e., single family, multi-family, and commercial) to estimate tons of potentially recoverable materials by type and by sector that are currently landfilled. The model then applies an estimated capture rate (the percentage of a target material estimated to be diverted) to the tons disposed to derive the potential diversion tons associated with the set of actions for each strategy.

To conduct this analysis, the City's consultant assessed each of Chula Vista's Zero Waste actions, reports from the City's solid waste services provider, the 2016 Waste Characterization Study, and data of wastes disposed in the landfill in 2019.



4.1 lbs

*per capita disposal
rate per person
per day in 2019*

84,810

*tons of material could
be diverted from landfill
disposal each year*

2.4 lbs

*per capita disposal
rate per person
future potential*

77%

diversion rate
*if all actions of Zero Waste
strategies are implemented*

If all actions of the Zero Waste strategies were implemented, the City's consultant estimates that an additional 84,810 tons of material could be diverted from landfill disposal each year. This would decrease Chula Vista's disposal rate to 2.4 pounds per person per day, a diversion rate equivalent to 77%. This is a significant difference as compared to 2019, the City's per capita disposal rate was 4.1 pounds of landfilled material per person per day; a 61% diversion rate equivalent as measured by CalRecycle. The 4.1 pounds of landfilled material per person per day is based on 203,968 tons of wastes disposed in the landfill in 2019, divided by a population of 271,411, and then divided by 365.

The overall goal of the City's Zero Waste Plan is to achieve a 90% diversion rate by 2035. Achieving this goal is challenging for a growing city. As the population and economic activity of current and new businesses expand, more waste will be created. Specific actions in the Zero Waste Plan will be critical for reducing waste sent to the Otay Landfill, increasing recycling and composting, and repurposing materials for new uses.

Each year data obtained regarding annual tonnages of the waste and recycling streams from Republic Services, the City's franchise hauler, will be analyzed to monitor progress on the diversion rate. Information from CalRecycle will be included in this evaluation. The path to Zero Waste is iterative, with each Zero Waste strategy building upon the City's goals to achieve waste reduction and reinforce waste diversion practices.

*Summary of Diverted Tons
Based on Zero Waste Plan Actions
– Table 2*

Task	RECOMMENDED ZERO WASTE STRATEGY	ANNUAL ADDITIONAL POTENTIAL DIVERSION			
		Single Family	Multi-Family	Commercial	Total All Sectors
1	Promote and Support Source Reduction and Reuse	1,220	530	720	2,470
2	Reduce the Use of Toxic Materials	40	30	30	100*
3	Promote and Educate on Zero Waste Principles	6,710	2,630	4,980	14,320
4	Support the Recycling Industry as an Innovative Engine for Regional Economic Development	4,270	1,500	2,910	8,680
5	Improve Education in Trash and Recycling Programs	3,750	1,580	4,670	10,000
6	Keep Organic Materials Out of Landfills	24,050	10,980	14,210	49,240
	TOTAL ESTIMATED TONS DIVERTED	40,040	17,250	27,520	84,810

Actions which emphasize behavior change have been proven to yield the greatest reductions in landfilled tons and GHGs. Actions that take a policy-based approach support behavior change and could yield still greater reductions depending on the level of effort undertaken to educate the community and enforce requirements. In addition, targeting the diversion of waste stream materials which generate the most greenhouse gas in the landfill (food waste and other types of organic waste such as paper and cardboard) will help the Chula Vista community continue improving climate change initiatives.

While the additional potential tonnage diversion estimated for strategies promoting source reduction and reuse are relatively small, including toxic materials reduction, these are important actions for changing community mindset regarding resource management and achieving a community culture shift to reach Zero Waste.

Table 2, above, displays the estimated number of tons diverted from the landfill if all of the City's Zero Waste Plan actions are implemented.

*Note: All toxic wastes generated fall under jurisdiction of the San Diego County, Department of Public Health and are not disposed at the Otay Landfill.

Greenhouse Gas Emission Reductions

The City's consultant used the U.S. EPA Waste Reduction Model (WARM) to calculate the Zero Waste Plan's estimated GHG reductions. WARM was created by the U.S. EPA to help solid waste planners and organizations estimate GHG reductions from several different waste management practices. The model calculates emissions in metric tons of carbon dioxide equivalent (MTCO₂E) and metric tons of carbon equivalent (MTCE) across a wide range of material types commonly found in municipal solid waste.

If these Zero Waste actions were to be fully implemented, approximately **141,353** metric tons of carbon dioxide equivalent could be avoided each year through the source reduction, reuse, recycling, and composting of currently landfilled waste materials.

Table 3 displays the estimated reduction in metric tons of carbon dioxide (MTCO₂) by Zero Waste strategy (task).



Estimated Reduction in MTCO₂ by Zero Waste Task – Table 3

<i>Task</i>	ZERO WASTE STRATEGY BY TASK	ESTIMATED REDUCTIONS IN GHG EMISSIONS MTCO₂
1	Promote and Support Source Reduction and Reuse	2,004
2	Reduce the Use of Toxic Materials	86
3	Promote and Educate on Zero Waste Principles	36,146
4	Support the Recycling Industry as an Innovative Engine for Regional Economic Development	18,759
5	Improve Education in Trash and Recycling Programs	17,124
6	Keeping Organics Out of the Landfill	67,234
	TOTAL ESTIMATED MTCO₂ REDUCTIONS	141,353

ZERO WASTE GOAL: CHULA VISTA'S ROLE

To achieve Chula Vista's Zero Waste goal of 90% waste diversion by 2035, our communities must increase focus on restructuring production and distribution systems to reduce the overall amount of waste. This will include behavior change and a shift in consumption patterns, more carefully managed purchases, and maximizing the reuse of materials at the end of their intended use. To achieve Chula Vista's goal this will also require producer responsibility policies on a local, state, and national level.



While the concept of 100% Zero Waste may seem aspirational due to the growing global population and increased environmental challenges our planet faces with limited resources, it is imperative that waste management moves from a linear system of single-use trash in our landfills to a cyclical system where materials, products, and substances are not wasted but rather used as efficiently as possible.

Ultimately, to achieve Zero Waste the City of Chula Vista must encourage residents and business to reevaluate what they purchase.

All strategies in a Zero Waste Plan should consider “People, Planet, and Prosperity” as the “triple bottom line” to achieving social, environmental, and economic sustainability. By doing so, the Zero Waste Plan contributes to the development of a greener local economy and a more sustainable community.

The City of Chula Vista’s Zero Waste Plan will move in increments toward the goal of Zero Waste by promoting and pursuing the following core principles:

- *Upstream re-design strategies to replace toxic products with less toxic ones or reduce the volume and toxicity of discarded products*
- *A closed-loop system of production and consumption where products are initially designed with reuse or recycling in mind*
- *Low-impact or reduced consumption lifestyles*
- *Improved ‘downstream’ reuse/recycling of end-of-life products and materials to ensure their highest and best use*
- *Support use of discarded products and materials to stimulate and drive local economic and workforce development*

All strategies in a Zero Waste Plan should consider “People, Planet, and Prosperity” as the “triple bottom line” to achieving social, environmental, and economic sustainability.

By doing so, the Zero Waste Plan contributes to the development of a greener local economy and a more sustainable community.



Support for a Holistic Approach

“The City of Chula Vista Zero Waste Plan is bold, ambitious, and innovative. It recognizes that although easy solutions are in short supply, we must still act with courage and cooperation. The outcome of this plan will ensure Chula Vista is a great place for our grandchildren’s grandchildren.”

Mark Valen,
Professor of Horticulture,
Southwestern College

Former Chair of Chula Vista’s
Sustainability Commission

The City will engage a holistic approach to Zero Waste and product stewardship for Chula Vista residents, businesses, product manufacturers/producers, and the recycling industry. Product stewardship is an environmental management waste reduction strategy that aims to make manufacturers responsible for minimizing environmental impact throughout all stages of a product’s life cycle. This minimizes health, safety, environmental, and social impacts of a product while shifting financial and management responsibility upstream to the producer and away from the public sector. This approach also provides incentives to producers to incorporate the environment into the design of their product.

The City will continue to support current product stewardship programs for carpet, mattresses, and paint recycling.

- Chula Vista and the South Bay region participates in a major carpet recovery and recycling program supported by the Carpet America Recovery Effort (CARE).
- Mattress recycling is coordinated with the efforts of the **Mattress Recycling Council**, an industry-led effort to recover mattresses locally at the Otay Landfill and other collection sites throughout the state of California.
- The **PaintCare®** drop off program is another industry-led program, with four locations in Chula Vista and two more in the South Bay. PaintCare® collection has cut paint disposal at the City’s Household Hazardous Waste Facility in half.



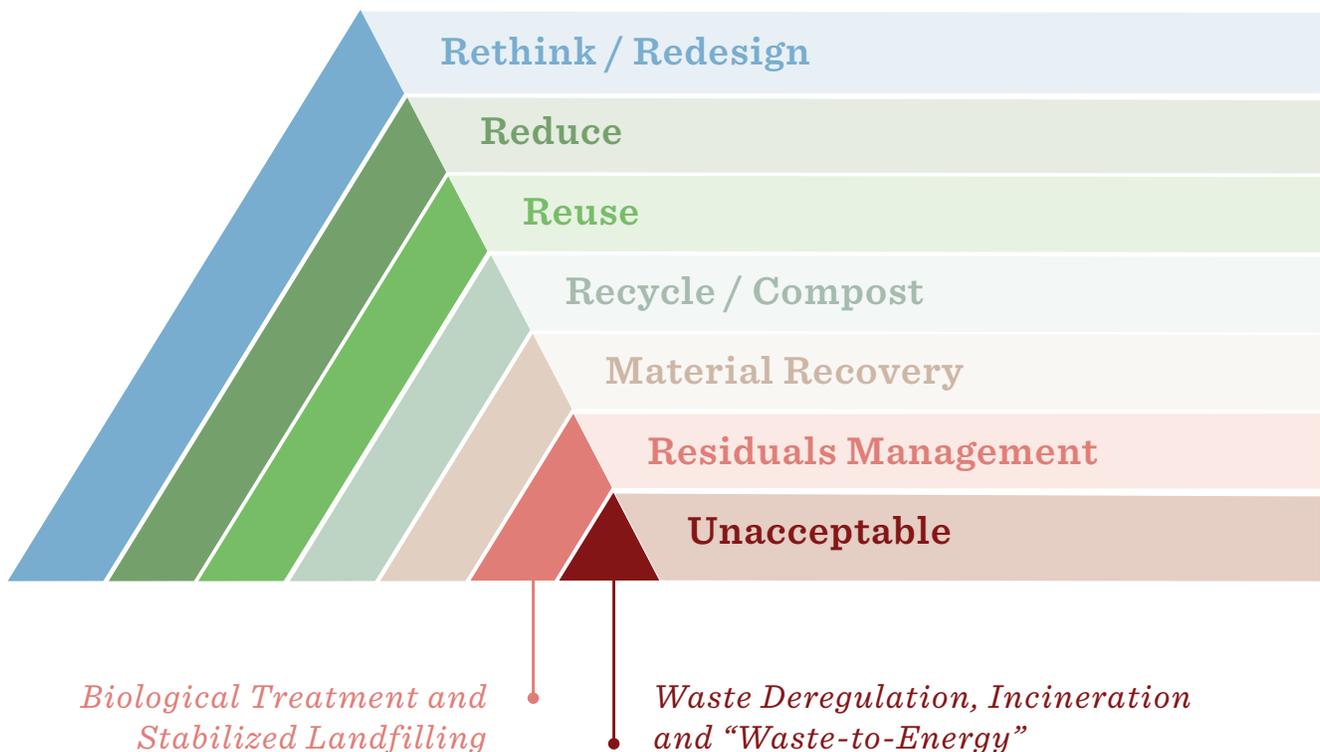
The City serves in a leadership capacity on the California Product Stewardship Council (CPSC) and the California Resource Recovery Association (CRRRA). CPSC is leading the effort to shift California's product waste management system from one focused on government funded and trash/recycling customer-financed waste diversion to one reliant on producer responsibility to reduce public costs and drive improvements in product design that promote environmental sustainability.

The City will continue its support for comprehensive waste reduction legislation at the state level that targets material chemistry rather than legislation to address waste from a single source such as batteries, plastic bags, or mattresses. Targeting material chemistry can lead to a single piece of legislation to efficiently focus on the negative effects of a larger number of materials. These state laws help to enforce product stewardship across several products comprised of the same or very similar materials.

For example, legislation can target packaging of all products sold in the state made from a certain mix of polymers that make them difficult to recycle.

It is also important to mention the City's efforts include working with local jurisdictions and partners to create region wide initiatives to address difficult-to-recycle materials for ease of implementation. For example, with collaboration all South Bay cities could more effectively introduce and implement a ban on polystyrene products and single-use plastic products.

Zero Waste Hierarchy





ZERO WASTE PLAN STRATEGIES AND ACTIONS

Six key strategies guide this Zero Waste Plan, with a priority placed on “upstream” solutions in mind to eliminate waste before it is created. Given the City’s legacy of sustainability leadership by example, this Plan also includes actions that will build upon existing Chula Vista traditional “downstream” recycling programs to fully utilize the existing waste diversion infrastructure. An overall goal of the Zero Waste Plan is to achieve a 90% diversion rate or higher that provides a direct benefit to our environment and the community.



The overall goal of the City’s Zero Waste Plan is to achieve a 90% diversion rate by 2035. The initial actions will serve as a starting point that can be further modified to help achieve Zero Waste goals. The Plan will be flexible allowing for development of new, innovative actions.

This section of the Zero Waste Plan details each strategy, current actions, and planned future actions. Current activities and programs serve as the basis for developing new, specific actions. Planned actions will serve as tools to accomplish and obtain results to first reduce waste and then reuse these materials via composting, recycling, reuse, and repurposing. The initial actions will serve as a starting point that can be further modified to help achieve Zero Waste goals. Newer strategies and actions will also be identified during implementation to engage additional sectors, such as construction waste. City innovation is at the core of a history in leadership by example.

Current City programs and actions being implemented with new ways of accomplishing goals have led the way for this path toward Zero Waste, along with other innovative and award-winning future-focused Chula Vista programs and initiatives. Continued actions are designed to steer the City toward attaining Zero Waste goals as stated in this plan and are categorized as short-term (3-5 years to completion), medium-term (6-10 years to completion), or long-term (11-14 years to completion). These action timeframes refer to the commencement, implementation, and completion of carefully planned and prescribed initial efforts as they become operational.

A summary of the specific Planned Future Actions in the Zero Waste Plan is listed in Appendix A (page 54). For best use of this summary, it is advised that readers become familiar with the complete write-ups for Tasks 1 through 6. These write-ups contain Current City Actions, Programs and Operations along with the preface information for the new actions, which serve as the basis for the Planned Future Actions.

Actions are categorized as:

Short-term
(3-5 years to completion)

Medium-term
(6-10 years to completion)

Long-term
(11-14 years to completion)



Task 1 –

Promote and Support Source Reduction and Reuse

Source reduction means stopping the creation of waste at the outset through activities designed to reduce the volume, mass, or toxicity of products. Upstream reuse of suitable materials is a key activity to achieve reduction goals. Source reduction and reuse saves resources and lessens money spent for obtaining new raw materials. Opportunities to employ innovative technologies to support this effort will be explored.

2,470

Annual Potential of Resources Diverted from Landfill in Tons

2,004

Estimated Reduction in GHG Emissions in MTCO₂

Current City Actions, Programs, and Operations to Support Reduction:

— The City has implemented ongoing efforts to educate residents and businesses on waste reduction practices to encourage purchasing practices that support waste minimization with effective multimedia campaigns using CLEAN newsletters, e-mails, social media posts, direct mailers, and in-person education at community events and through visits to businesses and homes. COVID-19 precautions impacted in-person engagement but digital outreach has continued to provide information to key stakeholders and the community at large.

— The City conducts a program to phase out use of polystyrene plastic single-use containers and plasticware

with the goal of providing options for multi-use, reusable, and compostable take out containers. A key tactic is to educate business owners and operators on the environmental benefits to switch to reusable or compostable products.

— An ongoing campaign encourages Chula Vista residents to use their own reusable take-out containers when eating out. In June 2018, the “Break Out Your Take-Out Container” was started with a Third Avenue Village event and has expanded to 12 restaurants throughout the City. This program continued with assistance from the local chamber of commerce and community groups like I Love a Clean San Diego to inform the public.





— The City offers Zero Waste community workshops to familiarize residents with Zero Waste principles. Workshops cover successful bulk shopping techniques, developing daily sustainable habits, and information on reducing waste, reusing, and repairing products and maximizing recycling practices. To further communicate with the community, a Sustainability Webinar series was launched in 2020 with monthly online interactive presentations.

— “Fix-It” clinics are offered to the Chula Vista community bringing together volunteers with specialty tools and repair expertise to instruct those who need an item repaired. Residents are encouraged to reuse, repair, and repurpose materials and products as an alternative to disposal in the landfill, which also saves them money. Fix-It clinics focus on repairing broken, nonfunctioning items including electronics, small appliances, computers, toys, bicycles, and clothes. Fix-It clinics have been conducted as standalone events and incorporated into major City events such as South Bay Earth Day.

— The City has secured grant funding from CalRecycle to build a reuse site at the City’s Household Hazardous Waste (HHW) Facility. The site will be configured and marketed as a “store” to make available at no cost minimally used cleaning, paint, and other ready-to-use products collected from community members disposing materials at the facility. The “store” will help reduce the City’s disposal costs for collected

materials and give new life to usable products that otherwise would have been disposed.

— All City departments work to identify environmentally sustainable solutions for materials and products used during operations.

— The City is following the practices included in the City Operations Sustainability Plan. Implementation continues to pave the way for many smart and practical source reduction practices. It is anticipated the Plan will be updated with refined practices to take source reduction to a higher level.

— Staff has also set forth a goal to certify many of its City municipal buildings as Leadership in Energy and Environmental Design Buildings for Operations and Maintenance (LEED O/M). This presents many opportunities to further reduce the amount of waste in building operations, use safer cleaning products, and lower energy and water use. Three Buildings at the City Hall Complex have already received LEED certification; two Gold and one Silver. As part of the City Hall Complex LEED O/M effort, a Solid Waste Management Directive, which applies, to the buildings and surrounding grounds was implemented in 2017. It lists specific goals for waste diversion of ongoing consumables, electronics and electric-powered equipment, and universal waste (lights, thermostats, batteries).

City of Chula Vista strives to “lead by example” integrating innovative sustainable practices throughout its operations and facilities.

Planned Future Actions

Continue to conduct and expand Fix-It clinics to help mold reuse, repair, and repurpose values and lifestyle behavior.

Action 1.1: Short-Term.

Conduct two additional Fix-It clinics for a total of four throughout the calendar year. *(Start Q2 2022)*

Create and conduct other campaigns to encourage residents to reuse other materials and products as an alternative to disposal. These campaigns will help promote local repair businesses.

Action 1.2: Short-Term.

Prepare and distribute a mass mailer once per year. Use other communication tools including a webinar, quarterly social media posts, and two newsletter articles to reach 85,000+ Chula Vista homes on the benefits of reuse and repair. Conduct surveys to evaluate results. *(Start Q2 2022)*



Encourage and educate residents and Chula Vista businesses to change the mindset to donate unwanted items to local organizations and aid agencies to keep usable items out of the waste stream. This involves working with local manufacturers and stores, including a wide variety of retail big box stores and specialty outlets such as flooring, fabric, office supply, party supply, paint stores, and other businesses and nonprofits (i.e., Goodwill and similar stores).

Materials that would be discarded can be donated and made available for reuse and repurposing, as well as used in creative ways by artists, crafters, and teachers to establish a community exchange network. These practices focus on community education and creating partnerships with existing networks to provide opportunities to connect with businesses would divert tons of usable materials from the waste stream each year.



Action 1.3: Short-Term.

Work with 10 retail stores and other businesses annually to reuse and repurpose items that are routinely discarded. Support existing networks using mailers, press announcements, webinars, and social media to create awareness and encourage behavior change that will increase items donated from businesses that are listed for creative reuse (also known as upcycling or repurposing) and accessed by organizations, artists, crafters, teachers, and individuals to obtain reusable items. *(Start Q2 2022)*

Action 1.4: Short-Term.

Arrange and conduct exchange events with exchange network participants where artist and other communities can obtain discarded materials. Conduct two events per year similarly to Fix-It clinics and as a component of City events including South Bay Earth Day and other publicly held mass attendance events (Harbor Fest or similar) throughout the year. *(Start Q3 2023)*

Action 1.5: Short-Term.

Prepare and conduct information campaigns twice per year to encourage collection and distribution of discarded materials to support these exchange networks. *(Start Q3 2023)*

Action 1.6: Short Term.

Prepare and disseminate quarterly messaging via Office of Sustainability social media platforms to complement the discarded materials exchange networks information campaigns. The information that is shared will provide updated data regarding materials and items available for reuse. Key platforms could include Craigslist, Facebook (Materials Exchange Groups), Twitter, Instagram, Nextdoor, Nixle and others. *(Start Q3 2022)*

Action 1.7: Short-Term.

Collaborate with and inspire the Chula Vista Elementary and Sweetwater Union High School Districts to encourage all middle and high schools to create an “Eco-friendly Vintage Clothing Exchange” at their schools. Exchanges would include “Uniform Swap Day” and “Vintage Clothing Day” events where clothes could be displayed and traded at no cost or sold for nominal, below-market prices. *(Start Q2 2022)*



To accelerate the reuse of worn and donated clothing, take advantage of the thrifting demand for “vintage” clothes and similar quality clothing. Create more interest and demand and encourage conscientious shopping for such reusable goods to reduce discarding of these items in the trash and help alleviate disposal of usable items in the landfill.

Reusable clothing is more affordable than new clothing, which helps household budgets. Actions below would incorporate opportunities to educate and promote Zero Waste principles, reuse practices, and cost savings. The City recommends that recipients of reusable clothing thoroughly wash them prior to use.

Action 1.8: Short Term.

Collaborate with Sweetwater Union High School District to encourage and provide innovative approaches and guidance to high schools to expand on the established Princess Project during spring that provides prom dresses for girls and include dress clothes (tuxedos and suits) for boys. In the fall, encourage a similar exchange of Halloween costumes at K-6, middle, and high schools throughout Chula Vista. *(Start Q2 2022)*

Action 1.9: Short-Term.

To further encourage clothing reuse, create a mechanism for having unsold clothes from weekly garage sales throughout the City be donated to local reuse stores. For communities that hold “community garage sales” offer this mechanism to handle unsold clothes. Conduct outreach to reuse businesses to engage their support and participation. Work with local Chula Vista stores to gauge increases in donation volume to evaluate this effort. *(Start Q1 2023)*

Reestablish the former Reuse Program at the City’s Household Hazardous Waste (HHW) Facility where residents drop off acceptable HHW items (paints, cleaners, etc.) for other residents to obtain at no charge for their use.



The Reuse Program will utilize a converted storage shed painted to be aesthetically pleasing resembling a storefront appearance with new shelving and signage. A log for compiling data and analysis of dropped off items (types, amounts) and reusable items taken by residents will be maintained.

Action 1.10: Short-Term.

Complete set up of the Reuse Program store (convert existing storage shed) at the City’s HHW Facility for household cleaning products and paints and begin store operations. Track types and quantities of reusable products issued to residents through the Reuse Program. *(Start Q2 2022)*

Action 1.11: Short-Term.

Promote the availability of the Reuse Program through the City's CLEAN website and an annual information campaign to residents and HHW users. Track number of visits to the website to determine outreach results. *(Start Q2 2022)*

Develop an ordinance to disallow the sale, distribution, and use of difficult to recycle single-use plastic and polystyrene foam products such as plates, bowls, cups, cutlery, and straws. The ordinance would include options for use of reusable and recyclable products.

***Action 1.12: Short-Term.***

Complete development of the ordinance to disallow single-use plastic products and include opportunities from businesses, interest groups and the residents to provide public comment and support prior to City Council approval. *(Start Q2 2022)*

Action 1.13: Short-Term.

Develop an implementation plan for the ordinance and begin implementation in 2023. This will include an educational component for restaurants and other businesses. *(Start Q2 2022)*

Task 2 – Reduce the Use of Toxic Materials

Reducing the use of toxic chemicals can reduce the risk of adverse health and environmental effects, in addition to creating economic advantages such as reductions in costs of raw materials and waste disposal. California and nine other states have enacted laws to promote reductions in the use of toxic chemicals. These actions ideally would incorporate the use of innovative and smart technologies to further reduce use of toxic materials.

100

Annual Potential of
Resources Diverted
from Landfill in Tons

86

Estimated Reduction
in GHG Emissions
MTCO₂



Current City Actions, Programs, and Operations to Promote and Support Source Reduction

— Current waste reduction programs encourage residents and business operators to make better choices in their everyday lives including the use of safe and effective alternatives to common household and commercial cleaners that may be hazardous. Leading by example is key. Development and distribution of informational materials provide alternatives to using toxic products, including pesticides. Workshops for residents and business operators conducted by the City’s contractor provide direct education with concrete, simple examples to change behaviors including “Zero Waste Living,” “Zero Waste Bathrooms,” and “Zero Waste Kitchens.”

— Office of Sustainability staff distribute educational materials including brochures and flyers at public events and conduct direct interaction with members of the public via the CLEAN website, webinars, and social media. Staff also offer NatureScape and composting workshops to inform residents of the benefits of using toxic-free pesticide and herbicide management techniques.

— The City operates the Used Oil Program to promote the collection of used motor oil at certified collection centers in Chula Vista. On average, the monthly combined collection from this program ranges from 8,000 to 10,000 gallons of used motor oil and 1,000 to 2,000 used oil filters.

— A pharmaceutical waste collection program is offered via secure publicly accessible collection bins at the Chula Vista Police Department throughout the year. Drive-up Prescription Drug Take Back Days events are held in April and October. On average, 100 pounds of pharmaceuticals are collected every month from the collection bins and between 300 to 400 pounds of pharmaceuticals are collected at each Drug Take Back event.

Collection bins are also in place at the Southwestern College Police Station and at three area pharmacies. The Collection Program started a pharmaceutical mail-back component in December 2018. These efforts reduce the impacts of disposing unused pharmaceuticals into landfills and sewage treatment systems.



100 lbs

*monthly
average of
pharmaceuticals
collected from
collection bins*

350 lbs

*average of
pharmaceuticals
collected at each
Drug Take Back event*



— The City’s Sustainability Operations Plan includes Green Purchasing, defined as “using purchasing power in the most cost-effective, fair, and environmental-friendly manner to create a healthier workplace.” City facilities are leading by example in conducting best practices including purchase and use of toxic-free cleaning products or those with low amounts of volatile organic compounds.

— Dispensing stations used by City custodial staff have been modified so that only amounts of cleaning products needed for specific tasks are used.

— The City implements federal Clean Water Act regulations by enforcing its ordinance that prevents all non-storm water discharges from municipal facilities (including landscape over-irrigation) to storm drains. In addition, the City complies with storm water “Best Management Practices” requirements at all municipal facilities.

Activities include phase-out of chemical pesticide and fertilizer use, transition to high-efficiency irrigation at municipal sites to avoid runoff and conducting annual assessments to improve strategies or create new strategies.



Planned Future Actions

Develop and disseminate additional specific educational materials with the latest information to drill down and enhance behavior change and cooperation to reduce use of toxic materials and products by City residents and businesses.

Action 2.1: Short-Term.

Complete an annual communication campaign to Chula Vista residents on toxic reduction efforts that includes educational social media posts to reinforce campaign messages and informs the community about “Toxic Free Day.” Conduct surveys to evaluate results. *(Start Q1 2023)*

Action 2.2: Short-Term.

Place QR codes on all printed educational materials (flyers, brochures, fact sheets, signage) covering sustainability and Zero Waste to direct users to specific pages on the Chula Vista CLEAN website. *(Start Q1 2022)*



Create additional programs to reduce the use of toxic materials throughout the community and increase proper disposal of such materials via the City’s Household Hazardous Waste Facility.

Action 2.3: Medium-Term.

Increase collection of properly disposed toxic materials each year at the HHW facility and other take back events with a goal of up to 14 additional tons a year. *(Start Q1 2022)*

Task 3 –

Promote and Educate on Zero Waste Principles

Success of this Plan will be boosted through creation of a community of “Zero Waste Champions” that include children, residents, business leaders, city staff, elected officials, and other interested parties. A more inclusive Zero Waste marketing program throughout Chula Vista will have to reach all corners of the community to permeate all aspects of life, including new community development, commerce, and government. This Plan includes activities to educate the Chula Vista community on Zero Waste principles and key stakeholders so that Zero Waste becomes a common mindset in Chula Vista. Appropriate innovative and SmartCity approaches and technologies will be utilized to expand communication and educational aspects of these efforts.

Current City Actions, Programs, and Operations to Promote and Support Zero Waste Principles

- Zero Waste workshops are offered to residents, schools and the business community upon request.
- Educational workshops are conducted at all City event venues (i.e., South Bay Earth Day, Harbor Fest) and seasonal events directed at community members of all ages.
- Zero Waste procedures are required for City events whereby all vendors must comply with requirements and protocols during pre-event planning and day-of-event activities.
- Smart purchasing practices are encouraged for City-led purchasing for construction and maintenance projects of City facilities.
- At City employee engagement events, the Office of Sustainability educates other City staff on Zero Waste practices; particularly use of reusable cups, dishes, and utensils.

14,320

Annual Potential of Resources Diverted from Landfill in Tons

36,146

Estimated Reduction in GHG Emissions in MTCO₂



Planned Future Actions

Expand the frequency of Zero Waste workshops beyond one per calendar quarter making this a foremost educational opportunity to conduct and co-promote toxic reduction events, workshops, and interactive activities for both children and adults to further promote desired behavior and lifestyle changes. Workshop topics would include avoiding use of single-use products (plastic cutlery, cups, plates, straws) and disposable single-use personal protection equipment (PPE) masks and promoting use of reusable products including washable masks.

Action 3.1: Short-Term.

Conduct four additional Zero Waste Workshops annually as separate events (live or virtual) or incorporate into larger city events. Simultaneously, conduct similar classes (live and virtual) at City libraries. *(Start Q3 2022)*



Work with area schools in a leadership role to activate Zero Waste teaching to include source reduction, recycling, reuse, and repurposing. This would involve collaboration with schools, community organizations, and other possible partnerships that offer related services to local youth.



Action 3.2: Short-Term.

Collaborate directly with five schools in the Sweetwater Union High School and Chula Vista Elementary School District schools to offer waste reduction education sessions. Utilize current, reliable information from educational sources specific to educating children on sustainability. *(Start Q4 2022)*

Action 3.3: Short-Term.

For schools with Eco-Clubs/Groups, coordinate with Group Leaders, to conduct an annual workshop summit during Earth Month (in April) to further educate on Zero Waste principles, actions, and learning opportunities and support school's Green Week activities. *(Start Q4 2022)*

Enhance current Office of Sustainability programs to include Zero Waste fundamentals as part of all activities. Staff will further promote Zero Waste messages through programs like the Household Hazardous Waste collection program, the Home Checkup Evaluation program, and the Free Resource

Energy Business Evaluation (FREBE) program to encourage the use of environmentally healthy alternatives along with instructions for their use as another “opportunity” to get to Zero Waste.

Action 3.4: Short-Term.

Develop specific messaging on Zero Waste strategies that staff can use when communicating with residents, businesses, and other City departments to help educate and change behaviors. This would include educational information on use of virgin and recycled materials to produce consumer products. Update messaging annually to include more practices. *(Start Q2 2022)*

For all City-sponsored events or events the City is invited to participate at (educational booths or virtual events) or that have food vendors, expand upon current activities to involve direct education of event attendees at trash/recycle/organic disposal bins instructing them on what is recyclable, compostable, and trash.

Action 3.5: Short-Term.

Establish a network of 30 volunteers to serve as “sorter associates or liaisons” at four City events annually. Provide students (middle, high school, college) and other interested community members, including Master Composter Program participants, with training opportunities for participation to fulfill community service requirements. *(Start Q4 2022)*

Action 3.6: Short-Term.

Annually provide a robust and comprehensive list of Zero Waste websites available on a dedicated Zero Waste webpage on the City’s CLEAN website to expand the educational opportunities for Chula Vista residents, businesses, schools, and other interested parties. *(Start Q2 2022)*

Create a Zero Waste Business Certification Program as part of the CLEAN Business Program to promote Zero Waste principles and acknowledge businesses that conduct these practices as part of doing business.

Action 3.7: Short-Term.

Initiate the Zero Waste Business Certification Program, as an addendum to the CLEAN Business Program. It will recognize businesses that go above and beyond in reducing their waste stream. *(Start Q2 2022)*

Implement a Chula Vista Zero Waste Champion education and recognition program that encourages applying Zero Waste principles in daily home activities by engaging neighbors to collaborate.

Action 3.8: Short-Term.

Develop Zero Waste educational information for Chula Vista Zero Waste Champion education and recognition program covering waste reduction, effective recycling, proper household hazardous waste disposal, reducing or eliminating the use of toxic products, food waste prevention, and composting at home. *(Start Q3 2022)*

Action 3.9: Short-Term.

Annually recognize a unique “Zero Waste Champion” as part of the Sustainability Commission’s CLEAN Sustainability Champion Awards. Other public acknowledgements will also be conducted. *(Start Q1 2023)*

Make improvements to the City’s Construction and Demolition (C&D) program. This also involves developing new requirements for deconstruction of buildings focusing on reuse and repurposing of materials salvaged from this work as proposed in the 2017 Climate Action Plan.

Action 3.10: Short-Term.

Create Zero Waste guidelines for building deconstruction. *(Start Q1 2022)*



Task 4 – Support the Recycling Industry as Innovative Engine for Regional Economic Development

As a potential engine for regional economic development to fuel new businesses, expand existing markets and create jobs, the recycling industry is in a unique position to thrive and lead important community benefits.

Numerous studies have documented the economic development and job creation in waste collection, materials processing, and recycled-content product manufacturing. According to the Institute for Local Government, for California to reach a 75% mandated recycling goal it would need to generate 59,000 jobs in the waste collection and processing sectors and 50,000 jobs in the manufacturing industry.

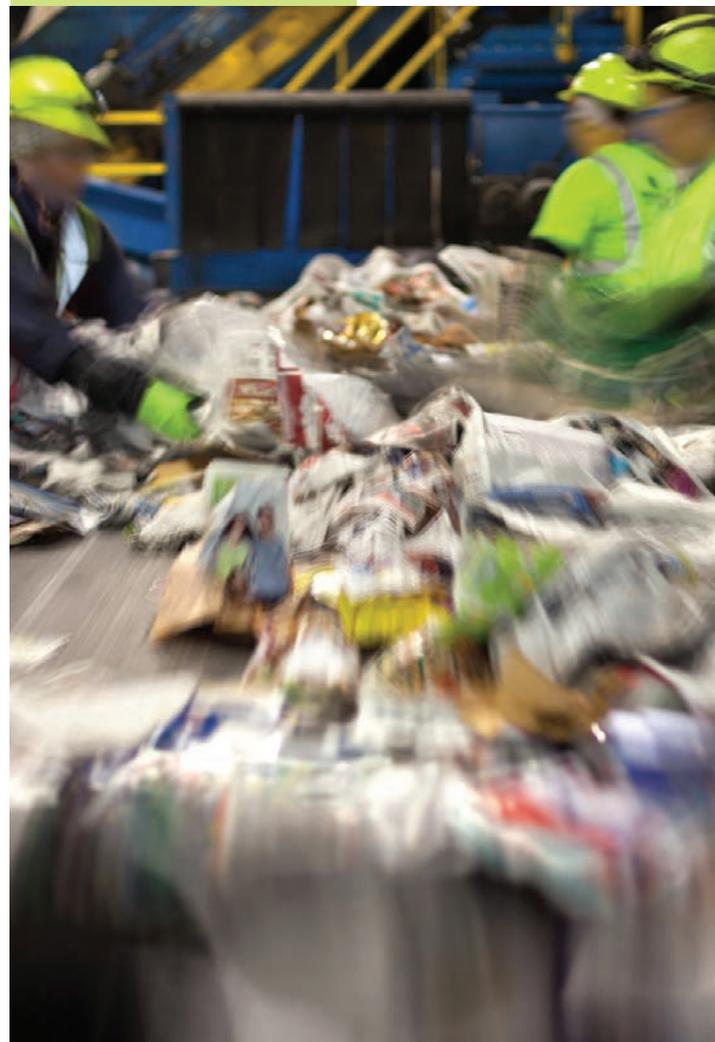
The significant changes to the recycling market brought on by China's National "Green Sword" policy have changed the viability of overseas markets to purchase recyclable mixed paper, newspaper, cardboard, and plastics generated locally as well as throughout the state. This presents the possibility of developing markets and remanufacturing facilities for these materials locally and throughout California with an untold potential to create new businesses and jobs. Keeping these raw materials local would also help reduce development of GHGs from shipping materials overseas. These changes to the recycling market provide opportunities for partnerships with businesses, the community, and other entities to explore best uses of innovative and smart technologies to significantly reuse these materials.

8,680

Annual Potential of
Resources Diverted
from Landfill in Tons

18,759

Estimated Reduction
in GHG Emissions
MTCO₂





Current City Actions, Programs, and Operations to Promote and Support the Recycling Industry

- The City, in cooperation with the State of California, works to attract new businesses to fortify the manufacturing industry to develop raw materials for remanufacturing from collected recyclables.
- The City plays a leadership role in the State's Recycling Market Development Zone Program, which offers low-interest loans and technical assistance to businesses that divert materials from landfill disposal to create recycled-content products or materials.

Planned Future Actions

Promote opportunities with GO-Biz, tax credits for materials recycling equipment, the California Alternative Energy and Advanced Transportation Financing Authority (CAEATFA), local jurisdictions and regional programs, and implement new activities with the Recycling Market Development Zone Program to attract industry and businesses that create feedstock materials and new products from recycled content.

Action 4.1: Short-Term.

Collaborate with local jurisdictions and regional economic councils, specifically the South County Economic Development Council and the East County Economic Development Council, to create partnerships to promote, attract, and locate materials recycling businesses in Chula Vista and South County. *(Start Q1 2022)*

Action 4.2: Medium-Term.

Facilitate three Recycling Market Development Zone loans for development of the recycling market or materials management facilities in the South Bay region. *(Start Q1 2022)*

The City will coordinate with Republic Services, the City's franchise hauler for solid waste, organics and recyclables, to implement a viable solution to expand uses for resources disposed at the Otay Landfill per the Amended and Restated Otay Landfill Expansion Agreement.

Action 4.3: Long-Term.

Research and develop a Resource Recovery Facility at the Otay Landfill to divert up to 90% of solid and organic wastes from the landfill by employing reuse, repair, recycling, and composting technologies. This facility would serve as a hub for resource recovery and reuse of materials with an educational component for businesses and residents. *(Start Q1 2024)*



Task 5 –
**Improve Education in Trash
and Recycling Programs to
Reduce Contamination and
Increase Diversion**

According to the U.S. EPA, recycling not only reduces the amount of waste sent to landfills and conserves natural resources, it also prevents pollution by reducing the need to collect new raw material for manufacturing, while reducing GHGs. Recycling also helps create new, well-paying jobs in the recycling and manufacturing industries in the United States.

Educational actions will employ innovative communication methods to reach the residential and business communities to help enact behavior changes to improve trash and recycling operations.

10,000

Annual
Potential of
Resources
Diverted from
Landfill in
Tons

17,124

Estimated
Reduction
in GHG
Emissions
MTCO₂

Current City Actions, Programs, and Operations to Promote and Support the Recycling Industry

- City programs educate single family and multi-family residents and businesses to divert recyclable materials from landfill disposal via printed media, social media, and direct in-person education.
- Businesses are offered on-site assistance from the City to evaluate waste streams, provide best management practices, and work with Republic Services to “right-size” trash and recycling collection services. Printed media, offered in both English and Spanish, is provided to business operators for employee education.
- The City conducts detailed multi-visit trash and recycling audits of businesses to help “right-size” trash and recycling practices and to address compliance with state laws.
- The City offers a program to further facilitate recycling by providing in-house recycling containers of various sizes and applications at no cost to Chula Vista businesses and organizations. To receive this benefit, business operators simply complete a brief online application in which they agree to a site visit from staff to deliver the containers and receive valuable education and signage to encourage successful implementation. Recycling containers are offered and funded courtesy of the California Redemption Value program.





Planned Future Actions

The City will partner with local organizations, academia, and business leaders to help create a “Recycle Right” vision for the City. This action would focus on diverting and preventing valuable resources from ending up in the landfill, while demonstrating how these efforts help to slow climate change.

Key to implementing this vision is combating the urgent issue of increased contamination of recycling content in Chula Vista.

This includes informing and educating businesses and single family and multi-family residents of the stricter rules posed by recycled material importers requiring clean recycled content. This refers to materials processed by companies that find buyers for Chula Vista-originated recyclables.

Action 5.1: Short-Term.

Develop innovative ways to reach businesses and residents in Chula Vista. This will include conducting a multi-year, multi-faceted “Recycle Right” information campaign. The campaign will resonate and elicit behavior change throughout the City by stressing that proper recycling techniques and waste reduction actions are ingrained in our way of life. The campaign will feature simplified “Easy as 1-2-3” and “Recycle Right” campaign messages that clearly specify what items are recycled and placed in recycling bins. Messages will include “Keep it Clean,” “Scrape or Wipe,” “Keep It Loose,” and “No Plastic Bags in Recycling Bins.”

(Start Q2 2022)

Action 5.2: Short-Term.

Complement the multi-year “Recycle Right” information campaign with annual updating of the City’s CLEAN website recycling pages with recycling FAQs and City-produced and industry-available videos to reinforce and emphasize behavior change needed for proper recycling. *(Start Q2 2022)*

Based on data obtained from the multi-visit trash and recycling audits, continue this effort to cover the remainder of Chula Vista businesses.

Action 5.3: Short-Term.

Conduct multiple on-site audits to educate 1,500 businesses annually on proper recycling and trash disposal and right-sizing service levels. Encourage and assist businesses to develop “in-house” waste disposal and recycling plans to help each establishment determine how much waste is generated by their operations. This audit effort will be modified to support Task 6 to reduce and divert organic materials from landfills. *(Start Q1 2022)*

Task 6 – Keep Organic Materials Out of Landfills



49,240

Annual
Potential of
Resources
Diverted from
Landfill in
Tons

67,234

Estimated
Reduction
in GHG
Emissions
MTCO₂

Organic materials – composed of yard trimmings, food scraps, untreated wood waste, paper and paperboard products – are valuable resources that, when processed correctly, produce compost.

Currently, organics are the largest component of the City’s trash representing approximately 44% of the waste stream. This finding is reaffirmed by the statewide study commissioned by CalRecycle in 2014 and by the 2016 Waste Characterization Study, which analyzed waste from Chula Vista homes and businesses sent to the Otay Landfill. When buried in a landfill, organic materials decompose by generating methane, a greenhouse gas that is 84 times more harmful than carbon dioxide, according to CalRecycle. The U.S. EPA estimates that 25% of the methane generated in a landfill with gas capturing systems still escapes into our atmosphere.

The State of California passed Senate Bill 1383 (Lara, 2016) in an effort to reduce methane. By implementing this legislation through regulations adopted in 2018, the state sets a goal to achieve by 2020 a 50% reduction in the level of statewide disposal of organic waste from the 2014 level, and by 2025 a 75% reduction from the 2014 level. The City will work with local organizations, academia, nonprofit entities, and industry to utilize innovative technologies to help meet these goals.

Current City Actions, Programs, and Operations to Reduce and Divert Organic Materials from Landfills

– Since the early 1990s, the City of Chula Vista has implemented a yard waste (leaves, branches, grasses, etc.) collection program for all residents and businesses.

– In 2004, the City implemented a Backyard Composting program with two key components. It features one-hour weekly compost training workshops on Sundays at the Living Coast Discovery Center. Through February 2020, 1,201 people have participated in this on-site training. Virtual composting workshops for residents are also conducted to learn from home and 88 people participated in the last four months of 2020.

Also, a seven-week Master Composter Training course conducted twice per year provides in-depth education and training to residents demonstrating composting steps to process organics. Through February 2020, two courses per year (averaging 25 participants) have been conducted and 452 people have been trained. Virtual training was established during fall 2020 and 20 people attended. Compost produced by residents is used as soil amendment in yards and gardens. Reduced cost compost bins are available to program participants from Chula Vista. This program also assists the City's efforts to educate residents about future food waste collection programs.

- The City conducts NatureScape workshops to educate residents about the benefits of composting and natural yard care to help reduce and divert yard wastes from landfill disposal.
- City programs educate residents and businesses focusing on the importance of diverting organic materials from landfill disposal and preventing contamination of collected organics with non-accepted items such as plastics, treated or painted wood, and non-organic recyclables. Education efforts are ongoing and conducted via printed media and targeted mailings, social media, and in-person education opportunities at public events.
- In 2015, the City, in partnership with Republic Services, initiated a commercial and residential food waste collection pilot program to begin the planning efforts for a future citywide program to decrease organics disposal in the landfill.

— In January 2018, the Environmental Services section of the Office of Sustainability began monthly Food Recovery Group meetings to improve and expand food recovery efforts in the City. Over 30 people representing ten food distribution agencies have collaborated and provided valuable input that will continue to advance recovery efforts. These efforts are combating the suffering of one in eight Americans that are food insecure and struggle to put enough food on their tables.

— The City works with local businesses to identify donation sources and create relationships for participation in local food rescue programs to address regional food insecurity.



— The City works with all businesses and residents on collection service requirements, contamination standards, and overall compliance with SB 1383, a wide-ranging law that aims to reduce disposal of organics in landfills.

Planned Future Actions



Develop an organic waste recovery and management program to capture the organic waste present in Chula Vista’s current waste stream.

Action 6.1: Short-Term.

Implement a fully operational program for compliance with SB 1383. *(Start Q1 2022)*

Action 6.2: Short-Term.

Staff will work with Chula Vista residents and businesses to implement services and develop a strong public outreach, education, and participation program to fulfill requirements of SB 1383 by all organic waste generators. *(Start Q1 2022)*

Monitoring at local businesses and multi-family properties will be enhanced utilizing education as a first approach for compliance to avoid potential penalties.

Action 6.3: Short-Term.

Monitor all organic waste generators for compliance with state organic waste diversion laws. Utilize innovative smart technologies and software to enhance and increase efficiency for data collection and analysis for compliance reporting. *(Start Q4 2022)*

Increase the diversion of yard waste organic materials and create more compost on residential (backyard composting) and commercial production levels.

Action 6.4: Short-Term.

Increase education and awareness for residents to understand the benefits of composting by conducting one additional seven-week Master Composter Workshop each year to train 30 or more people on backyard composting. *(Start Q3 2022)*

Action 6.5: Short-Term.

Develop other compost-focused educational activities at various locations throughout the City with up to two opportunities each year. *(Start Q2 2022)*

Action 6.6: Short-Term.

Conduct two NatureScape Workshops per year and include a component on the benefits of composting. *(Start Q2 2022)*

Action 6.7: Short-Term.

Work with Republic Services, the Otay Landfill Operator to develop compost markets in the region to increase compost production and distribution. *(Start Q1 2024)*

Action 6.8: Short-Term.

Work with local nonprofit organizations to initiate a residential gleaning program. Excess fruit and vegetables could be picked through a coordinated effort from residents’ properties for local distribution to those in need. *(Start Q1 2023)*

Action 6.9: Medium-Term.

Identify and evaluate technologically advanced solutions like anaerobic digestion facilities and traditional composting methods to manage high solids organic waste like landscape waste. *(Start Q1 2024)*



CONCLUSION

The implementation framework provided in this Zero Waste Plan for the City of Chula Vista is a guide for City staff and community partners to follow in addition to the direction proposed in the Climate Action Plan (latest version approved by the City Council in 2017). This Plan outlines a solid strategy and direction focused on six key tasks that include specific short-term, medium-term and long-term actions to reduce, reuse, and recycle materials that would otherwise be sent to the Otay Landfill.

These actions will lessen environmental impacts and reduce the amount of GHGs entering the atmosphere, resulting in a cleaner environment and healthier communities. By redefining “waste” as valuable “resources” to be reused instead of thrown away in the landfill, the City is helping to change the mindset of Chula Vista residents and businesses and spur economic activity.

The City of Chula Vista is committed to working with residents, businesses, nonprofits, educational and community organizations, as well as other City partners and regional entities to accomplish the Zero Waste Plan goals, with the key goal of reaching a 90% waste diversion rate by 2035.

Our progress toward each milestone to accomplish this 2035 goal will require a unifying effort to address current and new concerns in waste management facing the state, region, and City. Solutions to issues like fluctuations in domestic and international recycling markets, increased amounts of trash production in our state, the reduction in recyclables being diverted from trash, and new laws that disallow organic matter from reaching local landfills will continue to challenge the City to adapt and find new approaches.

Addressing the multitude of concerns and challenges will require collaboration, input and support from the Chula Vista community. Experience gained from previous shifts in law and environmental programs will help Chula Vista face these new challenges and overcome them. It is anticipated that the City will expand on strategies in this Zero Waste Plan and utilize enhanced communication, while developing additional ideas that incorporate use of innovative and smart technologies.

Implementation of this Zero Waste Plan will include the City's commitment and efforts toward inclusion and social equity. The City will remain engaged with stakeholders as all phases of the Zero Waste Plan are implemented to ensure the City's actions are an expression of the interests of all segments of the Chula Vista community.



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Appendix A – Summary of Future Planned Actions

*Future Planned Actions are categorized as **short-term** (3-5 years to completion), **medium-term** (6-10 years to completion), or **long-term** (11-14 years to completion) which refers to the commencement and timeframe for implementation and completion of carefully planned and prescribed initial efforts becoming operational. After five years a reevaluation will be conducted to determine the validity of the actions in the Zero Waste Plan. Actions could be discontinued or revised. The Zero Waste Plan will be flexible allowing for development of new, innovative actions. For complete details of the Zero Waste Plan Strategies and Actions, please consult the full write-up.*

Task 1. **Page 28**

Promote and Support Source Reduction and Reuse

Source reduction means stopping the creation of waste at the outset through activities designed to reduce the volume, mass, or toxicity of products. Upstream reuse of suitable materials is a key activity to achieve reduction goals. Source reduction and reuse saves resources and lessens money spent for obtaining new raw materials. Opportunities to employ innovative technologies to support this effort will be explored.

Current Actions, Programs and Operations **Page 28**

Action 1.1: Short-Term. **Page 30**

Conduct two additional Fix-It clinics for a total of four throughout the calendar year. *(Start Q2 2022)*

Action 1.2: Short-Term. **Page 30**

Prepare and distribute a mass mailer once per year.

Use other communication tools including a webinar, quarterly social media posts, and two newsletter articles to reach 85,000+ Chula Vista homes on the benefits of reuse and repair. Conduct surveys to evaluate results. *(Start Q2 2022)*

Action 1.3: Short-Term. **Page 31**

Work with 10 retail stores and other businesses annually to reuse and repurpose items that are routinely discarded. Support existing networks using mailers, press announcements, webinars, and social media to create awareness and encourage behavior change that will increase items donated from businesses that are listed for creative reuse (also known as upcycling or repurposing) and accessed by organizations, artists, crafters, teachers, and individuals to obtain reusable items. *(Start Q2 2022)*

Action 1.4: Short-Term. **Page 32**

Arrange and conduct exchange events with exchange network participants where artist and other communities can obtain discarded materials. Conduct two events per year similarly to Fix-It clinics and as a component of City events including South Bay Earth Day and other publicly held mass attendance events (Harbor Fest or similar) throughout the year. *(Start Q3 2023)*

Action 1.5: Short-Term. **Page 32**

Prepare and conduct information campaigns twice per year to encourage collection and distribution of discarded materials to support these exchange networks. *(Start Q3 2023)*

Action 1.6: Short-Term. **Page 32**

Prepare and disseminate quarterly messaging via Office of Sustainability social media platforms to complement the discarded materials exchange networks information

campaigns. The information that is shared will provide updated data regarding materials and items available for reuse. Key platforms could include Craigslist, Facebook (Materials Exchange Groups), Twitter, Instagram, Nextdoor, Nixle and others. *(Start Q3 2022)*

Action 1.7: Short-Term. Page 32

Collaborate with and inspire the Chula Vista Elementary and Sweetwater Union High School Districts to encourage all middle and high schools to create an “Eco-friendly Vintage Clothing Exchange” at their schools. Exchanges would include “Uniform Swap Day” and “Vintage Clothing Day” events where clothes could be displayed and traded at no cost or sold for nominal, below-market prices. *(Start Q2 2022)*

Action 1.8: Short-Term. Page 32

Collaborate with Sweetwater Union High School District to encourage and provide innovative approaches and guidance to high schools to expand on the established Princess Project during spring that provides prom dresses for girls and include dress clothes (tuxedos and suits) for boys. In the fall, encourage a similar exchange of Halloween costumes at K-6, middle, and high schools throughout Chula Vista. *(Start Q2 2022)*

Action 1.9: Short-Term. Page 33

To further encourage clothing reuse, create a mechanism for having unsold clothes from weekly garage sales throughout the City be donated to local reuse stores. For communities that hold “community garage sales” offer this mechanism to handle unsold clothes. Conduct outreach to reuse businesses to engage their support and participation. Work with local Chula Vista stores to gauge increases in donation volume to evaluate this effort. *(Start Q1 2023)*

Action 1.10: Short-Term. Page 33

Complete set up of the Reuse Program store (convert existing storage shed) at the City’s HHW Facility for household cleaning products and paints and begin store operations. Track types and quantities of reusable products issued to residents through the Reuse Program. *(Start Q2 2022)*

Action 1.11: Short-Term. Page 34

Promote the availability of the Reuse Program through the City’s CLEAN website and an annual information campaign to residents and HHW users. Track number of visits to the website to determine outreach results. *(Start Q2 2022)*

Action 1.12: Short-Term. Page 34

Complete development of the ordinance to disallow single-use plastic products and include opportunities from businesses, interest groups and the residents to provide public comment and support prior to City Council approval. *(Start Q2 2022)*

Action 1.13: Short-Term. Page 34

Develop an implementation plan for the ordinance and begin implementation in 2023. This will include an educational component for restaurants and other businesses. *(Start Q2 2022)*

Task 2. Page 35

Reduce the Use of Toxic Materials

Reducing the use of toxic chemicals can reduce the risk of adverse health and environmental effects, in addition to creating economic advantages such as reductions in costs of raw materials and waste disposal.

Action 2.1: Short-Term. Page 38

Complete an annual communication campaign to Chula Vista residents on toxic reduction efforts that includes educational social media posts to reinforce campaign messages and informs the community about “Toxic Free Day.” Conduct surveys to evaluate results. *(Start Q1 2023)*

Action 2.2: Short-Term. Page 38

Place QR codes on all printed educational materials (flyers, brochures, fact sheets, signage) covering sustainability and Zero Waste to direct users to specific pages on the Chula Vista CLEAN website. *(Start Q1 2022)*

Action 2.3: Medium-Term. Page 38

Increase collection of properly disposed toxic materials each year at the HHW facility and other take back events with a goal of up to 14 additional tons a year. *(Start Q1 2022)*

Task 3. Page 39**Promote and Educate on Zero Waste Principles**

The key is to create a community of “Zero Waste Champions” including children, residents, business leaders, city staff, elected officials, and other interested parties. A more inclusive Zero Waste marketing program throughout Chula Vista will have to reach all corners of the community so it permeates all aspects of life, including new community development, commerce, and government.

Current Actions, Programs and Operations Page 39**Action 3.1: Short-Term. Page 40**

Conduct four additional Zero Waste Workshops annually as separate events (live or virtual) or incorporate into larger city events. Simultaneously, conduct similar classes (live and virtual) at City libraries. *(Start Q3 2022)*

Action 3.2: Short-Term. Page 41

Collaborate directly with five schools in the Sweetwater Union High School and Chula Vista Elementary School District schools to offer waste reduction education sessions. Utilize current, reliable information from educational sources specific to educating children on sustainability. *(Start Q4 2022)*

Action 3.3: Short-Term. Page 41

For schools with Eco-Clubs/Groups, coordinate with Group Leaders, to conduct an annual summit workshop during Earth Month (in April) to further educate on Zero Waste principles, actions, and learning opportunities and support school’s Green Week activities. *(Start Q4 2022)*

Action 3.4: Short-Term. Page 41

Develop specific messaging on Zero Waste strategies that staff can use when communicating with residents, businesses, and other City departments to help educate and change behaviors. This would include educational information on use of virgin and recycled materials to produce consumer products. Update messaging annually to include more practices. *(Start Q2 2022)*

Action 3.5: Short-Term. *Page 42*

Establish a network of 30 volunteers to serve as “sorter associates or liaisons” at four City events annually. Provide students (middle, high school, college) and other interested community members, including Master Composter Program participants, with training opportunities for participation to fulfill community service requirements. *(Start Q4 2022)*

Action 3.6: Short-Term. *Page 42*

Annually provide a robust and comprehensive list of Zero Waste websites available on a dedicated Zero Waste webpage on the City’s CLEAN website to expand the educational opportunities for Chula Vista residents, businesses, schools, and other interested parties. *(Start Q2 2022)*

Action 3.7: Short-Term. *Page 42*

Initiate the Zero Waste Business Certification Program, as an addendum to the CLEAN Business Program. It will recognize businesses that go above and beyond in reducing their waste stream. *(Start Q2 2022)*

Action 3.8: Short-Term. *Page 42*

Develop Zero Waste educational information for Chula Vista Zero Waste Champion education and recognition program covering waste reduction, effective recycling, proper household hazardous waste disposal, reducing or eliminating the use of toxic products, food waste prevention, and composting at home. *(Start Q3 2022).*

Action 3.9: Short-Term. *Page 42*

Annually recognize a unique “Zero Waste Champion” as part of the Sustainability Commission’s CLEAN Sustainability Champion Awards. Other

public acknowledgements will also be conducted. *(Start Q1 2023)*

Action 3.10: Short-Term. *Page 42*

Create Zero Waste guidelines for building deconstruction. *(Start Q1 2022)*

Task 4. *Page 43***Support the Recycling Industry as an Innovative Engine for Economic Development**

The changes to the recycling market provide opportunities for partnerships with businesses, the community, and other entities to explore best uses of innovative and smart technologies to significantly reuse these materials. This presents the possibility of developing markets and remanufacturing facilities for these materials locally and throughout California and an untold potential to create new businesses and jobs. By keeping these raw materials local, the actions in this task will also help reduce development of GHGs from shipping materials overseas.

Current Actions, Programs and Operations *Page 44*

Action 4.1: Short-Term. *Page 44*

Collaborate with local jurisdictions and regional economic councils, specifically the South County Economic Development Council and the East County Economic Development Council, to create partnerships to promote, attract, and locate materials recycling businesses in Chula Vista and South County. *(Start Q1 2022).*

Action 4.2: Medium-Term. *Page 44*

Facilitate three Recycling Market Development Zone loans for development of the recycling market or materials management facilities in the South Bay region. *(Start Q1 2022)*

Action 4.3: Long-Term. *Page 44*

Research and develop a Resource Recovery Facility at the Otay Landfill to divert up to 90% of solid and organic wastes from the landfill by employing reuse, repair, recycling, and composting technologies. This facility would serve as a hub for resource recovery and reuse of materials with an educational component for businesses and residents. *(Start Q1 2024)*

Task 5. *Page 45*

Improve Education in Trash and Recycling Programs to Reduce Contamination and Increase Diversion

According to the U.S. EPA, recycling not only reduces the amount of waste sent to landfills and conserves natural resources, it also prevents pollution by reducing the need to collect new raw material for manufacturing and reduces GHGs. Recycling also helps create new, well-paying jobs in the recycling and manufacturing industries in the United States. Educational actions will include innovative communication methods to reach the residential and business communities to help enact behavioral changes to improve trash and recycling operations.

Current Actions, Programs and Operations *Page 46***Action 5.1: Short-Term.** *Page 47*

Develop innovative ways to reach businesses and residents in Chula Vista. This will include conducting a multi-year, multi-faceted “Recycle Right” information campaign. The campaign will resonate and elicit behavior change throughout the City by stressing that proper recycling techniques and waste reduction actions are ingrained in our way of life. The campaign will feature simplified “Easy as 1-2-3” and “Recycle Right” campaign messages that clearly specify what items are recycled and placed in recycling bins. Messages will include “Keep it Clean,” “Scrape or Wipe,” “Keep It Loose,” and “No Plastic Bags in Recycling Bins.” *(Start Q2 2022)*

Action 5.2: Short-Term. *Page 47*

Complement the multi-year “Recycle Right” information campaign with annual updating of the City’s CLEAN website recycling pages with recycling FAQs and City-produced and industry-available videos to reinforce and emphasize behavior change needed for proper recycling. *(Start Q2 2022)*

Action 5.3: Short-Term. *Page 47*

Conduct multiple on-site audits to educate 1,500 businesses annually on proper recycling and trash disposal and right-sizing service levels. Encourage and assist businesses to develop “in-house” waste disposal and recycling plans to help each establishment determine how much waste is generated by their operations. This audit effort will be modified to support Task 6 to reduce and divert organic materials from landfills. *(Start Q1 2022)*

Task 6. *Page 48***Keep Organic Materials Out of Landfills**

Currently, organics are the largest component of the City's trash representing approximately 44 percent of the waste stream. A statewide study commissioned by CalRecycle in 2014 and the 2016 Waste Characterization Study of waste from Chula Vista homes and businesses sent to the Otay Landfill reaffirms this finding. The City's implementation of California Senate Bill 1383 (SB 1383) to divert organic waste from the landfill is a key component of Task 6.

Current Actions, Programs and Operations Page 48

Action 6.1: Short-Term. *Page 50*

Implement a fully operational program for compliance with SB 1383. *(Start Q1 2022)*

Action 6.2: Short-Term. *Page 50*

The City will work with Chula Vista residents and businesses to implement services and develop a strong public outreach, education, and participation program to fulfill requirements of SB 1383 by all organic waste generators. *(Start Q1 2022)*

Action 6.3: Short-Term. *Page 50*

Monitor all organic waste generators for compliance with state organic waste diversion laws. Utilize innovative smart technologies and software to enhance and increase efficiency for data collection and analysis for compliance reporting. *(Start Q4 2022)*

Action 6.4: Short-Term. *Page 50*

Increase education and awareness for residents to understand the benefits of composting by conducting one additional seven-week Master Composter Workshop each year to train 30 or more people on backyard composting. *(Start Q3 2022)*

Action 6.5: Short-Term. *Page 50*

Develop other compost-focused educational activities at various locations throughout the City with up to two opportunities each year. *(Start Q2 2022)*

Action 6.6: Short-Term. *Page 50*

Conduct two NatureScape Workshops per year and include a component on the benefits of composting. *(Start Q2 2022)*

Action 6.7: Short-Term. *Page 50*

Work with Republic Services, the Otay Landfill Operator to develop compost markets in the region to increase compost production and distribution. *(Start Q1 2024)*

Action 6.8: Short-Term. *Page 50*

Work with local nonprofit organizations to initiate a residential gleaning program. Excess fruit and vegetables could be picked through a coordinated effort from residents' properties for local distribution to those in need. *(Start Q1 2023)*

Action 6.9: Medium-Term. *Page 50*

Identify and evaluate technologically advanced solutions like anaerobic digestion facilities and traditional composting methods to manage high solids organic waste like landscape waste. *(Start Q1 2024)*



Acknowledgements – Collaborative Engagement

The City of Chula Vista's Office of Sustainability prepared the Zero Waste Plan.

The City would like to celebrate and acknowledge those who advised and provided input.

- Technical support from R3 Consulting Group Inc. and Rick Anthony Associates
- Chula Vista Sustainability Commission
- Community feedback from residents, businesses and other community members provided during virtual presentations and via online public comments.

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