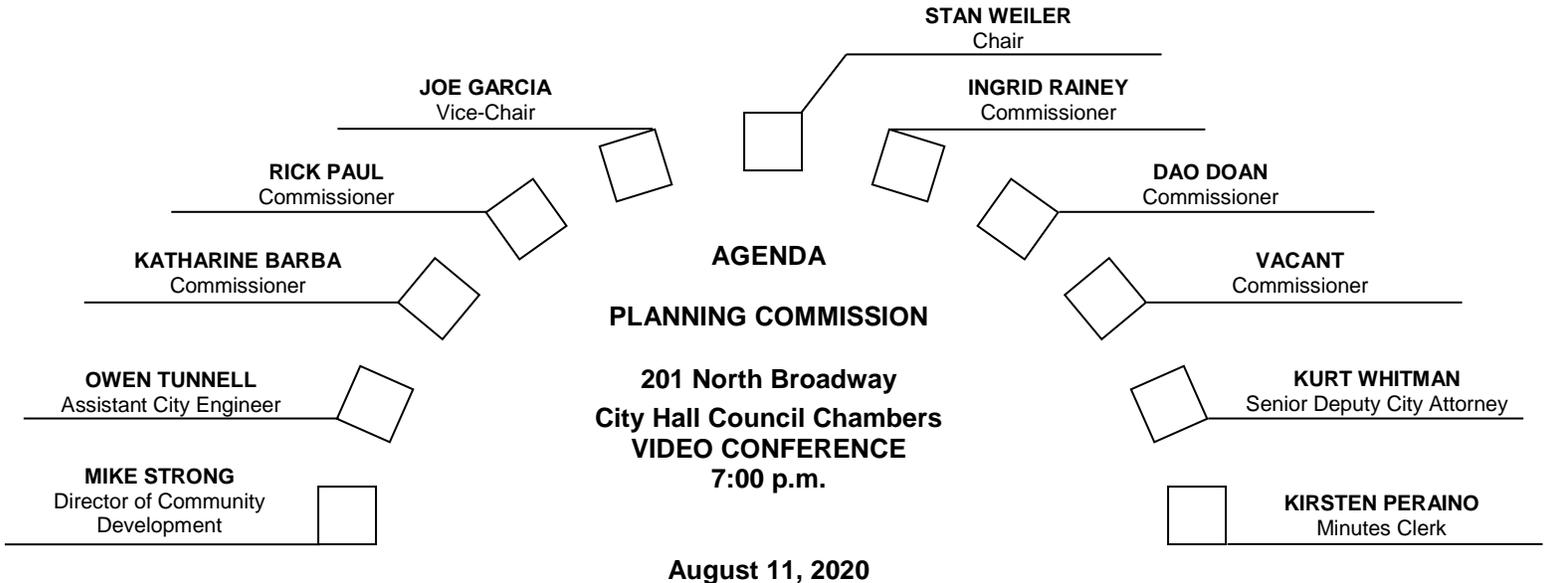


CITY OF ESCONDIDO

Planning Commission and Staff Seating



- A. **CALL TO ORDER:** 7:00 p.m.
- B. **FLAG SALUTE**
- C. **ROLL CALL:**
- D. **MINUTES:** [07/28/20](#)

The Brown Act provides an opportunity for members of the public to directly address the Planning Commission on any item of interest to the public before or during the Planning Commission's consideration of the item.

Pursuant to Governor Newsom's Executive Orders, including N-25-20 and N-29-20: Certain Brown Act requirements for the holding of a public meeting have been temporarily suspended and members of the Zoning Administrator and staff will participate in this meeting via teleconference. In the interest of reducing the spread of COVID-19, members of the public are encouraged to submit their agenda and non-agenda comments online at the following link <https://www.escondido.org/public-comment-form.aspx>. Council Chambers will be closed, no public allowed.

Public Comment: To submit comments in writing, please do so at the following link: <https://www.escondido.org/public-comment-form.aspx>. If you would like to have the comment read out loud at the meeting (not to exceed three minutes), please write "Read Out Loud" in the subject line. All comments received from the public will be made a part of the record of the meeting. The meeting will be available for viewing via public television on Cox Communications Channel 19 (Escondido only). The meeting will also be live streamed online at the following link: <https://www.escondido.org/> and click on the graphic showing "live stream - meeting in progress".

Availability of supplemental materials after agenda posting: any supplemental writings or documents provided to the Planning Commission regarding any item on this agenda will be made available for public inspection in the Planning Division located at 201 N. Broadway during normal business hours, or in the Council Chambers while the meeting is in session.

The City of Escondido recognizes its obligation to provide equal access to public services for individuals with disabilities. Please contact the A.D.A. Coordinator, (760) 839-4643 with any requests for reasonable accommodation at least 24 hours prior to the meeting.

**The Planning Division is the coordinating division for the Planning Commission.
For information, call (760) 839-4671.**

E. WRITTEN COMMUNICATIONS:

"Under State law, all items under Written Communications can have no action, and will be referred to the staff for administrative action or scheduled on a subsequent agenda."

1. Future Neighborhood Meetings

F. ORAL COMMUNICATIONS:

"Under State law, all items under Oral Communications can have no action, and may be referred to the staff for administrative action or scheduled on a subsequent agenda."

This is the opportunity for members of the public to address the Commission on any item of business within the jurisdiction of the Commission.

G. PUBLIC HEARINGS:

Please try to limit your testimony to 3 minutes.

H. CURRENT BUSINESS:

Note: Current Business items are those which under state law and local ordinances do not require either public notice or public hearings. Public comments will be limited to a maximum time of three minutes per person.

1. Climate Action Plan Update

Provide background and status update for the on-going Climate Action Plan.

I. ORAL COMMUNICATIONS:

"Under State law, all items under Oral Communications can have no action and may be referred to staff for administrative action or scheduled on a subsequent agenda."

This is the opportunity for members of the public to address the Commission on any item of business within the jurisdiction of the Commission.

J. PLANNING COMMISSIONERS

K. ADJOURNMENT

CITY OF ESCONDIDO

**ACTION MINUTES OF THE REGULAR MEETING OF THE
ESCONDIDO PLANNING COMMISSION
Video Conference**

July 28, 2020

The meeting of the Escondido Planning Commission was called to order at 7:00 p.m. by Chair Weiler, in the City Council Chambers, 201 North Broadway, Escondido, California.

Commissioners present: Stan Weiler, Chair; Joe Garcia, Vice-Chair; Katharine Barba, Commissioner; Dao Doan, Commissioner; Rick Paul, Commissioner; and Ingrid Rainey, Commissioner. 1 Vacancy

Commissioners absent: – None.

Staff present: Mike Strong, Director of Community Development; Kurt Whitman, Senior Deputy City Attorney; Owen Tunnell, Assistant City Engineer; Adam Finestone, Principal Planner; and Kirsten Peraino, Minutes Clerk.

MINUTES:

Moved by Commissioner Barba and seconded by Vice-Chair Garcia to approve the Action Minutes of the July 14, 2020 Planning Commission meeting. Motion carried unanimously. (6-0; one vacancy)

WRITTEN COMMUNICATIONS: – Received.

FUTURE NEIGHBORHOOD MEETINGS: – None.

ORAL COMMUNICATIONS: – None.

PUBLIC HEARINGS:

CURRENT BUSINESS:

1. Climate Action Plan Update

Provide background and status update for the on-going Climate Action Plan.

Information was provided and the Commissioners discussed various aspects of the project.

COMMISSION ACTION: None taken, information only

2. California Environmental Quality Act (CEQA) and Environmental Impact Report Overview

Provide information and overview to the Commission regarding the California Environmental Quality Act.

Information was provided on the California Environmental Quality Act (CEQA).

COMMISSION ACTION: None taken, information only

ORAL COMMUNICATIONS: – None.

PLANNING COMMISSIONERS:

ADJOURNMENT: Chair Weiler adjourned the meeting at 8:23 p.m. The next regularly scheduled Planning Commission meeting will be held at 7:00 p.m. on Tuesday, August 11, 2020, in the City Council Chambers via video conference, 201 North Broadway Escondido, California.

Mike Strong, Secretary to the
Escondido Planning Commission

Kirsten Peraino, Minutes Clerk

PROJECT NUMBER / NAME: PHG 18-0009 / Climate Action Plan Update

REQUEST: Receive and file report.

LOCATION: Citywide

APPLICANT: City of Escondido

APN / APNS: N/A

PRIMARY

REPRESENTATIVE: Planning Division

GENERAL PLAN / ZONING:

N/A

DISCRETIONARY ACTIONS REQUESTED: N/A

PREVIOUS ACTIONS: Previous informational presentations to the Planning Commission as described in the staff report.

PROJECT STAFF: Mike Strong, Director of Community Development
mstrong@escondido.org

CEQA RECOMMENDATION: The City of Escondido, as the lead agency, has prepared a draft Initial Study/Mitigated Negative Declaration ("IS/MND" (SCH No. 2020079003)) for the project. The review and comment period ended on July 31, 2020. City staff is currently reviewing comments, preparing responses, and preparing the Final IS/MND. Written communications and technical information obtained during the course of the work program will be utilized in finalizing the IS/MND.

STAFF RECOMMENDATION: Receive and file report.

REQUESTED ACTION: None.

CITY COUNCIL HEARING REQUIRED: YES NO

REPORT APPROVALS: Mike Strong, Director of Community Development

BACKGROUND:

In 2013, the City of Escondido adopted a CAP as a pathway toward creating a more sustainable, healthy, and livable community. The strategies outlined in the CAP were to not only reduce greenhouse gas emissions, but also to provide energy, fuel, water, and monetary savings to residents, businesses, and other community members – while improving the quality of life in Escondido. Although the City of Escondido was one of the first group of cities to prepare and adopt a CAP in the San Diego region, a lot has changed since then and the City’s CAP needs to be amended.

The City recently initiated an effort to update the CAP, with the objective of recommending updated strategies and programs to ensure compliance with updated state policies and regulations. On June 20, 2018, the City Council considered and endorsed a Public Participation Plan (“Outreach Plan”) and associated timeline to involve the community in the first phase of outreach. This outreach plan summarizes the strategies that the project management team will use to engage the public and other interested parties in the work effort. Among other things, the proposed work plan and schedule proposes a series of meetings with the Planning Commission to discuss different aspects and components related to the CAP update. It is important to note that the Planning Commission review schedule has changed during the course of developing the work program – and the schedule will continue to change based on evolving needs and/or Planning Commission direction. The current status of the “review meetings” schedule is reflected below, in Table 1.

Table 1: Planning Commission Review Schedule

Meeting No.	Topic Or Discussion Item Covered	Milestone or Target Date
1	General overview about the process and public engagement	May 8, 2018
2	Review of Phase 1 outreach materials and workshop format	July 10, 2018
3	Presentation on greenhouse gas emission inventory and forecasts	August 28, 2018
4	Informational meeting on Phase 1 outreach results	November 27, 2018
5	Draft CAP presentation	July 28, 2020
6	CEQA significance thresholds discussion	August 11, 2020
---	Additional work sessions	<i>tbd</i>
---	Planning Commission public hearing and recommendation to City Council	<i>tbd</i>

The study session format will provide the Commission with an opportunity to learn more about the project, hear from various residents and stakeholders, and to discuss preliminary issues/concerns. As mentioned in previous meetings with the Planning Commission relative to the CAP update, attachments to the Staff Report will be the basis of the discussion and will be provided to facilitate each meeting. The purpose of this sixth work session is to provide an

overview of how future project will be able to demonstrate consistency with the CAP (CEQA Screening Thresholds) and to finalize the remaining work session schedule.

CEQA Screening Threshold:

The goal of the work program is to adopt a CAP that outlines actions that the city will undertake to achieve its proportional share of state greenhouse gas (“GHG”) emissions reductions. By meeting the projected 2035 targets, the City will be able to meet the 2030 state goal identified in Senate Bill 32 and maintain a trajectory to meet its proportional share of the 2050 state target identified in Executive Order S-3-05. Under Section 15183.5 of the CEQA Guidelines, the CAP will act as a qualified plan for the reduction of GHG emissions for use in cumulative impact analysis pertaining to development projects. The Checklist approach discussed herein, and as provided in Attachment 1, provide a streamlined review process for the GHG emissions analysis of proposed new development projects that are subject to discretionary review and trigger environmental review pursuant to CEQA.

Pursuant to CEQA Guidelines Sections 15064(h)(3), 15130(d), and 15183(b), a project’s incremental contribution to a cumulative GHG emissions effect may be determined not to be cumulatively considerable if it complies with the requirements of the CAP. As such, new development can contribute its fair-share of GHG reductions by complying with CAP strategies, goals and actions that were determined to be applicable through the Checklist development process. Attachment 1 provides additional information about the steps for new development projects to demonstrate consistency with the CAP.

The CAP establishes a screening threshold of 500 metric tons carbon dioxide equivalent (“MTCO_{2e}”) per year for new development projects in order to determine if a project would need to demonstrate consistency with the CAP through the Consistency Checklist. Projects that are projected to emit fewer than 500 MTCO_{2e} annually would not make a considerable contribution to the cumulative impact of climate change, and therefore, do not need to demonstrate consistency with the CAP. In most cases, if the project exceeds this threshold, compliance with future implementing CAP ordinances provide the CEQA streamlining path to allow project-specific environmental documents, if eligible, to tier from and/or incorporate by reference the CAP’s programmatic review of GHG impacts in their cumulative impact analysis. However, for a proposed project that requests a land use change through a General Plan amendment, master plan/specific plan amendment, and/or zone change, a project-specific GHG emissions analysis will likely be needed as part of the discretionary permit application. If the study reveals the project to be more GHG-intensive as compared to that assumed for the existing land use designation, the project applicant would need to potentially identify additional mitigation measures to offset the increase in GHG emissions resulting from the land use change.

Remaining CAP Work Session Schedule:

CAPs are comprehensive roadmaps that outline specific activities that the City will undertake to reduce GHG emissions over the next decade or so. While City staff and the consultant team researched the latest GHG emissions reduction strategies and worked with the community to develop the draft CAP, the Planning Commission and City Council have both provided review and advice throughout the process. As of this writing, the Planning Commission has completed five informational work sessions to learn more about the project and the process in preparation of a public hearing. The August 11, 2020 meeting will mark the sixth meeting. With the release of the draft CAP and Notice of Intended Decision for the IS/MND, all content necessary to begin the decision-making process has been prepared. Once the Planning Commission has reviewed all the items a public hearing with the Planning Commission will be scheduled, environmental review will be completed, and a recommendation will be made to the City Council.

Climate change analysis can be extremely complex, as it must account for large uncertainties about future conditions and their impacts. At their August 11, 2020 meeting, City staff will facilitate an overview about the different components of the project, as well as all of the steps that got us to this point. As previously reported to the Planning Commission on August 28, 2018, and at other work sessions held since then, CAPs build upon information gathered by inventories and generally focus on those activities that can achieve the relatively greatest GHG emission reductions in the most effective manner. It includes technically driven data, as well as projections about future demand and use. As of this writing, the draft CAP includes aggressive goals and GHG reductions measures that reflect community supported solutions. The City and the consultant team developed a community engagement strategy early in the process to ensure that citizens and stakeholders participate throughout the CAP Update process. There were many project awareness and public engagement activities that occurred since the start of the planning process. Public input was utilized to develop the draft CAP. The draft CAP was released for public comment on June 25, 2020. Since then, additional input has been received (provided in Attachment 2). A majority of the comments have been provided by the Environmental Community Advisory Committee ("ECAG"). Subcommittees of the ECAG have reviewed all draft CAP chapters and provided strike-out/underline comments and recommendations. All public comments received to date have been posted on the project website.

At the August 11, 2020 Planning Commission meeting, the Planning Commission should consider the content of the draft CAP and all of the public comments received and provide direction to staff on how to move forward (and if additional work sessions are needed to learn more about the project or potentially new measures that could be added to significantly strengthen the City's ability towards achieving out GHG reduction goals). It is important to note that work session meeting(s) may be added by the Planning Commission to ensure that all commission members are comfortable with the project, the process, and the outcome of the work. Work sessions may be added as necessary to

cover topic areas already addressed in prior presentations, or to respond to new topic areas (or new ideas) not previously considered.

PUBLIC PARTICIPATION: In addition to providing public comment directly to Planning Commission and City staff, the City has developed a periodic review page that can be accessed online at the link below to help the public access key documents. Informational reports and data generated during the review will be available for the public to view online.

<https://www.escondido.org/climate-action-plan-documents.aspx>

With the release of the draft CAP and Notice of Intended Decision for the IS/MND, all content necessary to begin the decision-making process has been prepared. Steps remaining include finalizing the CAP and IS/MND after public review, along with responding to input received during the public process.

ATTACHMENTS:

- 1 Draft CAP Screening Thresholds Memo and Checklist
- 2 Recent Public Comments

ATTACHMENT 1
PLANNING COMMISSION STAFF REPORT
PHG 18-0009
(AUGUST 11, 2020)

Due to the number of pages of Attachment 1, the following links have been provided to review the documents electronically on the City's web site:

- CAP Screening Thresholds Memo

https://www.escondido.org/Data/Sites/1/media/PDFs/Planning/ClimateActionPlan/Thresholds/Escondido_ThresholdsMemo_DraftforPublicReview_2020-07-21clean.pdf

- CAP Screening Checklist

https://www.escondido.org/Data/Sites/1/media/PDFs/Planning/ClimateActionPlan/Thresholds/Escondido_CAPChecklist_DraftforPublicReview_2020-07-21clean.pdf

A hardcopy of the Attachment is available for review in the Office of the Planning Division during normal business hours. To obtain a copy, please contact the City Clerk at (760) 839-4617 or Planning Division at (760) 839-4671.

ATTACHMENT 2

Mike Strong

From: Matthew Vasilakis <matthew@climateactioncampaign.org>
Sent: Wednesday, June 24, 2020 8:34 AM
To: Paul McNamara; Consuelo Martinez; Olga Diaz; Michael Morasco; Mike Strong; Zachary Beck
Subject: [EXT] Climate Action Campaign, Public Comment Letter ECAP Agenda item #17 /June 24th 2020
Attachments: 2020-06-24 CAC Escondido CAP Letter.pdf

CAUTION : This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender email address AND know the content is safe.

Good Morning Mayor, Councilmembers and City Staff,

Please accept the attached public comment letter on behalf of Climate Action Campaign, supporting a strong Escondido Climate Action Plan, public process, and community leadership.

We will also submit this letter on the city website.

Thank you.

--
Matthew Vasilakis (he/him)
Co-Director of Policy
Climate Action Campaign
3900 Cleveland Ave. Suite 208
San Diego, CA 92103
(619)419-1222 ext. #703

www.climateactioncampaign.org
Twitter: [@sdclimateaction](https://twitter.com/sdclimateaction) / [@thoughteds](https://twitter.com/thoughteds)
Instagram: [@sdclimateaction](https://www.instagram.com/sdclimateaction)
Facebook.com/ClimateActionCampaign

Like what we do? [Support Climate Action Campaign today.](#)

Our Mission is Simple: Stop the Climate Crisis



June 24, 2020

City of Escondido
201 N. Broadway
Escondido, CA 92025

RE: Comments on Escondido Climate Action Plan Update

Dear Honorable Mayor and Councilmembers,

Climate Action Campaign is a nonprofit organization with a simple mission: to stop the climate crisis. We have played an active role in the development of every Climate Action Plan (CAP) in the region since 2015, and we release an annual [Report Card](#) evaluating the strength of cities' CAPs and best practices to implement those strategies. Throughout the process of Escondido's CAP Update, we have engaged with the City and community with recommendations for key strategies to prioritize.

As cities across the region are working toward a more climate safe and ready future, the Escondido CAP is a keystone opportunity to lead on bold climate action centered on social equity and climate justice. Escondido is in a particularly unique position to lead many of its peer cities in crafting a strong CAP that can set the pace for others in the region.

Climate Action Campaign has been an active and enthusiastic supporter of the Escondido Community Advisory Group for Environmental Impacts and Climate Action. We will continue to engage in this public process with the advisory group, city staff, and your offices to help Escondido secure a gold standard CAP.

We look forward to further partnering with you on this important initiative. Thank you for your leadership on this issue.

Sincerely,

Matthew Vasilakis
Co-Director of Policy
Climate Action Campaign
matthew@climateactioncampaign.org

Mike Strong

From: Nathan Serrato <nathan@escondidocreek.org>
Sent: Wednesday, June 24, 2020 2:34 PM
To: Paul McNamara; Consuelo Martinez; Olga Diaz; Michael Morasco
Cc: Mike Strong; Zachary Beck
Subject: [EXT] Comment letter for item #17 on June 24th Council meeting
Attachments: ECAP_Letter.pdf

CAUTION : This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender email address AND know the content is safe.

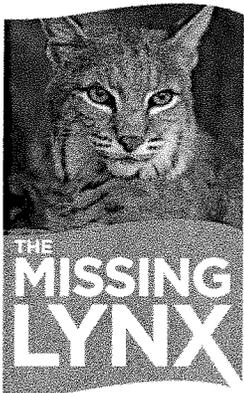
Dear Mayor and Council,

We appreciate all your hard work on the ECAP thus far as well as the open communication. Please see our comment letter attached for item #17.

Thank you,

--

Nathan Serrato
Volunteer and Marketing Manager
(760) 703-3393
120 W. Grand Ave. Suite #202
Escondido, CA 92025



Help Us Connect The Missing Lynx
www.themissinglynx.org

June 24, 2020
Mayor and City Councilmembers:
City of Escondido



RE: Item #17 regarding Escondido Climate Action Plan Update

Dear Mayor and City Councilmembers:

The Escondido Creek Conservancy (Conservancy) strongly encourages a comprehensive and competitive Climate Action Plan Update for Escondido. In earlier communications, we've expressed the importance of restoring Escondido Creek and Reidy Creek and believe the Escondido Climate Action Plan (ECAP) is a great place to begin. Restoration of these important habitats will not only allow for more carbon sequestration, but it will also help provide shade refuge for our communities, enhance and promote biking and walking along the creeks as a clean transit route, enhanced storm drainage during major weather events, and provide economic opportunity as we begin recovering jobs lost due to the COVID-19 pandemic.

The Conservancy has also expressed the importance of completing Escondido's Multiple Species Conservation Plan (MSCP). Escondido took important first steps but never completed the MSCP planning process. While we were pleased to see a measure to Adopt An Open Space Conservation plan, we hope the ECAP will aim to close the gap on the MSCP, as well as coordinate with other regional conservation efforts, such as the Multiple Habitat Conservation Plan and the San Diego Management & Monitoring Program. Part of a sustainable future requires that we recognize and protect contiguous areas of natural habitat as essential places to sequester carbon and reduce the risk of catastrophic fire events—reducing potential carbon emissions and protecting communities. Other cities and counties with completed MSCPs, MHCPs, and creek restoration initiatives have been the beneficiaries of tens of millions in special grant funds available. We urge the city to include these items in the ECAP.

We appreciate all the work that has been done in the ECAP so far and we urge you to be bold with revisions as we envision the future of Escondido. As we know from our collaboration with the Escondido Community Advisory Group for Environmental Impacts and Climate Action, there are many passionate individuals and organizations who are ready to bring the ECAP to life. Additionally, we stand ready to work with the city to help initiate and fund complementary visions. Together we can make our city a leader and a model in the fight against climate.

Sincerely,

A handwritten signature in black ink, appearing to read 'Nathan Serrato', written in a cursive style.

Nathan Serrato
Marketing & Volunteer Manager
The Escondido Creek Conservancy

Mike Strong

From: Janis <janisjones@me.com>
Sent: Saturday, August 01, 2020 12:00 PM
To: Mike Strong
Subject: [EXT] ECAP Presentation
Attachments: ECAP Waste Diversion.docx

CAUTION:This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender email address AND know the content is safe.

Dear ,

I was pleased to be invited to attend the ECAP committee meeting on July 24th and am impressed with the work that has been done to date. I am thrilled that a forward-thinking climate action plan is being developed for Escondido. Thank you for your leadership!

During the solid waste part of the presentation, Aisha and I noticed that the formatting of the table appeared to be off, and Laura asked me to send the correct version directly to you (see attached). Please take a look and let me know if you have any questions or need anything else.

In addition, we are looking forward to the opportunity to speak to the Planning Commission. We started working on a presentation specifically about plastic pollution and single-use plastic reduction policies and would like to know when we will have the opportunity to share it with them. Will you be scheduling it for us or is there someone else I should contact to get our presentation on the Planning Commission calendar? Someone mentioned that it would take place before August 25th. Either way, please let me know.

Thanks again,
Janis Jones
760-715-0578

Table 3-9 Reduce and Recycle Solid Waste

Measure S-8.1: Increase Citywide Waste Diversion.

Increase citywide waste diversion by:

- Working with the City's franchise waste hauler to prepare a waste diversion plan that identifies steps toward achieving the 2035 waste diversion goal;
- Adopting and implementing an organic waste recycling program to support regional efforts that includes a food scrap composting program and fully permitted community compost facilities;
- Adopting a composting and organic waste diversion ordinance to support at-home management of food waste; and
- Adopting and implementing a single-use plastics reduction ordinance and polystyrene ban with phased implementation.

Target Year	Performance Metric	GHG Reduction Potential (MTCO _{2e})
2020-2021	Adopt and implement a single-use plastics reduction ordinance and polystyrene ban with phased implementation beginning 2021.	
2021	Adopt and implement an organic waste recycling program.	
2021	Adopt a composting and organic waste reduction ordinance.	
2022	Full implementation of SB 1383: Universal Composting and Green Waste.	
2022	Provide infrastructure to support curbside composting for all households and businesses & build compost infrastructure to process anaerobic digester waste.	
2022	Achieve 75 percent citywide waste diversion in 2022.	
2024	Achieve 80 percent citywide waste diversion in 2025.	23,588
2026	Achieve 85 percent citywide waste diversion in 2027.	25,535
2028	Achieve 90 percent citywide waste diversion in 2030.	

Supporting Actions:

- Explore opportunities with franchise waste hauler and other local business organizations to develop and encourage participation in commercial food scrap collection program.
- Continue to participate in regional waste diversion discussions and monitor mandatory participation levels in other area construction and demolition waste diversion ordinances.
- Develop a Zero Waste Plan that
 - Prioritizes eliminating food waste
 - Includes a phased approach to reducing single-use plastics.
 - Establishes a Zero Waste Work Group as part of the Climate Commission.
 - Establishes a Zero Waste Schools Program in partnership with the School Districts located in Escondido.
 - Establishes a Zero Waste Business Program.
 - Establishes a Zero Waste Program for Escondido City offices and City sponsored events.
- Develop partnerships with community and environmental organizations to support zero waste programs, including the development of a food hub and food coop.
- Prioritize community education and outreach as implementation measures for binding city ordinances.

Table 3-9 Reduce and Recycle Solid Waste

Notes: City = City of Escondido; GHG = greenhouse gas; MTCO₂e = metric tons of carbon dioxide equivalent
Source: EPIC 2020.

Chapter 4

Chapter 5

Mike Strong

From: earthlover@sbcglobal.net
Sent: Saturday, July 25, 2020 9:26 AM
To: EscondidoCECAG@groups.io
Subject: [EXT] Great Opportunity: Learn about Agriculture and its role in addressing Climate Crisis

CAUTION : This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender email address AND know the content is safe.

Hi Escondido Community Advisory Committee and interested people:

We have a great opportunity to hear from the Farm Bureau President, Hannah Gbeh about the state of agriculture in San Diego/Escondido and how agriculture can be a positive actor in addressing GHG reduction and adaptation strategies. This is an important topic as we continue to work on the ECAP Update.

The Zoom Call will be held **Tuesday, July 28, 2020 at 2PM**

Please email Kate Barba if you would like to join and she will send the connection information at Katharine.Barba@gmail.com

Laura Hunter

“May your choices reflect your hopes, not your fears.”

--Nelson Mandela

Mike Strong

From: earthlover@sbcglobal.net
Sent: Friday, July 24, 2020 11:28 AM
To: Mike Strong
Subject: [EXT] Supplemental Report and ANalysis on Solid Waste recommendations
Attachments: Solid Waste Mgmt Final (1).pdf

CAUTION : This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender email address AND know the content is safe.

Hi Mike,
Here is the report Aisha noted

Laura Hunter

"May your choices reflect your hopes, not your fears."
--Nelson Mandela

Escondido Community Advisory Group on Environmental Impacts and Climate Action:
Solid Waste Management Recommendations

Aisha Wallace-Palomares, Maria Wallace, Ana Marie Velasco,
Janis Jones, Brady Bradshaw, Thor Emblem
July 8, 2020

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City of Escondido Zero Waste Recommendations

The global population is expected to reach 8.5 billion by 2030, 9.7 billion by 2050, and 11.2 billion by the end of the century.¹ North America is home to 5% of the world's population and it consumes 30% of the world's resources.² Cities only take up 2% of the world's land area but are responsible for 60%-80% of the world's energy consumption and 75% of global CO₂ emissions; roughly the same amount of raw materials are consumed.³ Cities are focused areas of production, consumption, and waste.⁴ In addition, these characteristics put a lot of pressure on city infrastructure, such as water supply, solid waste recycling, and environmental pollution. Cities are increasingly becoming reliant on urban areas to supply management of waste and related substances.⁵ Solid waste disposal sites, including landfills are responsible for 5%-20% of global methane emissions, and up to 4% of total anthropogenic (human caused) greenhouse gas emissions.⁶ In 2009, 32% of all food produced globally was lost or wasted.⁷

From extraction of raw materials, to the disposal of the goods they are used to create, the creation of stuff requires energy mostly from fossil fuels.⁸ In the past 3 decades, to support this consumer lifestyle, 1/3 of natural resources have been used, less than 4% of original forests in

¹ Koop, S.H.A., van Leeuwen, C.J. "The challenges of water, waste and climate change in cities" *Environ Dev Sustain* 19, 385–418 <https://doi.org/10.1007/s10668-016-9760-4>, 2017.

² *The Story of Stuff. The Story of Stuff Project*, 2009. <https://youtu.be/9GorqroigqM>.

³ Koop, S.H.A., van Leeuwen, C.J. "The challenges of water"

⁴ Koop, S.H.A., van Leeuwen, C.J. "The challenges of water"

⁵ Koop, S.H.A., van Leeuwen, C.J. "The challenges of" 385–418

⁶ *The Story of Stuff. "The Story of"*

⁷ Koop, S.H.A., van Leeuwen, C.J. "The challenges of" 385–418

⁸ "Climate Change and Waste." EPA. Environmental Protection Agency, September 29, 2016. https://19january2017snapshot.epa.gov/climatechange/climate-change-and-waste_.html.

America are left, and a stunning 40% of waterways in the U.S. are not safe for consumption.⁹ In the U.S, energy used to produce, process, transport, and dispose of products account for 42% of greenhouse gas emissions; traditional waste management methods produce 1%-5% of emissions.

10

Linear System

There is no “throw away, ” waste does not just disappear. Waste goes to a landfill or an incinerator and then to a landfill. In an incinerator waste is burned, releasing toxic chemicals into the air as well as greenhouse gases; landfills also release greenhouse gases. Society has become disposable and has been designed around a framework of convenience. Using single-use plastic bags, take-out containers, cutlery, coffee cups, napkins, has become the norm in the past 50 years. The general public's conception of waste ends with taking the trash out to the curb or tossing it in a dumpster. There is no thought about where waste goes or the impacts it has on the environment and human-beings. Moreover, food waste is also seen as trash, simply tossed in with everything else in the garbage bin; as the population increases, it is natural that waste will increase as well. Waste is intricately woven with the converging threats of climate change, overpopulation, and environmental degradation. There is only a small window of opportunity left to mitigate climate change away from existential consequences, and it will require society to transition away from norms and values that are associated with a necessity around exponential consumerism. **It starts with developing a conscience around the system of how stuff is extracted, produced, consumed, and disposed of, and most importantly developing the infrastructure that allows for sustainable management and production of it. The most**

⁹ The Story of Stuff. “*The Story of*”

¹⁰ “Climate Change and Waste.” EPA

important management strategy for waste is simply to make a huge reduction of the amount of materials that are consumed.

To understand how society traded thrift for convenience and attached value to consumerism, it is necessary to understand the system in which humankind lives. The system in which stuff moves through is known as the materials economy. The model is based on a linear understanding of the process and through this lens it recognizes five main components: **extraction, production, distribution, consumption, and disposal.** This model makes it seem like stuff moves through it easily, it does not account for the constraints that are faced in reality. Every step of the way there are consequences of living the consumer lifestyle, lives and the environment interact with the system every day in different ways, and this conception does not account for those impacts¹¹. Put simply, this conventional way of looking at the system has created a huge problem, a “Linear system on a finite planet cannot be run indefinitely”.¹²

Consumption is what the success of this system depends on. Value is assigned to individuals' consumption habits; 99% of stuff bought by consumers is disposed of 6 months after they were bought.¹³ Consumerism became a foundational aspect of American society after World War 2. At the time, people wanted to continue the war-time economic boom. That is when consumerism and the American economy became interwoven. The economy became dependent on an ever accelerating rate of consumption. The key to its success is creating products to become useless as quickly as possible, leading the consumer to dispose of it, and then replace it with another of the same.¹⁴ Disposable coffee cups are a great example. They have a lifespan of

¹¹ *The Story of Stuff*. “The Story of”

¹² *The Story of Stuff*. “The Story of”

¹³ *The Story of Stuff*. “The Story of”

¹⁴ *The Story of Stuff*. “The Story of”

one-time use. A consumer buys their latte, they drink it, and then they throw it away. The next day, the process repeats again. This is the norm for American society, with almost every product and associated experience. Technology is rapidly improving, but most of the structural components are the same, in computers for example, only the chip is what changes. In each new model, the shape of the chip changes, and that chip is a different shape, which results in it not being able to fit in older models. The consumer is forced to dispose of the old computer and buy a new one. This is called **planned obsolescence**; it has not always been the way of living, and because of that it can be changed. Companies intentionally design their products to last long enough that it is “worth it” for the consumer to invest in, and to ensure they will continue to buy more. **Perceived obsolescence** refers to the consumer disposing of items that are still in perfectly good working condition because they look outdated and perceive an outside pressure to fit-in.¹⁵ The goal of all these strategies is to keep consumers buying new things.

Zero Waste

According to the Zero Waste International Alliance, Zero waste is, “**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.**” This focuses on reducing and refusing as the primary steps; if those are not applicable, then turn to recycling and composting the remaining material.¹⁶ Waste prevention is the best management option.¹⁷ Most municipalities in the state with Zero Waste Plans are aiming for 70-75% diversion in a 5 year period.¹⁸ In

¹⁵ *The Story of Stuff*. “*The Story of*”

¹⁶ City of Oceanside. Climate Action Plan. The City of Oceanside & Partners. January 2019.

¹⁷ “Climate Change and Waste.” EPA

¹⁸ City of Oceanside. Climate Action Plan.

addition, many plans have set goals for 90% zero waste by 2020-2025.¹⁹

Calculate emissions reduction for Zero Waste (WARM)- EPA

Calculates total greenhouse gas emissions of baseline and alternative waste management practices- source reduction, recycling, combustion, composting, landfilling. Measured in MTCE, MTC02E, & million BTU across types of waste materials.

EPA WARM most recent version

Equations for Life-cycle food waste

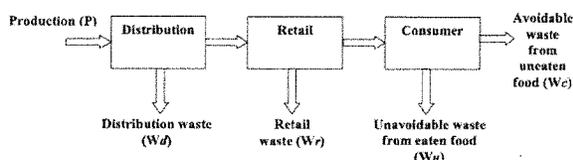


Figure 1. Life cycle model of material flow from production to disposal

Equation 1 below defines the basic mass balance in the life cycle of a food commodity. The difference between production (P) and consumption (C) is the total gross waste made up of waste at the distribution (W_d), retail (W_r) and consumer (W_{cg}) levels. All quantities are product weights.

$$P - C = W_d + W_r + W_{cg} \quad (1)$$

The food availability data series provides values for each of the terms in Equation 1 for all commodities on an annual basis from 1970 through 2009. This is described further in the Food Waste Data section below. W_{cg} is the gross consumer waste, the sum of avoidable and unavoidable consumer waste.

$$W_{cg} = W_c + W_u \quad (2)$$

The avoidable consumer waste (W_c) – also referred to as “consumer waste” in this paper – represents uneaten food that is wasted at the consumer level and is defined in Equation 3. W_c excludes the unavoidable waste in consumed foods due to non-edible parts (such as skins and shells) as well as fat or moisture losses in cooking. N is the fraction of a food commodity that is non-edible, and L is the fraction that is lost as fat or moisture during cooking.

$$W_c = W_{cg} - \left(\frac{1}{(1-N)(1-L)} - 1 \right) C \quad (3)$$

The non-edible fraction N for each commodity is obtained directly from the food availability data. The fat or moisture lost in typical cooking is estimated from USDA ERS (1998) based on certain cooking assumptions as shown below. These estimates apply only to meats, fish, eggs and oils, all of which lose fat and possibly moisture during cooking. Vegetables may lose moisture in cooking, but we assume that this is

Circular Economy

“A circular economy is an economic system aimed at minimizing waste and making the most of resources. This can be achieved through long-lasting design, maintenance, repair, reuse, remanufacturing, refurbishing, recycling, and upcycling.”²⁰ This type of economy is structured around services instead of goods; the foundational difference is that in this system resources cycle. Imagine, renting out jeans from a retailer, once worn out, you return them they get broken

¹⁹ City of Oceanside. Climate Action Plan.

²⁰ Lenier, Sage. “The Circular Economy” Lecture 5, Stanley Hall,

2020. <https://sites.google.com/berkeley.edu/zerowastedecal/lectures/5-the-circular-economy?authuser=0>

down and remanufactured into a new pair that will then get rented out again. Patagonia takes back its products and repairs worn out clothes. FairPhone is a company that is revolutionizing how phones are made, if something breaks down, you can take apart the phone and replace only the broken part. iPhones on the other hand usually entail a total phone replacement when one component is broken.²¹

California Legislation

Implemented Legislation

- SB 1383 (Lara, Chapter 395, Statutes of 2016) is the most significant waste reduction mandate to be adopted in California in the last 30 years
- AB 341: 75% Initiative: recycling, composting or source reduction of solid waste by 2020
- SB 32 & AB 32: reduce to 1990 levels by 2020 and 40% by 2030
- 2030 Climate Strategy, CalRecycle: Increase edible food recovery by 20%, reduce total organic waste disposal by 75% by 2025
- AB 1826: AB 1826: Mandatory Commercial Organics Recycling,

On the legislative agenda:

- SB 54 & AB 1080: reduce single-use waste, truly recyclable & compostable packaging
- AB 2002: California Deforestation free procurement Act
- AB 1163: Right to Repair
- AB 619: Bring your own food & reusable containers
- AB 1162: Prevents distribution of SUP toiletries in hotels

²¹ Lenier, Sage. "The Circular Economy"

SB 1383

SB1383 is one of the most important waste reduction mandates to be passed in the last 30 years, in California's legislatures. It requires that the state of California reduce organic waste by (food waste, green waste, paper products) disposal by 75% by 2025. Failure to follow this state policy will have some legal implications for local governments. SB1383 requires that local governments provide organic waste collection to all residents and businesses, establish an edible food recovery program, design an outreach program to educate communities and businesses (including haulers, facilities, edible food recovery organizations, and city departments). Planning, inspecting, enforcing, and maintaining records of compliance are other responsibilities expected from each jurisdiction. About 27 million tons of organic waste was disposed of in California in 2017; when this organic waste breaks down in the landfill it creates methane (one of the most potent greenhouse gases, 72 times more potent than CO₂ over 20 years). In addition, 21% of methane emissions come from organic waste in the landfill. The release of methane to our environment pollutes the air, causing respiratory illnesses in nearby communities. Methane gas has contributed greatly to climate change; diverting organic waste away from the landfill, will reduce the impact of climate change.²²

Escondido Current Programs

- **Xeriscaping & Grasscycling:** Quarterly workshops, displays, contest
- Backyard/ on-site compost/mulching

²² "SB 1383: Reducing Short-Lived Climate Pollutants in California," CalRecycle. 2020. <https://www.calrecycle.ca.gov/organics/slcp/education#:~:text=General%20Information,and%20other%20food%20recovery%20organizations.>

- **Business waste reduction:** Partner w/EDI local business waste audits
- **School Source Reduction & Recycling:** assemblies to school population, 4th & 5th grade recycling camp, share resources from pilot programs with interested teachers
- **Government:** source reduction, Government Recycling Programs, Government Composting Program, alkaline battery collection, Dixon Lake Clean-ups, free e-waste & on-site shredding, city christmas tree recycling, We Clean Escondido, Creek to Bay, California Coastal Clean-up
- **Residential:** Curbside, Drop-Off, Buy-Back, Curbside Greenwaste Collection, Self-Haul Greenwaste (free coupon program)
- **Commercial:** On-Site Pick Up, Self-Haul, on-site green waste pick-up, Self-haul Green Waste, Organics Recycling
- **Material Exchange/ Thrift Shop Promotion:** Goodwill Storefront, Habitat for Humanity Restore
- **Food Waste Compost:** Goals continued to be assessed?
- **Sludge:** Tule Ranch Farmland
- **Tires:** encouraged to take to local tire facilities
- **White Goods:** Retailers like Home Depot collect old appliances
- **Scrap Metal:** Some recycling centers still accept
- **Wood Waste:** chipper ground cover & free for residents
- **Concrete/Asphalt/Rubble**
- **Electronic & Print Promotion of programs:** Brochures, EDI newsletter, flyers, news articles

→ **Outreach/Education:** Earth Day Poster Contest, HHW collection event at EDI, HHW brochure & magnets @ community events, city e-newsletter, HHW video at DMV, FB & IG promotion, EDI tours

Product & Landfill Bans: Collect sharps & prescription drugs, reusable bags are sold, reusable bag distribution by the city recycling staff.

Economic Incentives: recycling tipping fees lower than SW fees, lower overall monthly rate, compost reduced/subsidized rate, extra recycling and green bin free of charge

Ordinances: C&D ordinance, commercial organics/recycling, multi-family recycling, residential recycling, waste collection, content procurement, residential green waste, anti-scavenging, green-building

Economic Incentives: recycling tipping fees lower than SW fees, lower overall monthly rate, compost reduced/subsidized rate, extra recycling and green bin free of charge

Escondido State of Waste Management

Escondido produces 50% more waste per capita than the United States overall (which is already the 3rd largest producer of waste per capita.²³ Escondido consistently rises in waste production every year by about 5000 tons, resulting in 1.2 tons per person per year being produced in Escondido as opposed to 0.8 tons for the US and 1 ton for California and San Diego. Some legislation in the past has attempted to address this, however it not only does not go far enough, but the businesses and multifamily residencies that it applies to largely do not comply with the regulations. For example, AB 1826 requires businesses to appropriately dispose of green

²³ Byrnes, Hristina, and Thomas C. Frohlich. "Canada Produces the Most Waste in the World. The US Ranks Third," July 12, 2019. <https://www.usatoday.com/story/money/2019/07/12/canada-united-states-worlds-biggest-producers-of-waste/39534923/>

waste and food waste, and a 2019 study found that only 13% of businesses comply with the green waste portion and only 1% of businesses comply with the food waste portion. The waste that Escondido produces is hauled by SANCO (whose parent company is EDCO) and Escondido Disposal to landfills in poor communities of color in the Los Angeles area. Since 2014, Escondido has transported waste to one of three landfills: Commerce Refuse-To-Energy Facility (CREF), Covanta Stanislaus, Inc., and Southeast Resource Recovery Facility (SRRF). CREF is located in the Laguna/Rio Hondo neighborhood in Commerce, CA which has a population that is 72.5% Mexican and 3.1% Native American. Covanta Stanislaus inc. and SRRF are located on Terminal Island in Long Beach which does not have as much of a defined residential area as Laguna/Rio Hondo, but of those that do reside on Terminal Island, 25% are black and 30% are hispanic. Escondido produces a disproportionately large amount of waste, and that waste directly negatively impacts communities of color in addition to Escondido residents and the environment.

Environmental Justice Impact of Waste

Human Health Impact from Petrochemicals

Communities of color and low-income communities often live and work near oil refineries and factories that produce petroleum and associated byproducts thus, they are disproportionately impacted by health issues associated with these industries. These industries often release particulates into the air that can be toxic within the factories and also in the neighborhoods around them. Moreover, petroleum is often turned into plastic, which is harmful throughout its entire life cycle.

Members of these communities work very hard under dangerous or hazardous conditions; for their hard labor workers are paid below minimum wage, that is they are paid below a **living**

wage.²⁴ Furthermore, “...Poverty, pollution, and environmental degradation,” are some of the consequences that frontline communities are dealing with in our country, and across the world.²⁵ In addition, the number of and amount of chemicals that are released into the environment, have resulted in a growing list of associated health issues. One of those chemicals is Bisphenol (BPA); the U.S, produces over 6 billion pounds of BPA annually. BPA is a hormone disrupting chemical, used to form polycarbonate plastic, it is used in the linkage between cans and other containers . Evidence has shown that this chemical causes adverse reproductive outcomes like infertility, cancers, and malformations.²⁶ The communities most affected by these issues are the Latinx and African-American communities. Due to higher rates of exposure to chemicals like BPA, these communities are experiencing earlier signs of puberty. A few years ago, BPA was replaced by Bisphenol S (BPS) , an alternative just as dangerous as its predecessor.²⁷

Chemicals associated with plastic polymers are now found in human blood, urine, and tissue.²⁸ One recent estimate of the average exposure in Americans from all of the potential sources of plastic exposure clocked in at 70,000 particles per year.²⁹ Chemicals in plastics have been linked to cancer⁴, high cholesterol, reproductive problems, hormone and endocrine disruption, neurological disorders, and immune suppression.³⁰

²⁴ Lenier, Sage. “Environmental Justice.”

²⁵ Lenier , Sage. “Environmental Justice.” Sustainable Future DeCal, 2020.
<https://sites.google.com/berkeley.edu/zerowastedecal/environmental-justice?authuser=0>.

²⁶ Morello-Frosch, Rachel. “Environmental Chemicals and Public Health.” Lecture, Hearst Field Annex, 2020.

²⁷ Morello-Frosch, Rachel. “Environmental Chemicals and Public”

²⁸ Wright SL and Kelly FJ (2017) Plastic and Human Health: A Micro Issue? *Environmental Science & Technology* 51: 6634–6647. doi: 10.1021/acs.est.7b00423

²⁹ Cox KD, Covernton GA, Davies HL, *et al.* (2019) Human Consumption of Microplastics. *Environmental Science & Technology* 53: 7068–7074. doi: 10.1021/acs.est.9b01517

³⁰ (2015) Vinyl Chloride. *National Cancer Institute*. Available:

<https://www.cancer.gov/about-cancer/causes-prevention/risk/substances/vinyl-chloride>. Accessed May 24, 2019; Trasande L, Shaffer RM, Sathyanarayana S and Council on Environmental Health (2018) Food Additives and Child Health. *American Academy of Pediatrics* 142. doi: 10.1542/peds.2018-1410; Nicole W (2013) PFOA and Cancer in a Highly Exposed Community: New Findings from the C8 Science Panel. *Environmental Health Perspectives* 121 doi: 10.1289/ehp.121-A340; Stapleton HM, Klosterhaus S, Keller A, *et al.* (2011) Identification of Flame Retardants

Operation National Sword

China received most of the world's plastic up until 2018, when the government implemented Operation National Sword. Across China, environmental degradation was widespread and Chinese citizens were developing major health problems as a result of handling most of the world's waste. The government was forced to take action and set-up stricter contamination policies, and significantly reduced the amount of material they were accepting. This had huge ramifications globally, and the recycling industry was and is still reeling from its impacts. The truth is, that most of the material that ends up in MRRF's (Multi Resource Recycling Facilities) is contaminated, difficult to recycle, and sometimes not recyclable at all. Wealthy nations collect their recyclables at these facilities, and then ship them overseas where they are bought by waste sorters. As previously stated, most of what is sent over is trash; it has no value and cannot be recycled. Thus, America is sending their immense amount of waste to be essentially landfilled in other countries. Countries like Malaysia do not have the system to deal with the copious amounts of waste western countries are sending over. "Recyclables" are left in trash heaps that release toxins into the environment via soil or water, creating pollution. On many occasions, people live right next to these ever-growing waste heaps. Recycling in reality was a way for the fossil fuel industry to continue to meet their bottom line when pressured with the reality of the climate crisis in the 20th century. In sum, plastics recycling is not the answer and has simply reduced the amount of time left to mitigate its repercussions.

Food Justice

in Polyurethane Foam Collected from Baby Products. *Environmental Science & Technology* 45: 5323–5331. doi: 10.1021/es2007462

Definition & History

According to the LA Garden Council Food Justice is, “ Access to fresh, locally grown, and culturally appropriate food, living wages and fair working conditions for all food system workers, community control over food systems, through community-based agriculture, co-ops, faith-based initiatives, etc.”³¹ Food justice is integral to the fight for social justice, thus integral to the fight for climate justice, and justice is a pillar that every American strives to uphold. Food Justice is the acknowledgement that food is a right.³² Patricia Allen the Director of the Center for Agroecology and Sustainable Food Systems at the University of California at Santa Cruz stated, “It is clear that our food system does not meet the fundamental criteria of social justice such as freedom from want, freedom from oppression, and access to equal opportunity.”³³ Moreover, “The production of food in the United States includes a history of oppression, dating from the plantation economy of the South to the expansion and settlement of the West reliant on subsequent waves of Chinese, Japanese, and Latinx immigrant agricultural labor”.³⁴ Over the past few decades, the food system has become increasingly globalized and unequal, it has come to be controlled by a few corporations.³⁵ Agriculture and food corporations are dependent on exploited labor and environmental degradation for their profits.³⁶ This current system is completely unsustainable, exploitative, and it has a tremendous CO2 footprint, intensifying

³¹ Campos, Diana. “Food Justice: What It Means and Why It Matters.” Los Angeles Community Garden Council, November 21, 2019. <http://lagardencouncil.org/food-justice-what-it-means-and-why-it-matters/>.

³² Alkon, Alison Hope, and Julian Agyeman. *Cultivating Food Justice: Race, Class, and Sustainability*. Cambridge, MA: MIT Press, 2011.

³³ Sbicca, Joshua. *Food Justice Now!: Deepening the Roots of Social Struggle*. Minneapolis, MN: University of Minnesota Press, 2018.

³⁴ Sbicca, *Food Justice Now!*

³⁵ Barhoum, Nadia. “Food Justice and Community Health in Richmond: Campus-Community Partnerships to Create a More Healthy and Equitable Food System” Berkeley, CA: Haas Institute for a Fair and Inclusive Society, University of California, Berkeley, 2016

³⁶ Sbicca, *Food Justice Now!*

climate change.³⁷

Food Insecurity & Waste

Currently, 815 million people are hungry; the world grows enough food to feed 10 billion people. There is not a problem of food scarcity, cycles of poverty and inequality are the root cause. In addition, 1/3 of all food produced globally is wasted; in the U.S. 52% of food is wasted. Large amounts of food are lost due to the overemphasizing of appearance; 40% of loss happens at retail and consumer levels.³⁸ Furthermore, Americans waste so much food, a 90,000 seat football stadium could be packed to the top.³⁹ This is untouched food that goes to the landfill. In 2016, 1/8 of Americans were food insecure.⁴⁰ The communities hardest hit by food insecurities are communities of color; communities of color are disproportionately affected, in 2016, 26.1% of black households and 22.4% of latinx households were food insecure.⁴¹

A food desert is a phenomena that occurs in low-income households where there is difficulty obtaining nutritious foods because of limited or non-existent local supplies of such food.⁴² For example, in lower income communities there might be two liquor stores on the same block, but the nearest Trader Joe's is a 30 minute drive. This is an injustice. Black and Latinx communities are more likely to suffer from diet-related diseases.⁴³ Furthermore, "...access to the highest-quality food remains stratified along class, gender, and racial lines."⁴⁴ Native food systems have been decimated; the loss of cultural cuisines have stemmed from the displacement

³⁷ Barhoum, "Food Justice and Community Health"

³⁸ Lenier, Sage. "Food Justice" Lecture 7, Stanley Hall,

2020. <https://sites.google.com/berkeley.edu/zerowastedecal/lectures/7-food-politics?authuser=0>

³⁹ "Hunger Is the Worlds Dumbest Problem ." Copia, n.d. <https://www.gocopia.com/problem>.

⁴⁰ Lenier, Sage. "Food Justice"

⁴¹ Barhoum. "Food Justice and Community Health"

⁴² Mercier, Stephanie. "What Are Food Deserts, and Why Do They Matter?" AG Web , May 14, 2020.

<https://www.agweb.com/blog/what-are-food-deserts-and-why-do-they-matter>.

⁴³ Barhoum, "Food Justice and Community Health"

⁴⁴ Sbicca, *Food Justice Now!*

they have endured. It must be acknowledged that food is also about culture.⁴⁵

Emissions

Emissions from food mainly occur in the transportation of and the decomposition when it ends up in the landfill. Food waste contributes to greenhouse gas emissions through its decomposition process in the landfill and through its production, processing, transport, and retailing. Most emissions are due to the latter. In the United States, food waste accounts for 113 million metric tonnes of CO₂e annually.⁴⁶ The industrialized food system in the U.S. has had dire consequences on the environment it, “perpetrated peak oil, peak phosphorus, virtual water, pesticide toxicity, dead zones, genetically modified organisms, biofuels, and global warming.”⁴⁷ For example, “Pesticide dependency leads to the contamination of fresh water supplies, the death of domestic animals, degradation of fisheries, and collapse of vital bee colonies, which grows worse as pests become more resistant and necessitate greater pesticide application.”⁴⁸ According to a United Nations Report, the global food system accounts for 37% of all greenhouse gas emissions. Furthermore in that same report land-use practices like agriculture account for 23% of human greenhouse gas emissions.⁴⁹ If food waste was reduced to zero, 11% of greenhouse gas emissions could be eliminated.⁵⁰ Food waste is a substantial contributor to food-related greenhouse gas emissions. Serving more plant-based foods and smaller portions of meat and

⁴⁵ Alkon, Hope, and Agyeman. *Cultivating Food Justice*

⁴⁶ Venkat, Kumar. “The Climate Change and Economic Impacts of Food Waste in the United States.” *Journal on Food System Dynamics*, April 2012, 431–46.
<http://centmapress.ilb.uni-bonn.de/ojs/index.php/fsd/article/view/247/182>.

⁴⁷ Sbicca, *Food Justice Now!*

⁴⁸ Sbicca, *Food Justice Now!*

⁴⁹ McFall-Johnsen, Morgan. “Our Food System Accounts for a Whopping 37% of Greenhouse-Gas Emissions, a UN Report Found. But It Could Also Offer a Solution to the Climate Crisis.” *Business Insider*. Business Insider, August 8, 2019. <https://www.businessinsider.com/food-system-role-in-climate-crisis-possible-solutions-2019-8>.

⁵⁰ Spiegel, Jan Ellen. “Food Waste Has Crucial Climate Impacts ” *Yale Climate Connections*.” *Yale Climate Connections*, October 8, 2019.
<https://www.yaleclimateconnections.org/2019/05/food-waste-has-crucial-climate-impacts/>.

dairy will help cut waste from animal products, which account for an outsized portion of total emissions associated with food waste.

Meat consumption has been increasing over the past decades; the U.S. is notorious for its meat consumption.⁵¹ The amount of meat consumed per person has doubled over the past 50 years.⁵² While the links between diet and GHG emissions are not yet widely acknowledged, the issue is well-known and the science is clear—**the climate impact of animal agriculture is a significant generator of carbon emissions.** The production of meat and dairy generally has much higher greenhouse gas emissions than plant-based foods. The deforestation associated with opening up more space to raise livestock results in emissions. Natural biological processes like belching and flatulence result in the emission of methane from cows. Methane is one of the most potent greenhouse gases, it is 25 times-100 times more destructive than CO₂ over a 20 year period. Cows alone are responsible for 150 billion gallons of methane per day. Moreover the transportation of the product also produces additional emissions. In total, Animal agriculture is responsible for 18% of greenhouse gas emissions. What is even more troubling is the amounts of emissions from this industry are projected to increase by 80% by 2050.⁵³ Water resources are at risk in our warming world hit by increasingly frequent and catastrophic natural disasters. Meat and dairy production has a harmful impact on water quality and uses substantially more water resources than plant-based foods.

⁵¹ Ritchie, Hannah. "Which Countries Eat the Most Meat?" BBC News. BBC, February 4, 2019.

<https://www.bbc.com/news/health-47057341>.

⁵² Devlin, Hannah. "Rising Global Meat Consumption 'Will Devastate Environment'." The Guardian. Guardian News and Media, July 19, 2018.

<https://www.theguardian.com/environment/2018/jul/19/rising-global-meat-consumption-will-devastate-environment>

⁵³ "The Sustainability Secret." COWSPIRACY. Accessed June 27, 2020. <https://www.cowspiracy.com/infographic>.

Food Hub

A food hub is a “business or organization that actively manages the aggregation, distribution, and marketing of course-identified food products primarily from local and regional producers to strengthen their ability to satisfy wholesale, retail, and institutional demand.” Food hubs help create new jobs and also address food insecurity by focusing on expanding food reach into underserved communities. They work towards creating new markets for regional and local producers. They help build community through actively taking steps to partner with food banks, increasing awareness around buying local, offering farm tours and apprenticeship opportunities, helping feed underserved communities, and redeeming SNAP benefits. In addition, food hubs also reduce energy and waste in the distribution area. There are many funding opportunities that are available for different stages of implementation from federal and non-federal sources. This system always has sustainability at heart, many food hubs highly encourage or require that the growers and ranchers they partner with, employ sustainable agricultural practices and, work on implementing sustainable production practices. A survey in 2011 conducted by The NFHC showed that “ Half the food hubs have recycling programs, 44 percent have composting programs, and 22 percent have energy-saving programs.”⁵⁴

Food Cooperative

A food cooperative is a business that is owned by workers or customers, members have the ability to choose what food and products are available. They provide high-quality foods at

⁵⁴ Barham, James, Debra Tropp, Kathleen Enterline, Jeff Farbman, John Fisk, and Stacia Kiraly. Regional Food Hub Resource Guide. U.S. Dept. of Agriculture, Agricultural Marketing Service. Washington, DC. April 2012.

fair prices, support local growers, help create jobs, and offer bulk sections.⁵⁵ Bulk sections are especially important to reducing the amount of single use plastic waste in circulation.

Food Justice Measures & Actions

1. Create locally grounded food cooperative
2. Create a food hub
3. Relocalize Escondido Food System
4. We strongly urge the climate planners to review and pursue the recommendations contained in the report *MEAT OF THE MATTER: A Municipal Guide to Climate-Friendly Food Purchasing*, adapted for Escondido.
5. CAP should create a staffed working group to evaluate resources and develop a plan to increase food security, reduce climate emissions, and improve health for the city and environment.
6. The City should provide pathways for institutional procurement of local produce that would facilitate investment in local farms and offer farm microloans, tax-incentives, and grants. These should be restricted to produce farming since animal agriculture does not support emissions reductions.
7. The CAP should include requirements or incentives for institutional adoption of a minimum number of fully plant-based meals at government meetings, hospitals, schools, universities etc.. The city could build upon Palomar Hospital's commitment to Meatless Mondays and vegetarian options in its cafeteria.

⁵⁵ Sutter, Kristin. "Are You Missing Out on Your Local Food Co-Op?" Taste of Home, August 14, 2018. <https://www.tasteofhome.com/article/food-co-ops/>.

8. The City should encourage and fully support the local Farmer's Markets in the region to promote more consumption of locally grown foods which have the lowest carbon footprint.
9. The City should support or jointly initiate a climate and public health campaign to encourage more plant-based, whole foods eating in the region. This type of public health campaign has already been demonstrated to work through anti-smoking campaigns, and may result in savings based solely on the public health burden reduction.
10. The CAP should include commitment to educational materials, workshops on plant based eating, and promotional events to encourage more plant-based eating.
11. The city should develop an education program for 'climate-friendly living' to encourage and educate residents about all the ways to reduce personal and family level GHG emissions and include promotion of plant-based diets including a widespread commitment to Meatless Monday.
12. The CAP should include a sector analysis and measures to promote plant-based diets. Just like establishing goals for bike and transit commuting, it should quantify goals for the population to eat a plant-based diet. Even a reduction of 50% meat consumption by a portion of the population would yield significant results.
13. Climate-friendly menus (plant-based) should be served at all City and city sponsored events with educational materials to accompany them.
14. The City should partner with groups like Physicians for Responsible Medicine and evaluate and share materials such as Every Meal Power Plate.⁵⁶

⁵⁶<http://www.pcrm.org/sites/default/files/images/health/pplate/EveryMealPowerPlate.pdf>

15. The CAP should include measures to create an *Eat a Climate-Friendly Diet* working group and partner with local vegan and plant-based groups, farmers, business and spiritual traditions that already eat a plant-based diet and have expertise to share.
 16. The CAP should include measures to offer tax-incentives to restaurants where 50% or more of the menu offerings are plant based.
 17. The CAP should include measures to fully preserve and increase suitable agriculture reserve lands suitable for produce farming and create urban agricultural zones to put vacant parcels into produce food production in urban areas.
 18. The City should partner with organizations that support produce farmers and help them sell locally. Groups like San Diego Food System Alliance, California Food Link, and the San Diego New Farmers Guild would be good partners.
 19. The CAP could investigate programs to incentivize the food technology industry to develop plant-based and cellular agriculture alternatives to animal products.
-

Conclusion

It is imperative that the E-CAP recommendations partner with community organizations that work towards food justice and create programs that champion food justice. Individuals in Escondido lack access to healthy food, and it is important that these policies are initiatives that benefit communities of color and low-income communities directly. As part of the legislation, there should be a commitment to defending the food practices (local, slow, and deep) of marginalized communities in Escondido, and a recognition of the history of the land upon which this jurisdiction sits upon, benefits from, and should strive to partner with the The Rincon Band

of Luseño Indians & The San Pasqual Band of Mission Indians. The city must help lead a paradigm shift in the community from viewing food as a nutritional commodity to “... that which encompasses a set of deep social and cultural relationships that foster community, cultural, and place-based identities.”⁵⁷ Escondido should lead in creating programs and spaces in the community like locally grounded food cooperative unions, creation of a food hub, increasing accessibility to food by acknowledging food is a right (direct partnership with food banks and other food justice organizations), relocalizing food systems through increased partnership with local farmers and, creating more opportunities for education around food and food waste. This must be done to center climate justice in the E-CAP.

Plastic

The Problem

Plastic is a growing threat to our future, and it is tied intimately with fossil fuel extraction at the beginning of its life cycle, and with overwhelming impact on the world ocean at the end of its life cycle. Before 2018, much of the recycling from the U.S., EU and elsewhere was being shipped to Asia.⁵⁸ In 2018, China implemented a new policy called “National Sword” that banned the import of plastic waste. Many countries responded by sending waste to other Asian nations, like the Philippines, Thailand and Malaysia. Now, some of those countries are shutting their ports to it, and even sending some of it back.

⁵⁷ Alkon, Hope, and Agyeman. *Cultivating Food Justice*

⁵⁸ Brooks AL, Wang S and Jambeck JR (2018) The Chinese import ban and its impact on global plastic waste trade. *Science Advances*. 4. doi: 10.1126/sciadv.aat0131

The importance of reducing plastic waste has become imperative as we do not have the infrastructure in the United States to deal with plastic waste. Deforestation for petrochemical extraction and infrastructure, the process of natural gas fracking, transportation in plastic production and supply, refining and manufacturing, landfill decomposition, incineration, and even recycling have associated emissions that cause a significant contribution to climate change.

At the end of the life cycle of plastic described above, plastics are impacting the marine environment, which is not only a source of food, recreation, and tourism for our coastal economy, but also a biological buffer for carbon dioxide. According to NASA, approximately one quarter of all carbon dioxide is absorbed by the world's oceans, sequestered into primary producers like algae, and incorporated into the ocean's web of life.

The ability of the ocean to absorb carbon dioxide depends on balanced ecosystems, all of which are now impacted by plastic pollution. **An estimated 17.6 billion pounds of plastic enters the marine environment every year — roughly equivalent to dumping a garbage truck full of plastic into the oceans every minute.** Models for making estimates of impacts to the ability of the ocean to sequester carbon are still being formulated and tested by several scholarly institutions. In 2017, the most recent year recorded by the University of San Diego, Escondido ranked 4th highest in San Diego County for waste per capita at 6.2 lbs per capita per day.

Opportunity/ Solution

In addition to GHG savings, Escondido can save taxpayers money and eliminate an annual drain on city finances that are usually spent on waste mitigation measures.⁵⁹ Eliminating non-recyclable plastic waste from the waste stream will also allow for more efficient sorting of recyclable materials, in turn assisting with waste diversion and decreasing operating costs for waste management.

Eliminating unnecessary single use plastic products such as plastic and styrofoam plates, bowls and cups, and plastic utensils and stirrers, can also save businesses money. The same is true for implementing a straws on request policy. A fraction of the money spent on buying these materials can be spent on implementing dishwashing systems and creating more jobs for Escondido.



⁵⁹ Monroe, leila. "Waste in Our Waterways: Unveiling the Hidden Costs to Californians of Litter Clean-Up." NRDC, August 2013. <https://www.nrdc.org/sites/default/files/ca-pollution-in-waterways-IB.pdf>.

Lastly, in order to supplement food waste in an effective composting system, materials rich in carbon are needed. Replacement of plastic take- out containers with truly compostable material means more carbon for soil replenishment and compost. In other words, a system of food waste diversion will work more effectively when combined with compostable carbon-based materials such as those used in many compostable take- out containers

Greenhouse Gas Savings Estimates

Estimates of GHG savings from plastic waste reduction are very difficult to quantify and have a range of estimates from scholarly sources. The climate impact of plastics is undoubtedly significant, especially considering the full life cycle of plastics from extraction to the landfill or ocean. An attempt is made below to provide a framework for a formula to quantify GHG savings from reducing plastics.

$$G_T = R((G_p \times E_p) + (G_o \times (\frac{1}{2} E_w / 7.98 \text{ Million MT})))$$

Key

G_T - Annual GHG Savings measured in MTCO₂eq by eliminating X% of plastic waste

R = Percentage reduction from 2019 plastic waste

G_p – Factor of atmospheric carbon emissions per MT of plastic used (including extraction, deforestation, transportation, processing, incineration, and landfill and ocean surface emissions)

E_p = Total metric tons of plastic recycled in Escondido/ year = Information needed from EDCO

G_O - (Impact on the ocean's ability to absorb CO₂ per MT of plastic waste)

E_w = Total metric tons of plastic not recycled directly in Escondido, with an estimated 50% of plastic making it to the ocean eventually

T_w - Total waste entering the ocean from land-based sources annually = 7.98 Million Metric Tons

- The ocean's ability to absorb plastic = ($\frac{1}{3}$ of all CO₂)
 - Assuming: plastic waste at the current rate will completely remove the ocean's ability to absorb CO₂
 - Assuming $\frac{1}{3}$ of all CO₂ is absorbed by the ocean
 - Escondido's impact on this = ($\frac{1}{3}$ of all CO₂) x ($\frac{1}{2} E_w/T_w$)

Examples of other municipalities

The City of Oceanside's Climate Action Plan contains an initiative for Extended Producer Responsibility and a recyclable or reusable percentage mandate. A piece of proposed national policy that sets the framework for meaningful plastics reduction is The Break Free From Plastic Pollution Act of 2020. Any local ordinance based on this standard would accomplish meaningful plastics reduction. Escondido could become a leader in incorporating a plastic reduction policy recommendation into the Climate Action Plan, and as such, would reap additional benefits in GHG savings, taking into account the total percentage reduction in plastic waste generation and the full life cycle emissions of plastic waste.

Case Studies

Oceanside

Overview

- Set goal for 75% landfill diversion by this year (2020)
- Organics were about half of the material landfilled in 2010
- Zero waste plan focuses heavily on community outreach and education
 - ◆ Calculate that 4,000 tonnes of diversion can be accomplished by improvements in these areas
- Expanded residential and composting program could capture another 13,000 tonnes annually
- Created an opportunity to increase jobs
- Food donations and home composting expansion would reduce the cost of implementing composting programs

Timeline

Year 1:

- Support and expand school composting, commercial on site composting, and home composting programs
- Support and expand reuse opportunities
- Waste generation characterization study to provide a solid baseline for measuring progress on ZW goals

Years 2-5:

- Adopt plastic bag reduction ordinance
- develop program for business and institution waste reduction services
- recycling containers where every trash receptacle is
- environmentally preferable purchasing program

Phase 2:

- Take back policies
- Evaluate progress towards ZW goals

Encinitas

Solid Waste accounted for 5% of total GHG emissions in 2012

- City has jurisdiction over handling of solid waste generated by the community
- Reduction in city emissions by 2,830 MTCO₂e by 2020
- Reduction in city emissions by 11, 921 MTCO₂e by 2030
- Divert 65% by 2020
- Divert 80% by 2030
- Divert 90% of waste from landfills by 2035 & capture 85% of GHG emissions
- Implement organic waste recycling program
 - ◆ Support regional efforts to develop residential and commercial food scrap composting programs

- ◆ Community appropriate compost facilities in the city
- ◆ Support at home-management of food waste: workshops, subsidies, and worm bins
- ◆ Continue Zero Waste Schools program
- ◆ Free waste audits to restaurants and grocery stores
- ◆ City hall waste audit
- ◆ Education program for textile recycling
- ◆ Support stewardship and producer responsibility initiatives

Alameda County

Policy and Programs: Alameda City

- Social Marketing campaign
- advocate for producer responsibility
- Increase commercial technical assistance
- Support product bans
- Support disposal bans
- Consider mandatory source separation requirements
- City Government green team
- Work with school district to implement zero waste initiatives
 - ◆ Alameda green schools challenge
 - ◆ school education and outreach

Ordinances Policies & Fees

- Measure D
 - ◆ Reduce waste by 75% by 2010
- Reusable Bag Ordinance
- Mandatory Recycling Ordinance
- Plant Debris Landfill Ban
- Facility Fee
- Household Hazardous waste fee
- Benchmark Service

Recommendations for Escondido E-CAP Solid Waste Management

City Staff Proposed Timeline

Target Year	Performance Metric	GHG Reduction Potential (MTCO _{2e})
2021	Adopt and implement an organic waste recycling program	-
2023	Adopt a composting and waste diversion ordinance	-
2030	Achieve 80 percent citywide waste diversion in 2030.	23,588
2035	Achieve 85 percent citywide waste diversion in 2035.	25,535

Recommended Timeline

Summer 2020	Establish a Zero Waste Work Group as part of the Climate Commission.
Summer 2020	Prioritize Education and Outreach as implementation measures for binding city ordinances.
Fall 2020	Pass a Zero Waste Resolution with articulated goals for 75% diversion by 2022 and 90% diversion by 2027. (Increase diversion by 15% annually.)
Winter/Spring 2020-21	Pass single-use plastics reduction ordinance and polystyrene ban with phased implementation beginning in 2021
January 2021	Develop a Zero Waste Plan that prioritizes eliminating food waste and includes a phased approach to reducing single-use plastics.
January 2021	Begin phased implementation of single-use plastics reduction ordinance and polystyrene ban
January 2022	Zero Waste Schools partnership with district begins
January 2022	Full implementation of SB 1383: Universal Composting and Green Waste
January 2022	Provide infrastructure to support curbside composting for all households and businesses & build compost infrastructure to process anaerobic digester waste.

Initiative Support Programs

Conduct a waste generation/characterization study immediately

- ◆ Identify the amount of materials wasted, reused, recycled, and composted annually
- ◆ Identify where wasting occurs
- ◆ Commodities analysis

City Hall

- **Adopt a zero waste business model for city offices & Prioritize zero waste goals**
 - ◆ Institute a green purchasing policy
 - ◆ Eliminate SUP Water bottles, switch to reusable service-ware, & install water refill stations
 - ◆ Adopt a minimum number of fully plant-based meals
 - ◆ Climate-friendly menus (plant-based) served at all city and city sponsored events accompanied by educational materials
- **Establish City department Green Teams**
 - ◆ Offer training and support for all staff
- **Conduct pre/post waste audits at all City facilities**
- **Set up waste reduction infrastructure & signage**
- **Create a staffed working group to evaluate the resources and develop a plan to:**
 - ◆ increase food security
 - ◆ reduce climate emissions
 - ◆ improve health for the city and environment.
- **Provide Pathways for institutional procurement of local produce (restricted to produce farming)**
 - ◆ Investment in local farms
 - ◆ Offer farm microloans
 - ◆ Tax-incentives & grants
 - ◆ Encourage and fully support the local Farmers Market
- **Support or jointly initiate public health campaign to encourage more plant-based whole foods eating**
- **Create education program for “Climate-Friendly Living”**
 - ◆ Encourage and educate residents on ways to reduce personal and family level GHG emissions
 - ◆ Host workshops and promotional events on plant-based eating
- **CAP should include:**
 - ◆ Sector analysis and measures to promote plant-based diets
 - ◆ Measures to create an “Eat a Climate-Friendly Diet” working group
 - ◆ Measures to offer tax incentives to restaurants where 50% or more of menu

- offerings are plant-based
- ◆ Measures to fully preserve and increase suitable agricultural reserve lands for produce farming
- ◆ Create urban agricultural zones to put vacant parcels to into produce food production in urban areas
- ◆ Investigate programs to incentivize food technology industry to develop plant-based and cellular alternatives to animal products

Community Programs

- **Partner with community organizations to develop workshops on topics, including:**
 - ◆ Environmental impacts of single-use plastics and food waste
 - ◆ plant-based diet
 - ◆ How to switch to reusables, Use Leftovers, Waste Sorting education
- **Utilize Escondido's community gardens for education outreach on topics, including:**
 - ◆ Composting , organic gardening, soil enrichment,
 - ◆ Decentralized composting options: backyard and community-scale composting
- **Create a Sustainability Community Resource Center & Creation of a Reuse Warehouse/collaborative**
- **City-wide community engagement campaign: Website, Social Media, & Community outreach**
- **Localize food system & Shorten Supply Chain**
 - ◆ Food hub
 - ◆ Accepting EBT/SNAP at Farmers Markets
 - ◆ Locally grounded food cooperative
 - ◆ Partner with food justice community orgs, The Rincon Band of Luseño Indians, & The San Pasqual Band of Mission Indians
- **Develop educational effort around eating a plant-based diet once a week or more and tracking carbon emissions avoided**

Businesses

- **Establish a Green Business program & Develop Guide**
 - ◆ pre/post waste audits- allows for better right-sizing
 - ◆ Phased, finish up current supplies
 - ◆ Offer training and support for both management and staff
 - ◆ develop a green purchasing policy
 - ◆ reduction procedures/protocols- switch to reusables, disposals only on request
 - ◆ EDCO recycle at work program
- **Provide resources/materials, such as**
 - waste/recycling bins
 - signage
 - educational materials
 - composting infrastructure

- incentives/awards/recognition
 - waivers & grants
 - pop-up events
- **Support the switch to reusable/recyclable service-ware**

Schools

- **Establish Zero Waste Schools Program**
- ◆ Dedicate resources (time and people) to program
 - ◆ Coordinate Green Team Youth Programs, allocate Funds to support activities, and incentivize participation
 - ◆ Adopt a minimum number of fully plant-based meals
 - ◆ Switch to reusable service-ware
 - ◆ Conduct pre/post waste audits
 - ◆ Offer training and support for staff, students, and families
 - ◆ Responsibility and stewardship towards the environment, Environmental Justice
 - ◆ Diploma seal or Awards
 - ◆ School gardens
- **Provide resources/materials, such as...**
- sorting equipment, waste/recycling bins & signage
 - share tables
 - educational materials

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Mike Strong

From: earthlover@sbcglobal.net
Sent: Thursday, July 09, 2020 12:51 PM
To: Mike Strong
Cc: Aisha Wallace-Palomares; Kate Barba; Matthew V; nathan@escondidocreek.org; Patricia Borchmann; Richard Miller; Swift, Timothy; Val Esqueda
Subject: [EXT] Today's meeting list of major issues and questions
Attachments: ECAP List of key issues for discussion .pdf

CAUTION : This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender email address AND know the content is safe.

Hi Mike,
Please find attached the list of major issues and questions we'd like to try to cover today. We're hoping to get your input, perspective, and hopefully, agreement to make changes.
Thanks and see you soon

DRAFT ECAP Subcommittee Significant areas needing discussion:

Chapter 3- GHG Emission reductions

- a. Social equity measures need to be specifically included in Chapter 3.
- b. A map or criteria leading to a geographic area should be adopted for SocEq actions. We recommend: Priority investment Neighborhoods are those with 50% or higher in CalEnviroScreen or 30% or higher in City Social Equity and Health Map. (Note: Appendix F is poorly written and should be edited once the strategy is agreed to)
- c. Green jobs are a major economic benefit to the city from CAP implementation. CAP should include
- d. These measures need to be enforceable. How with the city do this?

Strategy 2 Reduce Fossil Fuel use

Zero Emissions Vehicles:

- a. The City commit to converting its fleet to ZEVs exclusively by 2035.
- b. Electric Heavy-duty truck charging infrastructure should be included.

Strategy 3 Reduce VMT

- c. **Commuter Mode Share:** The CAPs mode share targets for transit and biking are not ambitious, and there is no overall target for pedestrian mode share.

T-3.9 Service population VMT

- d. We have major questions about the 'service population' based VMT threshold. Does this method comport with the OPR guidance on SB 743?

T-1.3 Increase use of the ZEV

- e. Add existing parking lots to the measure, not just new lots.

Strategy 4- Building EE

- a. The ability to reduce ghg in existing buildings is unaddressed. We recommend a significant Building retrofit program including weatherization, energy and water efficiency program.
- b. The many measures that apply only to model homes and to installing charging stations as opposed to vehicles should be moved to 'supporting actions' as they are not meaningful reduction measures. We recommend applying the measures to all units and commercial development.

Strategy 5: Renewable Energy

- a. **CCE:** The CAP does not commit to CCE. We recommend a commitment to a CCE or, at a minimum, an ordinance to 100% clean energy by 2035.
- b. We support the Energy Equity Program and suggest it be moved to Chapter 3.

Strategy 8- Solid Waste

S-8.1 Zero Waste:

The CAP does not commit to 90-100% waste diversion.

We recommend setting goals:

- 75% diversion for 2022
- 90% diversity in 2027
- 100% diversion by 2035
- Adoption of a phased single-use plastics ordinance.

Strategy Carbon sequestration and land conservation

C-9.2 Trees

The CAP needs to improve its tree planting goal and establish a citywide tree canopy goal. We recommend:

- Assure total city-wide urban tree canopy coverage of 25% by 2035.
- For identified heat islands and Priority Investment Neighborhoods, a total canopy coverage goal of 35%
- City needs to attend CAL FIRE Grant workshop and apply for 2021/2022 Cal Fire Urban Forestry Grant to jumpstart it's urban forestry program and fund the key initiatives laid out by the subcommittee.

C-9.3 Land Conservation Program

Should remove units from natural open space, habitat, and high fire risk areas.

Set goals to incentivize farming techniques.

For Ag farming, Measure C-9.3, We recommend a measure to pursue eligible Ag management practices and subsequent funding via the CDFA Health Soils Funding Program

Strategy 9 and 3

- a. **Smart Growth Strategies:** The CAP does not commit to smart growth strategies outside of the Downtown Specific Area. We recommend measures to avoid development in high-risk fire and VMT inducing areas (sprawl) and increase urban infill and increase neighborhood amenities for existing developed areas.
- b. CAP should include an inclusionary housing ordinance.
- c. Open Space Ordinance should be effective in 2020 and require 90% of annexed land to be conserved.

Chapter 4- Implementation

- a. The **CEQA checklist** is too lenient and will do little to reduce ghg overall. We recommend that measures that actually result in emission reductions are included in the list, the threshold limits be lowered, and streamlining only apply to urban infill projects.
- b. **Implementation Roles:** CAP does not include call for public implementation task force or full time CAP coordinator. We recommend a public stakeholder Escondido Climate Commission and a dedicated, full-time coordinator on staff.
- c. **Climate Investment Fund:** We recommend the city create and fund a CIF as a mechanism to contain and expend funding for programs that reduce GHG and improve adaptation.
- d. **Cost Analysis:** CAP does not measure or include costs of implementation
- e. **Annual Monitoring:** While the CAP does commit to one update in 2022, it does not commit regular updates after that. We recommend GHG updates every three years.
- f. **Remove Regional Offsets:** We oppose the regional offsets for ghg reductions. Creation and funding of the Climate Investment Fund should be invested in the city for LOCAL projects. There is so much need, we will not run out by 2035. Or, was this to be outside agencies funding projects IN Escondido? unclear
- g. **? Remove Regional Habitat Offsets.** Remove Regional Offsets for getting out of mitigation requirements for habitat impacts. Or explain how this does not facilitate sprawl development where natural resources are impacted.

Key Questions:

How will the Chapter 3 measures be enforceable?

How can the CAP include measures over which the city has no control? E.g. schools

What is a Community Gardening ordinance and what does it have to do with annexation?

Would the city be willing to establish a Carbon Neutral City goal for some point in the future?

What is the Streamlining threshold linked to?

How can we get a copy of the Draft CEQA analysis?

Mike Strong

From: earthlover@sbcglobal.net
Sent: Monday, July 20, 2020 9:38 AM
To: Mike Strong
Cc: Aisha Wallace-Palomares; Kate Barba; Matthew V; nathan@escondidocreek.org; Patricia Borchmann; Richard Miller; Swift, Timothy; Val Esqueda
Subject: [EXT] Edited recommendations on Chapters 3,4,5
Attachments: ComAdvCom_Edits_Escondido CAP 3 GHG Reduction_July 17.docx;
ComAdvCom_edits_Escondido CAP 4 Implementation_July17.docx;
ComAdvComEdits_Escondido CAP 5 Adaptation_July17 (2).docx

Follow Up Flag: Follow up
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Good Morning Mike,

Please find attached our detailed edits for the ECAP Chapters 3-5. These implement many of this issues we discussed last time we met. In addition, they reflect the additional input we received at our Full Advisory Group meeting last week. Maybe on Friday, we can discuss those edits that you have concerns about. We also have some edits for Chapter 1,2, and Appendix F but we can finalize those later once we discuss these.

Thanks

Laura

Laura Hunter

"May your choices reflect your hopes, not your fears."

--Nelson Mandela

Mike Strong

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To: Mike Strong
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Thanks

Laura

Laura Hunter

“May your choices reflect your hopes, not your fears.”

--Nelson Mandela



Chapter 3
GREENHOUSE GAS REDUCTION STRATEGIES
AND MEASURES

This chapter outlines strategies and specific measures to be implemented by the City of Escondido (“City”) to achieve its greenhouse gas (“GHG”) reduction targets over the coming decades. As a complement to legislative actions taken by the State and federal governments, each strategy and measure focuses on local actions developed to reduce emissions and close the City’s local emissions gap. The City envisions carbon neutrality by 2088.

The strategies and measures included in this Climate Action Plan (“CAP”) focus on actions taken to reduce GHG emissions at City-managed facilities, at new and existing developments, and through City-led planning activities. Implementation of these strategies and measures will depend on participation of and partnerships with and among residents, businesses, and other organizations. Additionally, the CAP includes a focus to address social and economic inequities of its measure. The strategies and measures identified in this CAP build on the measures included in the City’s previous CAP, adopted in 2013, and policies and programs included in the City’s General Plan.

The strategies and measures were developed to reduce approximately 51,000 MTCO₂e in 2030 and 114,000 MTCO₂e in 2035.

Though the primary purpose of these strategies and measures is to reduce GHG emissions, they will also result in additional co-benefits. These co-benefits, briefly discussed in Chapter 1, include benefits beyond GHG reductions that would occur through implementation, such as improved environmental quality, improved health outcomes, enhanced community character, and a focus to address social and economic inequities. An overarching goal and co-benefit through investment strategies in the plan is to enable local job opportunities. Implementation of the strategies and measures in this chapter would be adequate to meet the City’s reduction targets in 2030 and 2035. However, since the City is already experiencing the effects of climate change, this CAP includes multiple measures to adapt to climate change impacts, discussed in Chapter 5.

3.1 Greenhouse Gas Reduction Strategies

GHG reduction strategies are essential to the climate action planning process, as they lay the framework for meeting GHG emission reduction targets. The GHG reduction strategies outlined in this CAP utilize 2012 as the baseline year for measure implementation and progress. As discussed in Chapter 2, the City is anticipated to meet its 2020 reduction target under business-as-usual (“BAU”) conditions. As the City continues to grow under a BAU scenario and State and federal legislative actions take effect, the City’s emissions would decrease over time but would not be adequate to meet the 2030 or 2035 reduction targets. It is the responsibility of the City to develop local GHG reduction strategies to further reduce citywide GHG emissions to meet these targets.



Source: City of Escondido

The strategies and measures proposed in this CAP provide a pathway beyond State and federal legislative actions for new and existing development and activities in the City to reduce GHG emissions

and meet the City's 2030 and 2035 targets. Implementation of these strategies and measures proposed demonstrate progress towards supporting the State's 2050 GHG emissions reduction goal.

In developing the strategies and measures in this CAP, City staff reviewed the measures included in the 2013 CAP, identified the potential for future projects in the City, and gathered input from residents, community organizations, and business owners. Successful measures from the 2013 CAP were incorporated into the strategies and measures proposed in this CAP. As discussed in Chapter 2, the emissions categories included in this CAP are consistent those outlined in the San Diego Association of Government's ("SANDAG's") Regional Climate Action Planning Framework ("ReCAP"). A summary of the relationship between the measures included in this CAP and those included in the 2013 CAP is provided in Appendix C. A majority of the 2013 CAP measures were incorporated into new measures in this CAP.

The City values social equity and environmental justice for vulnerable communities in investment strategies that will reduce greenhouse gases and assure co-benefits for residents in low-income urban and rural neighborhoods. The CAP prioritizes investment in specific actions and enforceable goals for housing retrofits, energy efficiency, clean energy, restoration, urban greening, community gardens, shade trees and transit in neighborhoods with vulnerable populations, as outlined in the social equity map in appendix F.

Commented [KB1]: Need to place descriptors and discussion of social equity and health up front along with map in Appendix F. This material should be alluded to in the exec summary and adaptation chapter as well.

The City hosted public workshops for residents, business owners, and community leaders where they were able to provide input and feedback on proposed measures. Input from these workshops was used to further define measures and identify measure goals. These outreach efforts are briefly described in Chapter 1 and discussed in further detail in Appendix D.

3.2 Greenhouse Gas Emissions Reduction Summary

If community emissions in the City were to continue to grow under BAU conditions, the City is anticipated to generate 833,000 metric tons of carbon dioxide equivalent ("MTCO₂e") in 2030 and 842,000 MTCO₂e in 2035. While State and federal actions would further reduce emissions in 2030 and 2035, the City would still need to reduce emissions by 61,000 MTCO₂e in 2030 and 122,000 MTCO₂e in 2035 to meet its reduction targets. Table 3-1 shows the GHG reductions attributable to legislative actions and the measures in this CAP, as well as how anticipated reductions would help the City meet its 2030 and 2035 reduction targets. Further description of the methodology and calculations used to estimate emissions is provided in Appendix B.

Emissions Projection/Category	2030 Emissions (MTCO₂e)	2035 Emissions (MTCO₂e)
BAU Emissions Projection	833,000	842,000
Reductions from Federal and State Actions	235,000	272,000
Legislatively-Adjusted BAU Emissions Projection (BAU Projection – Federal and State Action Reductions)	598,000	570,000
Target Emissions	547,000	456,000
Total Reductions from CAP Measures	105,000	115,000
Reductions from CAP Transportation Measures	31,000	49,000
Reductions from CAP Energy Measures	46,000	35,000

Reductions from CAP Water Measures	4,000	4,000
Reductions from CAP Waste Measures	23,000	26,000
Reductions from CAP Carbon Sequestration and Land Conservation Measures	1,000	1,000
City Emissions with CAP (Legislatively-Adjusted BAU – CAP Reductions)	493,000	455,000

Notes: Numbers are rounded to the nearest thousand; values and totals may not equal the values summed in other tables or figures. BAU = business as usual; CAP = Climate Action Plan; City = City of Escondido; MTCO₂e = metric tons of carbon dioxide equivalent
 Source: EPIC 2020.

3.3 Reduction Strategies and Measures

In order to close the gap between the City's Legislatively-Adjusted BAU emissions projections and the 2030 and 2035 emission reduction targets, the CAP proposes nine GHG reduction strategies with 31 GHG emission reduction measures, developed based on a combination of factors, including:

The City will reduce GHG emissions through implementation of 31 GHG-reducing measures, organized under nine reduction strategies.

- the feasibility of the measure to be implemented by the City;
- existing policies, actions, or programs that can be expanded;
- proposed policies and plans yet to be adopted;
- feedback from community members and other stakeholders; and
- review of measures included in the 2013 CAP.

Each reduction strategy consists of measures, target year, performance metrics, and GHG reduction potential. Strategies also include supporting actions that will assist in achieving each strategy's performance metric(s) but are not quantifiable and, therefore, not applied towards meeting the City's GHG reduction targets. These terms are further defined below, and additional GHG reduction calculation details are included in Appendix B.

Strategy: A strategy is a high-level plan the City will implement to achieve GHG reductions in each category of the GHG inventory. Each category may have one or more associated strategies. This CAP includes nine overall strategies.



Source: City of Escondido

Measure: A measure is a program, policy, or project the City will implement that will cause a direct and measurable reduction in GHG emissions.

Performance Metric: Each measure has a performance metric that serves as the goal by which achievement will be measured in target years. Performance metrics identified in this CAP provide timeframes for implementation of specific activities and identify target years for implementation to track progress towards measure implementation.

GHG Reduction Potential: The GHG reduction potential represents the estimated reduction in GHG emissions from a specific measure, if its performance metric is met. All GHG reduction potential values are shown in terms of MTCO₂e reduced in the 2030 and 2035 target years, selected based on State reduction goals and the City's General Plan horizon. Because the City is anticipated to achieve its 2020 target under BAU conditions, the GHG reduction potential is presented only for 2030 and 2035. Most, but not all, performance metrics have an associated GHG reduction potential. Certain performance metric activities would not directly result in GHG reductions in that year but may facilitate implementation of an action that reduces GHGs in target years.

Social Equity: Data indicates GHG reduction measures will be available and profitable for funding in lower-entirety neighborhoods and neighborhoods. These measures will all improve quality of life, housing stock, safety and quality of life for residents in vulnerable neighborhoods. The priority neighborhoods to measure will be a reduction of 30 or higher per the 2022 Social Equity and Health Index. This is a 50% capex under the plan in screen Appendix 3, Map 7.

Commented [KB2]: Do we need some ref here that any investments should consider PINS first, then elsewhere? Besides, this increases value for state funding.

Supporting Actions: Supporting actions are additional activities that are currently occurring or will occur within the community that may support implementation of the identified strategy and measures.

Co-Benefits: Co-benefits are the additional beneficial outcomes that would occur through the implementation of a GHG reduction strategy. Co-benefits associated with the implementation of the CAP strategies include: improved air quality, improved energy efficiency, enhanced community character, increased employment opportunities, improved land use efficiency, improved public health, improved natural ecosystems, increased renewable energy, enhanced mobility, reduced waste, improved water quality, improved water efficiency, and improved resiliency to climate change impacts.

Commented [KB3]: Ref to stimulating opps for local jobs should also be in the exec summary.

Transportation Emissions Category

Transportation is a significant contributor to GHG emissions in the City, accounting for 53 percent of total emissions in 2012. Transportation emissions include emissions from both internal combustion engines of on-road (e.g., passenger vehicles) and off-road (e.g., construction equipment, residential and commercial equipment, and recreational vehicles) sources. Improvements in State and federal vehicle fuel efficiency standards will contribute to reducing transportation emissions by requiring the development of cleaner vehicle fleets. At the local level, the State relies on cities to implement strategies that would reduce the frequency or distance of vehicle travel, reduce the amount of fossil fuels used, and/or reduce the use of internal combustion vehicles by shifting to electric vehicles or alternative modes of transportation (e.g., transit, bicycling). The strategies that will be implemented at the local level include increasing zero-emission or alternative fuel vehicle use, increasing transportation system efficiency for existing and future travel patterns, and increasing the use of alternative travel modes.

Strategy 1: Increase the Use of Zero-Emission or Alternative Fuel Vehicles

This strategy would achieve GHG emissions reductions by reducing the use of gasoline or diesel-powered vehicles and equipment and transitioning to electric or zero-emissions vehicles for residents, workers, and the City's municipal fleet. Reductions from this strategy would occur through municipal projects and development requirements, and partnerships with local businesses and developers. The four measures included under this strategy are estimated to reduce the City's emissions by approximately 4,000 MTCO_{2e} in 2030 and 7,000 MTCO_{2e} in 2035. Table 3-2 provides the measures, performance metrics, and supporting actions associated with this strategy.

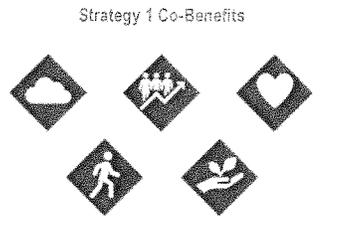


Table 3-2 Increase the Use of Zero-Emission or Alternative Fuel Vehicles

Measure T-1.1: Transition to a Clean and More Fuel-Efficient Municipal Fleet.

Increase the number of PHEVs in the City's municipal vehicle fleet and install EV charging stations at the City's Police and Fire Headquarters to support the vehicle charging needs of current City-owned EVs and PHEVs, and future PHEVs.

Target Year	Performance Metric	GHG Reduction Potential (MTCO ₂ e)
2021	Adopt a procurement policy for converting all municipal vehicle fleet to EVs and PHEVs.	-
2030	Add 11 new EVs and PHEVs to the City fleet by 2030.	33
	Install 30 EV Charging stations at the Police and Fire Headquarters by 2030.	
2035	Maintain 30 EV charging stations and 11 EVs and PHEVs in the municipal fleet in 2035.	33

Measure T-1.2: Install Electric Vehicle Charging Stations at Park and Ride Lots.

Install Level 2 or better EV charging stations at Park and Ride lots in the City that are available to ride-share commuters and/or transit riders.

Target Year	Performance Metric	GHG Reduction Potential (MTCO ₂ e)
2030	Install 181 EV charging stations in Park and Ride lots by 2030.	463
2035	Install 281 EV charging stations in Park and Ride lots by 2035.	737

Commented [LH4]: This number should go up if deployed earlier

Measure T-1.3: Adopt an Ordinance to Require Electric Vehicle Charging Stations at New Developments

Adopt an ordinance, effective in 2023, that requires Level 2 or better EV charging stations to be installed in a minimum of 10 percent of total parking spaces provided in new multi-family and commercial developments

Target Year	Performance Metric	GHG Reduction Potential (MTCO ₂ e)
2022	Adopt an ordinance requiring EV charging station installation in new multi-family and commercial developments.	-
2030	Install 531 EV charging stations at new multi-family and commercial developments by 2030.	3,513
2035	Install 802 EV charging stations at new multi-family and commercial developments by 2035.	5,732

Commented [LH5]: This would add ghg reductions

Measure T-1.4: Require Electric Vehicle Charging Stations at Home Developments.

Adopt an ordinance, effective in 2021, requiring new developments to require EV charging station installation in new homes by:

- Installing at least one EV charging station in new single-family and townhouse homes;
- Including EV charging stations as an add-on option to new homebuyers in home subdivisions; and
- Working with the City to waive permitting and installation fees for EV charging stations in these subdivisions.

Table 3-2 Increase the Use of Zero-Emission or Alternative Fuel Vehicles		
Target Year	Performance Metric	GHG Reduction Potential (MTCO _{2e})
2021	Adopt an ordinance requiring EV charging station installation in new single-family homes and townhouses.	-
2030	Install 200 EV charging stations in new single-family homes and townhouses by 2030.	339
2035	Install 300 EV charging stations in new single-family homes and townhouses by 2035. City Measure: * Increase the number of EV charging stations in "standard" lots of new single-family homes to include a minimum number of charging stations as an alternative to parking spaces for other cars in which to park vehicles. * Develop a program for the implementation of the Energy Efficient Community Incentives. For more information:	520

- Supporting Actions:**
- Identify and secure funding (e.g., through the San Diego Regional Clean Cities Coalition, CARB, CEC, and/or CSE) to purchase/lease low- and zero-emissions fleet vehicles and equipment.
 - Identify grants and incentives and educate developers about how to take advantage of available programs.

Notes: CARB = California Air Resources Board; CEC = California Energy Commission; City = City of Escondido; CSE = Center for Sustainable Energy; EV = electric vehicle; GHG = greenhouse gas; MTCO_{2e} = metric tons of carbon dioxide equivalent; PHEV = Plug-in hybrid electric vehicle
 Source: EPIC 2020.

Strategy 2: Reduce Fossil Fuel Use

Fossil fuel use can be reduced by developing an efficient transportation network that improves traffic flow and by increasing the use of alternative fueled construction equipment. Under this strategy, GHG emissions reductions would be achieved through interagency collaboration to install transportation network improvements in City rights-of-way and working with fleet suppliers to phase out less fuel-efficient equipment. The three measures under this strategy would reduce the City's GHG emissions from fossil fuel use by approximately 6,000 MTCO_{2e} in 2030 and 11,000 MTCO_{2e} in 2035. Table 3-3 provides the framework for this strategy and the supporting actions that promote more fuel-efficient driving approaches.

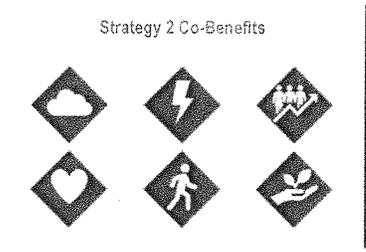


Table 3-3 Reduce Fossil Fuel Use	
Measure T-2.1: Synchronize Traffic Signals.	

Table 3-3 Reduce Fossil Fuel Use

Synchronize traffic signals at City-maintained intersections to reduce vehicle fuel use through more efficient vehicle movement and reduced idling.

Target Year	Performance Metric	GHG Reduction Potential (MTCO ₂ e)
2030	Synchronize traffic signals at 23 City-maintained intersections by 2030.	289
2035	Synchronize traffic signals at 35 City-maintained intersections by 2035.	408

Commented [KB6]: Is it terrifically time/\$ intensive to sync traffic signals?
Commented [LH7]: These reductions should go up if we do earlier

Measure T-2.2: Install Roundabouts.

Install roundabouts at City-maintained intersections to reduce vehicle fuel use by improving vehicle movement efficiency.

Target Year	Performance Metric	GHG Reduction Potential (MTCO ₂ e)
2030	Install roundabouts at eight City-maintained intersections by 2030.	811
2035	Install roundabouts at 12 City-maintained intersections by 2035.	1,145

Measure T-2.3: Increase Renewable or Alternative Fuel Construction Equipment.

Adopt an ordinance, effective in 2023, requiring new developments to use electric-powered or alternatively-fueled construction equipment.

Target Year	Performance Metric	GHG Reduction Potential (MTCO ₂ e)
2022	Adopt an ordinance requiring electric-powered or alternatively-fueled construction equipment on all new projects.	-
2030	Reduce fuel consumed by construction equipment and construction fleets by 30 percent by 2030.	5,321
2035	Reduce fuel consumed by construction equipment and construction fleets by 50 percent by 2035.	9,032

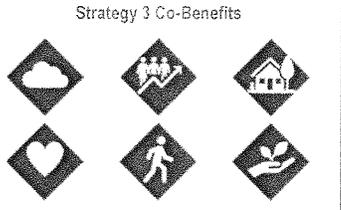
Supporting Actions:

- Conduct educational campaigns to promote fuel-efficient driving ("eco-driving") practices, such as reduced idling, slower driving speeds, gentle acceleration, and proper tire inflation.
- Update the City's General Plan Mobility and Infrastructure Element to support network build-out and improved traffic flow.

Notes: City = City of Escondido; GHG = greenhouse gas; MTCO₂e = metric tons of carbon dioxide equivalent
 Source: EPIC 2020.

Strategy 3: Reduce Vehicle Miles Traveled

In addition to using cleaner fuels, reductions can be achieved by reducing the amount individuals drive. This strategy would achieve GHG emission reductions by reducing the amount of vehicle trips and vehicle miles traveled (“VMT”). To reduce VMT, this strategy aims to increase the use of alternative transportation modes (e.g., transit, bicycling); reduce vehicle trips associated with new developments through transportation demand management (“TDM”) programs and transit-oriented and/or supportive policies and programs; and increase connectivity between



major commercial, retail, and residential areas in the City. The nine measures provided under this strategy require the collaboration from local and regional agencies, residents, and businesses. Reducing VMT provides the most GHG emission reductions under the transportation category, and the implementation of this strategy would reduce emissions 20,000 MTCO_{2e} in 2030 and 32,000 MTCO_{2e} in 2035. Table 3-4 provides the details of the measures, performance metrics, and supporting actions under this strategy to reduce citywide VMT.

Table 3-4 Reduce Vehicle Miles Traveled

Measure T-3.1: Participate in the San Diego Association of Governments' iCommute Vanpool Program.

Promote and encourage businesses to participate in SANDAG's iCommute Vanpool Program.

Target Year	Performance Metric	GHG Reduction Potential (MTCO ₂ e)
2030	Maintain a minimum of 36 SANDAG vanpools annually that start or end in the City in 2030.	837
2035	Maintain a minimum of 36 SANDAG vanpools annually that start or end in the City in 2035.	787

Measure T-3.2: Improve Pedestrian Infrastructure in Priority Areas.

Develop an Active Transportation Plan that includes:

- A citywide Pedestrian Master Plan;
- An update to the City's Trail Master Plan;
- A Safe Routes to School Plan;
- A Safe Routes to Transit Plan; and
- Identify and prioritize areas for pedestrian infrastructure improvements in the City.

Install new or improve existing pedestrian infrastructure in priority areas (e.g., downtown employment centers, near transit stations).

Target Year	Performance Metric	GHG Reduction Potential (MTCO ₂ e)
2023	Develop and adopt an Active Transportation Plan that includes a Pedestrian Master Plan, Trails Master Plan, Safe Routes to School Plan, and Safe Routes to Transit Plan.	-
2030	Install or improve at least 5.8 miles of sidewalk in priority areas.	44
2035	Install or improve at least 8.3 miles of sidewalk in priority areas.	59

Measure T-3.3: Implement Safe Routes to School Program at Escondido Union School District.

Develop a Safe Routes to School Plan for inclusion in the City's Active Transportation Plan, continue to work with EUSD to implement the Safe Routes to School Program to increase the number of students walking and riding bicycles to and from school, and complete infrastructure improvement projects, such as:

- Installing new sidewalks;
- Installing intersection and crosswalk signals and high visibility crosswalk upgrades;
- Retrofitting signals to include countdown pedestrian indications at crossings; and
- Identifying and implementing other similar projects near schools within the City.

¹ [https://www.nctd.org/Escondido-District-School-Transit-Station-VA001](#)

² [https://www.nctd.org/Escondido-District-School-Transit-Station-VA001](#)

Target Year	Performance Metric	GHG Reduction Potential (MTCO ₂ e)
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¹ Pedestrian infrastructure improvements as defined in the *Methods for Estimating Greenhouse Gas Emissions Reductions in the Escondido Climate Action Plan* include sidewalk improvements (i.e. sidewalk widenings, repair and maintenance programs, and ADA retrofits) and intersection improvements (raised pedestrian crossings, intersection "neck-downs," pedestrian islands, and pedestrian signals).

Table 3-4 Reduce Vehicle Miles Traveled

2023	Develop and adopt an Active Transportation Plan that includes a Safe Routes to School Plan.	-
2030	Increase the percent of students walking to school in the EUSD to 27 percent in 2030.	60
	Increase the percent of students bicycling to school in the EUSD to 2.3 percent in 2030.	
2035	Increase the percent of students walking to school in the EUSD to 30 percent in 2035.	82
	Increase the percent of students bicycling to school in the EUSD to 2.5 percent in 2035.	

Commented [KB8]: City is counting current and planned reduction in VMT reported by schools based on their program.

Commented [KB9]: Include: 2021: increase percent of municipal staff participating in Alternate Workplace, Telecommuting, Alternate Work Schedule programs. Conduct campaign to encourage local employers to implement Alternate workplace programs.

Commented [LH10]: Karl can you review this?

Measure T-3.4: Develop a Citywide Transportation Demand Management Plan.

Adopt a TDM ordinance, effective in 2022, that requires new non-residential developments and existing businesses in the downtown employment center to develop and implement TDM programs and policies. At a minimum, the TDM ordinance will require new non-residential developments and existing businesses to:

- Provide "end-of-trip" facilities for bicycle commuters (i.e. bicycle parking spaces, showers, lockers);
- Provide discounted monthly NCTD transit passes or transit subsidies;
- Provide informational material to employees for carpool and vanpool ride-matching services; and
- Implement parking cash-out policies.

Target Year	Performance Metric	GHG Reduction Potential (MTCO _{2e})
2021	Adopt a TDM ordinance, effective in 2022.	-
2023	Develop and implement a wayfinding program with signage and information systems to facilitate walking, biking, and efficient driving and parking	-
2030	Increase bicycle commute mode share to 2.0 percent citywide and 3.5 percent in the downtown employment center in 2030.	533
	Increase transit commute mode share to 4.5 percent citywide and 7.5 percent in the downtown employment center in 2030.	
	Increase carpool commute mode share to 17.0 percent citywide and 15.5 percent in the downtown employment center in 2030.	
2035	Increase bicycle commute mode share to 2.5 percent citywide and 4.0 percent in the downtown employment center in 2035.	820
	Increase transit commute mode share to 5.0 percent citywide and 8.0 percent in the downtown employment center in 2035.	
	Increase carpool commute mode share to 17.0 percent citywide and 16.0 percent in the downtown employment center in 2035.	

Measure T-3.5: Update Bicycle Master Plan.

Update the City's Bicycle Master Plan and install new or improve existing Class II or better bicycle lanes ~~with~~ placement signs and upgrades to the existing Class I or Class II bike racks to improve safety, usability, and as a urban center

Target Year	Performance Metric	GHG Reduction Potential (MTCO _{2e})
2023	Develop an Active Transportation Plan that includes an update to the City's Bicycle Master Plan.	-
2024	Develop and implement a citywide bike rack policy.	-

Table 3-4 Reduce Vehicle Miles Traveled

2025	Develop and implement a program to incentivize City employees commuting to work by bike or other modes of alternative transport as a model for other local employers.	-
2030	Install at least 19 miles of new Class II or better bicycle lanes by 2030.	231
2035	Install at least 30 miles of new Class II or better bicycle lanes by 2035.	335

Measure T-3.6: Increase Transit Commuters Among New Downtown Residents.

Increase the number of commuters using transit from new residential developments in the Downtown Specific Plan area by:

- Implementing smart growth policies consistent with the Downtown Specific Plan ²;
- Pursue State grants such as the Affordable Housing and Sustainable Communities grants to support affordable housing projects near public transit centers;
- Requiring projects to provide six-month transit passes to new residents if proposing any reduction in parking over 15 percent of required amount;
- Develop approach to allow flexibility for high-density, transit-oriented developers to adjust parking standards under specific conditions;
- Adopt an inclusionary housing ordinance and infill policies to ensure range of housing in urban core;
- Develop a Safe Routes to Transit Plan;
- Implementing projects identified through this the Safe Routes to Transit Plan; and
- Requiring projects to monitor transit use by new residents for the first six months of operation and present monitoring results to the City.

Target Year	Performance Metric	GHG Reduction Potential (MTCO _{2e})
2023	Develop an Active Transportation Plan that includes a Safe Routes to Transit Plan.	-
2024	Develop a downtown parking study and feasibility study to look into multi-level, public/private parking lot(s) and convert surplus city-owned lots to facilitate redevelopment.	-
2030	Increase the proportion of commuters using transit and living in new residential developments within the Downtown Specific Plan and South County City Specific Plan area from five percent to eight percent by 2030.	84
2035	Increase the proportion of commuters using transit and living in new residential residential developments within the Downtown Specific plan area to 10 percent by 2035.	177

Commented [KB11]: I think this covers the result of our interest to: "By 2023, develop measures to facilitate urban infill in transportation corridor. Increase the percent, perhaps."

Measure T-3.7: Develop an Intra-City Shuttle Program.

Assess the feasibility of and implement an intra-city shuttle system that includes:
 Commit to an electric-shuttle for the first mile, last mile that connects PINs, downtown and other key areas to the transit station and to shopping areas in the urban core.
 Develop a shuttle program funded by ~~development~~ development fees, SANDAG partnership, State funds and CCE investment area.

- Two or more routes;

² Smart Growth Principles, Guidelines and Standards as defined in Section III.A.1 of the City's Downtown Specific Plan.

Table 3-4 Reduce Vehicle Miles Traveled

- Develop a service population-based vehicle miles traveled threshold for new projects to reduce citywide VMT.
- Connections between activity centers within the city;
- Routes that do not directly overlap existing transit service routes; and
- High-frequency service (headways of 10-minutes or less) during peak commute periods.

Target Year	Performance Metric	GHG Reduction Potential (MTCO ₂ e)
2030	Complete a feasibility study that demonstrates the <u>ELECTRIC</u> intra-city shuttle system would reduce interal trips seven percent by 2030 and 10 percent by 2035.	4,463
2035	Operate two or more shuttle routes with 10-minute headways during commute hours in 2030.	
2035	Operate two or more shuttle routes with 10-minute headways during commute hours in 2035.	6,540

Measure T-3.8: Increase Transit Ridership.

Increase the total number of regional commuters living or working in the City using transit by working with MTS and NCTD to:

- Prioritize funding for affordable/safe and green transit in priority investment neighborhoods.
- Increase service frequency to the city; and
- Increase transit-friendly land uses (i.e., residential and office) near transit stations.
- Avoid expansion of arterial roads and implement SB743 per OPR guidance.

Target Year	Performance Metric	GHG Reduction Potential (MTCO ₂ e)
2030	Increase internal-external/external-internal ³ commute transit mode share of <u>22%</u> percent by 2030.	7,829
2035	Increase internal-external/external-internal commute transit mode share of <u>25%</u> percent by 2035.	11,447

Measure T-3.9: Develop and Implement a Service Population-Based Vehicle Miles Traveled Threshold.

Develop a service population-based threshold for VMT to apply to new projects to reduce citywide VMT. This threshold would require new projects to demonstrate that project VMT would support a reduction in citywide VMT.

Target Year	Performance Metric	GHG Reduction Potential (MTCO ₂ e)
2030	Reduce citywide VMT to <u>25%</u> percent below projected 2030 VMT levels in 2030.	5,829
2035	Reduce citywide VMT to <u>25%</u> percent below projected 2035 VMT levels in 2035.	11,075

Supporting Actions:

- Participate in and promote annual regional commute trip reduction events.
- Incorporate multi-modal improvements into pavement resurfacing, restriping, and signalization operations where the safety and convenience of users can be improved within the scope of work.

³ Internal-external commute trips are defined as trips occurring during commute hours that originate in the city and end outside of the city. External-internal commute trips are defined as trips occurring during commute hours that originate outside of the city and end in the city.

Commented [LH12]: This metric should be rewritten to reference SB 743 and the City of Escondido Transportation Study Guide. A memo on exactly what 'service based' means would be helpful.

Commented [LH13]: These reduction goals are far too low. The goal should be, at least, reaching 25% by 2050

Table 3-4 Reduce Vehicle Miles Traveled

- 1. Continue to pursue public and private funding to expand and link the City's bicycle and pedestrian network in accordance with both the General Plan Mobility and Infrastructure Element and Trails Master Plans.
- 2. Evaluate and enhance the City's transportation infrastructure to support a variety of transportation modes, including transit, walking, and bicycling, and to support the use of existing infrastructure.
- 3. Evaluate and enhance the City's transportation infrastructure to support a variety of transportation modes, including transit, walking, and bicycling, and to support the use of existing infrastructure.
- 4. Evaluate and enhance the City's transportation infrastructure to support a variety of transportation modes, including transit, walking, and bicycling, and to support the use of existing infrastructure.
- 5. Evaluate and enhance the City's transportation infrastructure to support a variety of transportation modes, including transit, walking, and bicycling, and to support the use of existing infrastructure.

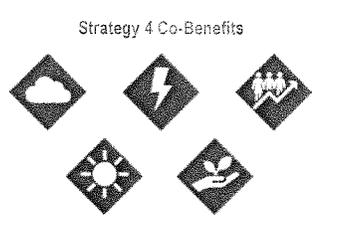
Notes: City = City of Escondido; EUSD = Escondido Union School District; GHG = greenhouse gas; MTCO_{2e} = metric tons of carbon dioxide equivalent; MTS = Metropolitan Transit System; NCTD = North County Transit District; SANDAG = San Diego Association of Governments; TDM = Transportation Demand Management; VMT = vehicle miles traveled
Source: EPIC 2020.

Energy Emissions Category

Emissions in the energy category are generated through residential and non-residential electricity and natural gas use. Electricity and natural gas accounted for 27 percent and 12 percent of the City's 2012 emissions inventory, respectively. With a combined emissions contribution of 39 percent, the energy category is the second largest contributor to overall City emissions. Legislative reductions from State energy efficiency and renewable energy programs will contribute to reducing emissions by increasing the amount of utility supplied renewable energy and improving energy efficiency of new buildings. At the local level, GHG emissions reductions would be achieved by improving energy efficiency of existing buildings and improving energy efficiency of new developments beyond State requirements. GHG reductions would also occur from increasing the amount of renewable energy generated locally while reducing the amount of non-renewable energy consumed. Initiatives directed under the energy category rely on efforts by local utilities, organizations, and agencies, with participation from the community.

Strategy 4: Increase Building Energy Efficiency

While State legislative actions provide reductions related to building energy efficiency, additional reductions are achievable by adopting local measures. This strategy aims to reduce emissions by reducing energy consumed by residential consumers and in municipal facilities through increased energy efficiency in existing residential and commercial buildings and new projects. The four measures under this strategy would reduce the City's emissions by approximately 1,000 MTCO_{2e} in 2030 and 1,000 MTCO_{2e} in 2035. Table 3-5 outlines the framework to increase building



energy efficiency under this strategy and the supporting actions that provide additional potential reductions and funding opportunities.

Table 3-5 Increase Building Energy Efficiency

Measure E-4.1: Require New Residential Developments to Install Alternately-Fueled Water Heaters.

Adopt an ordinance, effective in 2023, requiring all new single-family and multi-family residential projects to install electric heat pump water heaters.

Target Year	Performance Metric	GHG Reduction Potential (MTCO ₂ e)
2022	Adopt an ordinance requiring the installation of alternately-fueled water heaters effective in 2023	-
2030	Approve 995 new residential units served by electric heat pump water heaters by 2030.	629
2035	Approve 1,276 new residential units served by electric heat pump water heaters by 2035.	822

Commented [LH14]: I'm not clear how this gets us any reduction given that new development increases emissions.

Measure E-4.2: Require New Multi-Family Residential Developments to Install Electric Cooking Appliances.

Adopt an ordinance, effective in 2023, requiring all new multi-family residential units to install only electric cooking appliances.

Target Year	Performance Metric	GHG Reduction Potential (MTCO ₂ e)
2022	Adopt an ordinance, effective in 2023, requiring the installation of electric cooking appliances.	-
2030	Install 955 new electric cooking appliances.	143
2035	Install 1,142 new electric cooking appliances.	172

NEW / MS-SURE T : INSERT HERE 4.3 2022, establish a rental home inspection and audit program an integrated energy efficiency program funding and subsidies for low income residents in PHS. Target 31 homes/year for 2023 GHG reduction.

PHS Goals: PHS focus on pilot housing with available incentives for landlords to upgrade their homes.

Supporting actions: Evaluate conditions and neighborhood weatherization audits and requirements to upgrade existing multi-family units.

Accountability: Develop metrics to ensure the success of the Multi-Family program.

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Measure E-4.3: Reduce Electricity Use in Streetlights.

Retrofit City-owned HPS streetlights with LED streetlights, starting in 2021.

Target Year	Performance Metric	GHG Reduction Potential (MTCO ₂ e)
2030	Retrofit 300 existing HPS streetlights with LEDs by 2030.	3

Table 3-5 Increase Building Energy Efficiency

2035	Retrofit 450 existing HPS streetlights with LEDs by 2035.	3
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Measure E-4.4: Require Non-Residential Alterations and Additions to Install Alternative-Fuel Water Heaters.

Adopt an ordinance, effective in 2023, requiring all non-residential alterations and additions with a permit value of \$200,000 or more to install electric heat pump water heaters.

Target Year	Performance Metric	GHG Reduction Potential (MTCO _{2e})
2030	Require the installation of electric heat pump water heaters for a minimum alteration and addition area of 1.08 million sq. ft. of non-residential buildings by 2030.	160
2035	Require the installation of electric heat pump water heaters for a minimum alteration and addition area of 1.755 million sq. ft. of non-residential buildings by 2035.	263

Supporting Actions:

- Encourage energy efficiency improvements through rebates or incentives.
- Evaluate municipal facilities and operations for additional energy savings opportunities through SANDAG's Roadmap Program.
- Create and support Property Assessed Clean Energy financing to facilitate residential and commercial property upgrades.

Commented [LH15]: These 3 supporting actions should all be formalized as measures.

Notes: City = City of Escondido; GHG = greenhouse gas; HPS = high pressure sodium; LED = light-emitting diode; MTCO_{2e} = metric tons of carbon dioxide equivalent; SANDAG = San Diego Association of Governments; sq. ft. = square feet
Source: EPIC 2020.

Strategy 5: Increase Renewable and Zero-Carbon Energy

GHG emissions reductions would be achieved through implementation of this strategy by reducing the amount of electricity generated from fossil fuels and transitioning to cleaner energy sources such as renewables. Installing more renewable energy systems will provide a reliable local energy supply that is a more sustainable source of electricity. Under this strategy, the City would increase renewable energy locally at municipal and commercial developments and would assess the feasibility of participating in a community choice aggregation ("CCA") program. The four measures included under this strategy would reduce City emissions by approximately 45,000 MTCO_{2e} in 2030 and 34,000 MTCO_{2e} in 2035. Table 3-6 provides details on this strategy and the supporting actions currently in process at municipal renewable facilities.

Strategy 5 Co-Benefits

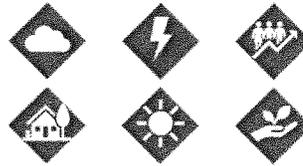


Table 3-6 Increase Renewable and Zero Carbon Energy

Measure E-5.1: Increase Renewable Energy Generated at Municipal Facilities

Increase on-site renewable generation at municipal facilities and parking lots by installing PV systems.

Table 3-6 Increase Renewable and Zero Carbon Energy

Measure	GHG Reduction Potential (MTCO ₂ e)
Support the efforts at the Hale Avenue Resource Recovery Facility to create renewable electricity and heat for municipal operations.	100
Facilitate the development of distributed renewable energy resources such as solar photovoltaic, solar thermal, and geothermal energy.	100
Support the development of municipal energy efficiency programs.	100

Supporting Actions:

- Support the efforts at the Hale Avenue Resource Recovery Facility to create renewable electricity and heat for municipal operations.
- Facilitate the development of distributed renewable energy resources such as solar photovoltaic, solar thermal, and geothermal energy.
- Support the development of municipal energy efficiency programs.

Commented [KB18]: Need MTCO₂e target and specific metrics Or maybe these are supporting actions that don't have an emission metric yet.

Notes: CCA = Community Choice Aggregation; CCE = Community Choice Energy; City = City of Escondido; EUSD = Escondido Union School District; GHG = greenhouse gas; MTCO₂e = metric tons of carbon dioxide equivalent; MW = megawatt PV = photovoltaic; sq. ft. = square feet
Source: EPIC 2020.

Water and Wastewater Emissions Category

Energy consumed to supply, deliver, and treat water and wastewater results in the generation of GHG emissions. Although emissions from water and wastewater contribute approximately two percent of the City's total emissions in 2012, actions taken by residents and from municipal activities can significantly reduce citywide emissions in this sector. Reducing water use leads to a more reliable water supply that may help the City adapt to climate change impacts.

Strategy 6: Increase Water Efficiency

The measures under this strategy reduce the amount of water consumption for landscaping in both residential and municipal land uses. Reducing the amount of water used would reduce the energy needed to supply, treat, and deliver water and the GHG emissions associated with those processes. The two measures under this strategy would reduce the City's emissions by an estimated 50 MTCO₂e in 2030 and 80 MTCO₂e in 2035. Table 3-7 outlines the framework for this strategy.

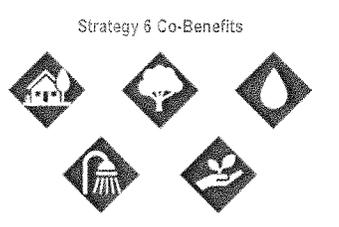


Table 3-7 Increase Water Efficiency

Measure W-6.1: Reduce Municipal Landscape Water Consumption.

Reduce water consumption at City Parks and in the City's LMD by:

- Installing smart irrigation controllers and water efficient rotator nozzles in the City's LMD; and,

Table 3-7 Increase Water Efficiency

- Requiring all new/replacement irrigation controllers installed at City parks to be smart controllers.

Target Year	Performance Metric	GHG Reduction Potential (MTCO ₂ e)
2030	Reduce water use at City Parks and in the City's LMD by 84 acre-feet in 2030.	45
2035	Reduce water use at City Parks and in the City's LMD by 118 acre-feet in 2035.	64

Measure W-6.2: Reduce Landscape Water Consumption at New Home Developments

Adopt an ordinance, effective in 2022, that reduces water consumed for landscaping at new single-family and townhome model developments by:

- Requiring all single-family and townhome homes to be fully equipped with greywater systems and rain barrels (or other rainwater capture systems); and
- Requiring home developers to offer greywater systems and rain barrels (or other rainwater capture systems) as an add-on option.

Target Year	Performance Metric	GHG Reduction Potential (MTCO ₂ e)
2021	Adopt an updated landscape ordinance effective 2022.	-
2030	Approve the development of 130 new single-family homes or townhouses with greywater systems and rain barrels by 2030.	8
2035	Approve the development of 195 new single-family homes or townhouses with greywater systems and rain barrels by 2035.	12

Supporting Actions:

- Encourage water use efficiency improvements through rebates and incentives.

Notes: City = City of Escondido, GHG = greenhouse gas; LMD = Landscape Maintenance District, MTCO₂e = metric tons of carbon dioxide equivalent
Source: EPIC 2020.

Commented [KB19]: NEW Measure: Reduce residential and commercial landscape Water Consumption

- Support existing programs to offset costs of landscape conversion to drought tolerant native plants
- Provide free rainwater capture barrels for low income households.
- Develop water efficiency inspections free upon request and required at sale or new rental occupancy for home plumbing and irrigation.
- Develop regular audit and inspections for water efficiency for plumbing and landscaping for commercial buildings.

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Strategy 7: Diversify Local Water Supply

As described under the previous strategy, GHG emissions associated with the water category are from the upstream energy use of supplying, treating, and delivering water. By increasing the City's local water supply, the energy required to transport water throughout the City would be reduced. Under this strategy, the City plans to install a Membrane Filtration/Reverse Osmosis ("MFRO") Facility to produce a high-quality water supply for agricultural purposes and reduce the reliance on water imported from outside of the city. The one measure under this strategy would reduce the City's GHG emissions by approximately 3,000 MTCO₂e in 2030 and 4,000 MTCO₂e in 2035. Table 3-8 provides details of the measure under this strategy and the supporting actions for additional water conservation efforts.

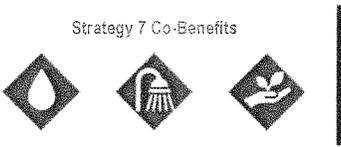


Table 3-8 Diversify Local Water Supply

Measure W-7.1: Develop a Local Water Supply for Agricultural Water Use.

Construct and operate a new MFRO facility to produce high-quality water supply for local agricultural uses.

Target Year	Performance Metric	GHG Reduction Potential (MTCO ₂ e)
2030	Supply 6,721 acre-feet of water to agricultural customers from the MFRO facility in 2030.	3,541
2035	Supply 6,721 acre-feet of water to agricultural customers from the MFRO facility in 2035.	3,571

Supporting Actions:

- Maintain local water supply through water conservation efforts.

Notes: City = City of Escondido; GHG = greenhouse gas; MFRO = Membrane Filtration/Reverse Osmosis; MTCO₂e = metric tons of carbon dioxide equivalent
 Source: EPIC 2020.

Solid Waste Emissions Category

GHG emissions associated with the disposal of solid waste are generated from the decomposition and off-gassing of material in landfills. To reduce GHG emissions, the City can work with regional agencies to reduce the amount of solid waste disposed of at landfills by implementing programs that increase recycling and composting. Emissions generated by solid waste contributed approximately three percent of citywide emissions in 2012. Through collaboration with local agencies and waste haulers, and changes in residents' and business owners' behaviors, reductions in solid waste can be achieved.

Strategy 8: Reduce and Recycle Solid Waste

Ways to reduce GHG emissions associated with solid waste disposal involve material recycling or organic material composting. Increased recycling and composting locally can lead to additional benefits, such as increased products created from locally recycled material and fertilizer, and organic waste covering for local agricultural use. Under this strategy, the City would increase the amount of waste diverted away from landfills. Implementation of this strategy would reduce GHG emissions by approximately 24,000 MTCO₂e in 2030 and 26,000 MTCO₂e in 2035. Table 3-9



provides the framework for solid waste diversion and the supporting actions to develop partnerships and recycle waste generated at construction sites.

Table 3-9 Reduce and Recycle Solid Waste

Measure S-8.1: Increase Citywide Waste Diversion.

Increase citywide waste diversion by:

- Working with the City's franchise waste hauler to prepare a waste diversion plan that identifies steps toward achieving the 2035 waste diversion goal;

Table 3-9 Reduce and Recycle Solid Waste

- Adopting and implementing an organic waste recycling program to support regional efforts that includes a food scrap composting program and fully permitted community compost facilities; ---
- Adopting a composting and waste diversion ordinance, effective in 2023, to support at-home management of food waste ---
-

Target Year	Performance Metric	GHG Reduction Potential (MTCO ₂ e)
2021	Adopt and implement an organic waste recycling program	-
2021	Adopt a composting and waste diversion ordinance	-
2021	Achieve 100 percent citywide waste diversion in 2021	23,588
2021	Achieve 100 percent citywide waste diversion in 2021	25,535
2021	Adopt a composting and waste diversion ordinance	-

Commented [LH20]: Moved above under 2021

Supporting Actions:

- Explore opportunities with franchise waste hauler and other local business organizations to develop and encourage participation in commercial food scrap collection program.
- Continue to participate in regional waste diversion discussions and monitor mandatory participation levels in other area construction and demolition waste diversion ordinances.
- Develop a Zero Waste Plan that:
 - Identify opportunities for waste reduction and recycling.
 - Establish a Zero Waste Task Force as part of the Climate Commission.
 - Expand on a Zero Waste Strategy Plan developed in Escondido.
 - Establish a Zero Waste Business Program.
 - Establish a Zero Waste Program for City and City Office.
- Develop a Zero Waste Plan that:
 - Identify opportunities for waste reduction and recycling.
 - Establish a Zero Waste Task Force as part of the Climate Commission.
 - Expand on a Zero Waste Strategy Plan developed in Escondido.
 - Establish a Zero Waste Business Program.
 - Establish a Zero Waste Program for City and City Office.

Notes: City = City of Escondido; GHG = greenhouse gas; MTCO₂e = metric tons of carbon dioxide equivalent
 Source: EPIC 2020.

Natural Systems

Maintaining tree cover and areas of vegetation is essential for the natural carbon cycle and for sustaining life. Through photosynthesis, plants convert carbon dioxide from the atmosphere into oxygen and carbon-based matter. This process of removing atmospheric carbon dioxide through natural processes is referred to as carbon sequestration. Communities can increase the amount of carbon sequestered locally by expanding the urban forest canopy and protecting natural systems to reduce communitywide GHG emissions.

Strategy 9: Carbon Sequestration and Land Conservation

Increasing tree cover and preserving land for agriculture or open space in an urban area is a strategy to sequester carbon locally and reduce citywide GHG emissions. The measures under this strategy focus on implementing programs to increase the number of trees planted at new developments and in public areas. The City will incentivize efficient land development practices by permitting additional development density for projects that also commit to conserve open space and agriculture lands. Implementation of the carbon sequestration and land conservation measures would reduce City emissions by approximately 700 MTCO₂e in 2030 and 1,000 MTCO₂e in 2035. Table 3-10 provides details on this strategy and supporting actions that incentivize tree planting and vegetation management programs.

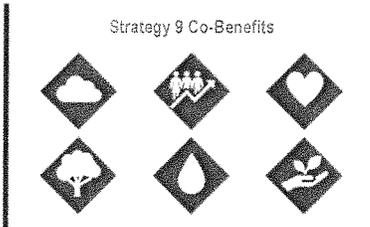


Table 3-10 Carbon Sequestration and Land Conservation

Measure C-9-1: Enforce Landscape Tree Requirements at New Developments.

Adopt an updated landscape ordinance, effective in 2022, to increase the number of new trees planted at new developments by requiring:

- Non-residential developments to plant a minimum of one landscape tree for every four parking spaces; and
- New single-family and multi-family residential developments to plant a minimum of one landscape tree per unit.

Target Year	Performance Metric	GHG Reduction Potential (MTCO ₂ e)
2021	Adopt an updated landscape ordinance.	-
2030	Plant and maintain 2,802 new trees at new developments by 2030.	183
2035	Plant and maintain 4,076 new trees at new developments by 2035.	239

Measure C-9-2: Develop a Citywide Urban Forestry Program.

Develop, adopt, and implement an Urban Forestry Program to plant new trees and track tree planting and maintenance in public areas (i.e. City facilities, public parks, and public rights-of-way), including standards to right-size trees to minimize pruning and support hydrozoning techniques. Priority consideration for PINs.

Table 3-10 Carbon Sequestration and Land Conservation

Target Year	Performance Metric	GHG Reduction Potential (MTCO ₂ e)
2025	Adopt an Urban Forestry Program.	-
2030	Plant and maintain 1,010 new trees in public areas by 2030.	36
2035	Plant and maintain 1,347 new trees in public areas by 2035.	48

Measure C-9.3: Develop an Agricultural Land and Open Space Conservation Program.

Develop programs and policies that would conserve agricultural land and open space, including:

- Developing an Agricultural Land and Open Space Conservation Program that allow developers to preserve lands and/or increase residential development density in smart growth infill areas by removing development potential of lands;

By 2023, Develop a Riparian Restoration Initiative that supports collaboration with the California Department of Fish & Wildlife and other conservation groups to prioritize opportunities for the restoration of Escondido Creek and Reidy Creek—including the channelized portions—for carbon sequestration, heat relief in priority neighborhoods, and wildlife habitat mitigation.

- Investigate incentives and programs for the “carbon farming” to reduce GHGs and protect a riparian agriculture such as the State Office of Environmental Planning and Regulation and other programs.
- Pursue eligible Ag management practices and subsequent funding via the CDFA Health Soils Funding Program

- Adopting a Community Gardening Ordinance, effective in 2023, that incorporates an annexation conservation policy;
- Adopting a Williamson Act incentive program, effective in 2022, to encourage the continuation of agricultural operations; and
- Adopting an Open Space Conservation program, effective in 2023, that requires 75 percent of annexed lands to be conserved. include policies for conservation of key natural habitat areas and agricultural lands by increasing goals and metrics for ‘avoided conversion’ through preservation and restoration for habitat and agricultural lands. coordinate with SANDAG and other agencies for funding for acquisition and management of lands conserved for habitat protection and agricultural use.

Target Year	Performance Metric	GHG Reduction Potential (MTCO ₂ e)
2022	Adopt a Williamson Act incentive program.	-
2023	Adopt a Community Gardening Ordinance.	-
2023	Adopt an Open Space Conservation.	-
2030	Remove the development potential for at least 400 residential units on agricultural lands by 2030.	515

Commented [KB21]: New Metric: 2021: Create a City Forestry Team sub-unit of Parks and Recreation led by certified arborists.

New metric: 2021: pursue funding from CALFIRE grants for canopy assessment and priority investment.

New Metric: Develop master plan to fund, maintain and improve urban forests, with emphasis on use of water wise and drought resistant native trees and shrubbery.

New Metric Planting and replacement program in deficient areas and PINs

New Metric: Establish requirements for street/median trees to be planted in new commercial developments

New Metric: Adopt ordinances to require tree preservation, with enhanced inspection, enforcement and maintenance capabilities.

Commented [KB22]: TS: City needs to attend CAL FIRE Grant workshop and apply for 2021/2022 Cal Fire Urban Forestry Grant to jumpstart it’s urban forestry program and fund the key initiatives laid out by the subcommittee.

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Commented [KB24]: Need to include reduction metrics, target years

Table 3-10 Carbon Sequestration and Land Conservation

2035	Remove the development potential for at least 400 residential units on agricultural lands by 2035.	762
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Supporting Actions:

- Continue turf management practices which specify the top-dressing of compost to increase carbon sequestration at City parks.
- Collaborate with CSE and SDG&E in developing shade tree give-away program or other incentives to encourage planting of shade trees for existing residential and non-residential sites.
- Incentivize tree planting on private property by giving away tree seedlings during Arbor Day or other events.

Notes: City = City of Escondido; CSE = Center for Sustainable Energy; GHG = greenhouse gas; MTCO₂e = metric tons of carbon dioxide equivalent; SDG&E = San Diego Gas and Electric; VMT = vehicle miles traveled
 Source: EPIC 2020.

Updates to Previous CAP Measures

This CAP was developed to update the goals of and build upon the General Plan policies related to climate change and reducing GHGs, and measures identified in the City's previously adopted 2013 CAP. As discussed in Chapter 1, the City's 2013 CAP includes GHG reduction measures that reduce emissions from government operations, energy, transportation, area sources, water, solid waste, and construction categories. The measures that were developed for this CAP were derived from a review of the measures included in the 2013 CAP and organized using guidance from SANDAG's ReCAP. Several measures from the 2013 CAP were updated and included in this CAP. Similarly, the measures in this CAP were developed to be consistent with related General Plan policies. A summary of the relationship between the measures in this CAP, measures included in the 2013 CAP, and General Plan policies is provided in Appendix C.



Chapter 4
IMPLEMENTATION AND MONITORING

This chapter outlines how the City of Escondido ("City") will implement and monitor the Climate Action Plan ("CAP") strategies and measures over time to reduce greenhouse gases ("GHGs"). To achieve the GHG emissions reductions described in Chapter 3, strategies and measures must be reviewed, maintained, and implemented in a consistent manner to successfully serve the CAP's purpose.

Detailed steps for implementation were created as part of the City's previous CAP, prepared in 2013 ("2013 CAP"). The information presented in this chapter serves as an update to the implementation steps identified in the 2013 CAP and provides a framework for the City to monitor strategy and measure implementation.

Successful implementation of this CAP will require ongoing monitoring and review to ensure measures are effective. City staff will identify the feasibility of each measure's implementation and will monitor implementation progress in meeting the City's GHG reduction targets.

Implementing this CAP will involve the City Council, Planning Commission, a full time Sustainability or Climate Coordinator to lead planning and coordination across City departments, the establishment of a Climate Commission for coordination with other current boards and commissions, as well as City departments. The Climate Commission will include a minimum of eight representative stakeholders and experts to provide ongoing program support and guidance, identification of potential funding sources, partnerships and monitoring of implementation. The City will need to collaborate with the San Diego Association of Governments ("SANDAG"), the County of San Diego, other public and private agencies, and adjacent cities to implement strategies and measures requiring regional collaboration. The limited resources annually available to the City do not allow every strategy and measure to be funded and implemented simultaneously. The CAP's effective implementation will require a process to prioritize its strategies and measures periodically.

Implementation of measures identified in this CAP would meet the City's GHG reduction targets based on the analysis presented. As the City implements these measures, it will continue to examine additional efforts that could be taken to further reduce citywide GHG emissions. Such additional efforts may include the City's exploration of and

fund an offset program would provide new developments proposed in the City the opportunity to reduce their GHG emissions beyond feasible onsite actions. The program would consist of a fund or a list of GHG-reducing projects that new developments would be permitted to buy into to receive "credit" for emissions reductions from associated projects. Offset projects could include solar panel installation on existing buildings, electric vehicle purchasing for large vehicle or bus fleets, or energy retrofits for existing homes. Any "credits" generated through such a program would need to be additional to the strategies and measures identified in the CAP, or quantified GHG reductions identified in and associated with other regulatory programs or actions. This CAP does not rely on implementation of an offset program to meet GHG reduction targets.

Commented [LH1]:

4.1 Implementation Strategy

The implementation strategy presented in this chapter would ensure that the overall direction set forth in the CAP is translated into City and community actions. The purpose of this implementation strategy is to describe the specific actions the City will require of new developments, and will undertake itself to achieve communitywide reductions in GHG emissions. Continuous management, oversight, and staffing is required for the implementation of the GHG reduction

measures. Ensuring that measures translate to on-the-ground results and reductions in GHG emissions is critical to the success of the CAP. Success of the City's CAP and GHG emissions reduction measures will depend on the participation of City departments, residents, and businesses.

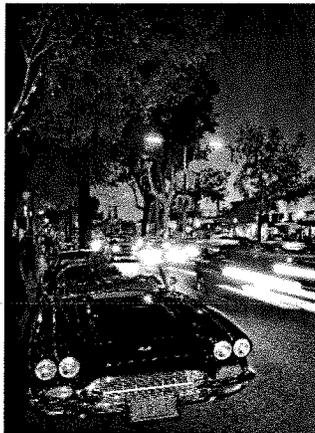
This CAP's implementation strategy identifies which measures require the most significant effort to implement and require the earliest implementation to achieve the GHG reductions identified in this CAP. To achieve GHG reduction targets, an implementation strategy is required to determine the priority of the strategies described in Chapter 3. Priorities are determined by a variety of factors, including the level of department/agency staff resources needed, required level of department/agency collaboration, and timeframe of implementation. To continue successful implementation of the CAP strategies, the City will further expand on this initial examination once implementation has begun. Implementation of this CAP will be achieved through two primary efforts: environmental review for new developments and City-led implementation activities.

4.1.1. New Development Environmental Review

The California Environmental Quality Act ("CEQA") requires lead agencies to identify significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible. Most proposals for physical developments are subject to the provisions of CEQA. The City has adopted local Environmental Quality Regulations that set thresholds for determining significance. As part of the development of this CAP, the City has updated these thresholds for determining significance for impacts related to GHG emissions. This CAP meets the criteria identified in Section 15183.5 of the CEQA Guidelines and, therefore, is considered a "qualified" CAP and may be used for the specific purpose of streamlining the analysis of GHG emissions for subsequent projects. The methodology for determining these thresholds is included in Appendix C.

CEQA Streamlining

New developments that are consistent with growth projections and applicable GHG reduction measures of the CAP are eligible for streamlining under the CEQA, per the provisions of the State's CEQA Guidelines Section 15183.5. Under these provisions, a project that is subject to discretionary review and is consistent with the City's General Plan growth projections can show consistency with applicable GHG reduction measures in a CAP, and the level of analysis for the project required under CEQA can be streamlined. Furthermore, a project's incremental contribution to cumulative GHG emissions may be determined not to be cumulatively considerable. The City has established a GHG screening threshold (set at 10 metric tons carbon dioxide equivalent ["MTCO_{2e}"] per year) for new development projects to determine if a project would need to demonstrate consistency with the CAP through the Checklist (Appendix E). New development projects that are consistent with the General Plan and are expected to generate fewer than 10 MTCO_{2e} annually would not have a cumulative impact and would not be required to provide additional analysis.



Source: City of Escondido

Commented [LH2]: Streamlining should only be allowed for very specific type of development.....

New development projects that are expected to generate greater than 100 MTCO₂e annually, but are consistent with the General Plan land use designation and zoning, may be determined to have a less than significant cumulative impact if they are determined to be consistent with the CAP. A project's consistency with the CAP will be determined through the CAP Consistency Review Checklist ("Checklist"). The Checklist contains GHG reduction measures applicable to development projects that are required to be implemented on a project-by-project basis to ensure that the specific emission targets identified in the CAP are achieved. New development projects will need to incorporate all potential applicable CAP measures to demonstrate consistency with the CAP. Table 4.1 provides a summary of the CAP measures included in the Checklist as well as the new development types to which they are applicable.

Commented [LH3]: Since all but 3 of the measure below actually result in reduced ghg emissions, several additional measure must be added here and to Chapter 3

Measure	Applicability
T-1.3 Adopt an Ordinance to Require EV Charging Stations at New Developments	New multi-family and commercial developments
T-1.4 Require EV Charging Stations at New Home Developments	New single-family homes and townhouses
T-2.3 Increase Renewable or Alternative Fuel Construction Equipment	All new developments
T-3.2 Improve Pedestrian Infrastructure in Priority Areas	All new developments in priority areas
T-3.4 Develop a Citywide TDM Ordinance	New non-residential developments
T-3.5 Update Bicycle Master Plan	All new developments that also propose/require roadway improvements ¹
T-3.6 Increase Transit Commuters Among New Downtown Residents	New residential developments within the Downtown Specific Plan area
E-4.1 Require New Residential Developments to Install Alternatively-Fueled Water Heaters	New residential developments
E-4.2 Require New Multi-Family Residential Developments to Install Electric Cooking Appliances	New multi-family residential developments
E-5.2 Require New Commercial Developments to Achieve ZNE	New office and retail developments

Measure	Applicability
W-6.2 Reduce Landscape Water Consumption at New Home Developments	New single-family homes and townhouses
C-9.1 Enforce Landscape Tree Requirements at New Developments	All new developments

Notes: CAP = Climate Action Plan; EV = electric vehicle; TDM = transportation demand management; ZNE = zero net energy
 * Further detail regarding measure applicability to new developments are provided in the *Climate Action Plan Consistency Review Checklist*.
 Source: Ascent Environmental 2020.

New development projects that are not consistent with General Plan land use designations and zoning would be required to develop a project-specific GHG analysis. The requirements of this analysis would be determined by the Director of Community Development and confirmed by the decision-making authority on a project-by-project basis. As the CAP is updated, the Checklist may also be updated to incorporate new GHG reduction techniques or to comply with later amendments to the CAP and/or local, State, or federal laws and/or regulations. By incorporating applicable GHG reduction measures in the Checklist into project designs or conditions of approval, the City will ensure that new development is consistent with applicable GHG reduction measures in the CAP and will contribute its “fair share” in achieving the identified GHG reduction targets.

4.1.2. City-Led Implementation Activities

The City will implement strategies and measures of the CAP through several types of programs and activities that can be grouped into categories. The categories identified for implementation activities include: Municipal Operations; New Ordinances and Code Updates; Planning; Partnerships; and Education and Outreach. While each measure identified in the CAP would fall into one of these categories, some measures overlap and belong to more than one category. For example, increasing citywide waste diversion (Measure S-8.1) first requires partnerships with existing waste haulers to ensure solid waste is handled appropriately, but would also require education to inform residents on proper solid waste sorting and reduction strategies. Detailed descriptions of each category are provided below.

Several CAP measures will require the City to develop and implement new ordinances, update the City’s code, and collaborate with other local or regional agencies to achieve GHG reductions.

Municipal Operations: Certain measures included in this CAP require specific City actions to update and make municipal operations more efficient. Examples include increasing the amount of renewable energy generated at municipal facilities (Measure E-5.1) and increasing the efficiency of streetlights (Measure E-4.3). These measures would be implemented by the City and would reduce emissions specifically related to municipal operations.

New Ordinances and Code Updates: Several measures in the CAP would be implemented through new ordinances or amended regulations adopted by the City. Examples of measures that require municipal approval include requiring new developments to install electric vehicle (“EV”) charging stations (Measure T-1.3) and requiring new residential developments to install alternatively-fueled water heaters (Measure E-4.1). New ordinances will ensure that the City requirements are in place to achieve the objectives of the CAP.

Planning: Measures that are more programmatic in nature require visioning and a larger planning effort to realize GHG reductions. Examples of implementation or development of planning documents or programs include an update to the City’s Bicycle Master Plan (Measure T-3.4) and an Urban Forestry Program (Measure C-9.2).

Financing and Incentives: Identifying mechanisms for funding and allocating resources will help ensure that the CAP is successfully implemented. Strategies and measures identified in the CAP would be implemented by community residents, business owners, and developers with opportunities and incentives to contribute to citywide GHG reductions. Promoting financing and incentive programs, like SANDAG’s iCommute program (Measure T-3.1), increases the participation in achieving citywide reduction goals.

Partnerships: Interagency coordination and partnerships with other organizations are critical to ensuring implementation of certain measures. This includes collaboration with SANDAG on developing an intra-city shuttle program (Measure T-3.7) and implementation of a Safe Routes to School Program with the Escondido Unified School District (Measure T-3.3). Other measures include collaboration with other government agencies, transportation agencies, and waste haulers in the region.

Education and Outreach: Educational efforts about the objectives of the CAP will help create support for the CAP and involve the community in its implementation. Informing residents and business owners about the co-benefits of GHG reduction measures would encourage participation and awareness of the goals of the CAP.

4.1.3. Implementation Timeframe

The timeframe over which strategies are implemented varies between both short-term (i.e. within a couple years) and long-term (i.e. within several years). These implementation timeframes were developed consistent with the implementation efforts identified in the 2013 CAP. Continuation of similar implementation definitions between CAPs assists in comparing the implementation efforts required for various measures over time. Prioritization of the measures is based on the timeframe over which measures can be implemented. Certain measures should be prioritized early because they require more effort and take longer to implement. Assigning such measures a higher implementation priority would allow the City to allocate resources appropriately. Generally, timeframes associated with each measure can be categorized as follows:

- **Ongoing:** Implementation is already occurring
- **Short-term:** Implementation will occur within the next three years
- **Mid-term:** Implementation will occur within approximately four to ten years

In general, all measures included in this CAP will require initial implementation actions to occur within the first few years after CAP adoption. Following initial short- or mid-term implementation actions, implementation of projects, programs, and plans will require ongoing management, communication, monitoring, and administration. The implementation timeframes provided in the implementation strategy matrix (Table 4-3) reflect the timeframe during which initial implementation of a measure would occur and if ongoing implementation is required.

4.1.4. Implementation Effort

Levels of effort required to implement measures are based on cost and ease of implementation. The implementation effort of each CAP measure is based on a scale of low, medium, or high. Consideration of staff implementation costs and the overall feasibility of implementation is needed to guide CAP measure prioritization. Staff implementation costs are based on the anticipated levels of resources, staffing, and timeframe required to implement each measure. Implementation costs are not intended to represent the relative costs of compliance for residents and businesses, but rather focuses on the City's relative costs to facilitate program development and implementation. Ease of implementation is based on whether there are already existing programs that are related, coordination between different departments or agencies, and a comparison between existing and proposed strategies.

While implementation of some measures can be achieved by existing staff, others will require the City to assign staff from various departments to assist with measure implementation or coordinate with staff from other agencies.

Commented [LH4]: Effectiveness really needs to be one of the criteria for the implementation.... not just how hard it is.

Sample criteria used to define the implementation efforts for each measure are shown in Table 4-2. It is possible for a measure to have a mix of implementation effort levels (i.e. have low staff implementation costs and high ease of implementation).

Table 4-2: Sample criteria used to define the implementation efforts for each measure.

Table 4-2 Implementation Effort Sample Criteria

Implementation Effort Level	Staff Implementation Costs	Ease of Implementation
Low	<ul style="list-style-type: none"> Requires limited resources of current staff Existing staff can implement but will require reprioritization of workload 	<ul style="list-style-type: none"> Existing programs in place to support implementation Limited external and internal coordination required Limited revisions to policy or code
Medium	<ul style="list-style-type: none"> Requires staff resources beyond current capacity Requires new part-time staff or contracts to implement 	<ul style="list-style-type: none"> Requires external and internal coordination Involves policy or code revisions The amount of funding needed for implementation is known and it can be acquired
High	<ul style="list-style-type: none"> Requires extensive staff resources Requires a significant number of new staff or contracts to implement 	<ul style="list-style-type: none"> Requires revisions to the General Plan or development of new policies, programs, or codes Requires robust outreach programs to residents and businesses Requires regional cooperation Requires securing long-term funding

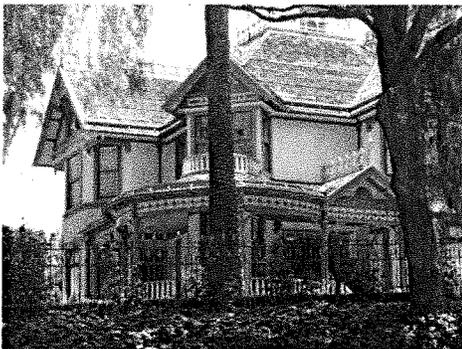
Source: Ascent Environmental 2020.

Commented [LH5]: The effectiveness of the measure should be included here in one place or another.

Commented [LH6R5]:

4.1.5. Implementation Strategy Matrix

The implementation strategy matrix, outlined below in Table 4-3, provides a summary of the initial prioritization and categorization of the CAP's strategies and measures. The matrix includes an implementation activity type, responsible department or agency, implementation timeframe, level of implementation cost, [effectiveness of the measure](#), and ease of implementation for each measure. Following adoption of the CAP, this implementation strategy matrix will serve as initial guidance for City staff. Future updates to the CAP will require the matrix to be adjusted according to feasibility and legislative requirements. Key staff in each department or agency will facilitate and oversee measure implementation, allocate staff resources, and secure funding, as needed.



Source: City of Escondido

Following approval of this CAP, the City will begin examining the actions that required to implement CAP measures. Additional implementation steps for each measure will build upon the implementation costs included in this CAP and further develop the information presented in this chapter. The specific steps required to implement each CAP strategy will serve as a reference document for City staff to identify implementation tasks, timelines, and responsible departments. Through the implementation process, City staff may need to revisit identified implementation steps to reflect adjusted timeframes, changes in budget availability, or development of new technologies.

Table 4-3 Implementation Strategy						
Measure	Title	Category	Responsible Department/ Agency	Implementation Timeframe	Staff Implementation Costs	Ease of Implementation
Strategy 1: Increase Use of Zero-Emission or Alternative Fuel Vehicles						
T-1.1	Transition to a Clean and More Fuel-Efficient Municipal Vehicle Fleet.	Municipal Operations	PW	Mid-Term	Low	Low
T-1.2	Install EV Charging Stations at Park and Ride Lots.	Planning	CD; PW	Short-Term	Medium	Medium
T-1.3	Adopt an Ordinance to Require EV Charging Stations at New Developments.	New Ordinances and Code Updates	CD; PW	Short-Term	Low	Medium
T-1.4	Require EV Charging Stations at New Model Home Developments.	New Ordinances and Code Updates	CD	Mid-Term	Low	Medium
Strategy 2: Reduce Fossil Fuel Use						
T-2.1	Synchronize Traffic Signals.	Municipal Operations	PW	Ongoing	Low	Medium
T-2.2	Install Roundabouts.	Planning	CD	Ongoing	Medium	Medium
T-2.3	Increase Renewable and Alternative Fuel Use in Construction Equipment.	New Ordinances and Code Updates	CD	Short-Term	Low	Low
Strategy 3: Reduce Vehicle Miles Traveled						
T-3.1	Participate in the SANDAG iCommute Vanpool Program.	Partnerships	CM; CD	Ongoing	Low	Low
T-3.2	Improve Pedestrian Infrastructure in Priority Areas.	Planning	CD	Ongoing	Low	Low
T-3.3	Implement the Safe Routes to School Program.	Education and Outreach	CD; EUSD	Ongoing	Low	Low
T-3.4	Develop a Citywide TDM Plan.	Planning	CD	Short-Term	Medium	Medium
T-3.5	Update Bicycle Master Plan.	Planning	CD	Ongoing	Medium	Medium
T-3.6	Increase Transit Commuters Among New Downtown Residents.	Education and Outreach	CD	Ongoing	Low	Low
T-3.7	Develop an Intra-City Shuttle Program.	Planning; Partnerships	CD; PW	Mid-Term	High	Medium

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Table 4-3 Implementation Strategy						
Measure	Title	Category	Responsible Department/ Agency	Implementation Timeframe	Staff Implementation Costs	Ease of Implementation
T-3.8	Increase Transit Ridership.	Planning; Partnerships	CD; SANDAG	Mid- to Long-Term	Medium	Medium
T-3.9	Develop and Implement a Service Population-Based VMT Threshold.	Planning	CD	Short-Term	Low	Low
Strategy 4: Increase Building Energy Efficiency						
E-4.1	Require New Residential Developments to Install Alternately-Fueled Water Heaters.	New Ordinances and Code Updates	CD	Short-Term	Low	Low
E-4.2	Require New Multi-Family Residential Developments to Install Electric Cooking Appliances.	New Ordinances and Code Updates	CD	Short-Term	Low	Low
E-4.3	Reduce Electricity Use in Streetlights.	Municipal Operations	PW	Ongoing	Low	Medium
E-4.4	Require Non-Residential Alterations and Additions to Install Alternative-Fuel Water Heaters.	New Ordinances and Code Updates	CD	Short-Term	Low	Low
Strategy 5: Increase Renewable and Zero Carbon Energy						
E-5.1	Increase Renewable Energy Generated at Municipal Facilities	Municipal Operations	ES; PW	Ongoing	Low	Medium
E-5.2	Require New Commercial Developments to Achieve ZNE.	New Ordinances and Code Updates	CD	Ongoing	Medium	High
E-5.3	Increase Grid-Supply Renewable and/or Zero-Carbon Electricity.	Financing and Incentives; Partnerships; Education and Outreach	CD; CM	Ongoing	Medium	High
E-5.4	Increase Renewable Electricity Generated at School Sites.	Partnerships	EUSD	Ongoing	Medium	High

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Commented [LH8R7]: Please add the additional measure from above and our comments in Chapter 3 to this chart.

Table 4-3 Implementation Strategy						
Measure	Title	Category	Responsible Department/ Agency	Implementation Timeframe	Staff Implementation Costs	Ease of Implementation
Strategy 6: Increase Water Efficiency						
W-6.1	Reduce Municipal Landscape Water Consumption.	Municipal Operations	ES; PW	Ongoing	Low	Medium
W-6.2	Reduce Landscape Water Consumption at New Model Home Developments.	Planning	CD	Ongoing	Low	Low
Strategy 7: Diversify Local Water Supply						
W-7.1	Develop a Local Water Supply for Agricultural Water Use.	Planning	CD; ES; U	Mid-Term	Medium	High
Strategy 8: Reduce and Recycle Solid Waste						
S-8.1	Increase Citywide Waste Diversion.	Partnerships; Education and Outreach	CD; PW; U	Mid-Term	Medium	High
Strategy 9: Carbon Sequestration						
C-9.1	Enforce Landscape Tree Requirements at New Developments.	New Ordinances and Code Updates; Education and Outreach	CD; PW	Short-Term	Low	Medium
C-9.2	Develop a Citywide Urban Forestry Program.	Planning	CD; PW	Short-Term	Low	Medium
C-9.3	Develop an Agricultural Land and Open Space Conservation Program.	Planning	CD	Mid-Term	Medium	Low

Notes: CD = Community Development Department; CM = City Manager's Office; ES = Engineering Services; EUSD = Escondido Unified School District; EV = electric vehicle; PW = Public Works Department; SANDAG = San Diego Association of Governments; TDM = transportation demand management; U = Utilities Department; VMT = vehicle miles traveled; ZNE = zero net energy

Source: Ascent Environmental 2020.

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4.2 Monitoring and Updates

Implementation of the CAP will require routine updates and maintenance if it is to remain relevant and effective. City staff will need to evaluate and monitor CAP performance and make alterations or amendments if modifications are needed to help achieve the proposed reduction targets. This will include conducting periodic GHG emissions inventory updates and analyzing measure performance.

Inventory Updates

Upon CAP adoption, the City will begin implementing GHG reduction measures, tracking implementation efforts, and applying the CAP Checklist for CEQA streamlining. City staff will annually present summaries of CAP progress to City Council and Planning Commission on achievements to date and provide transparency and promote engagement with the public after CAP adoption. Through the climate planning services offered via its Roadmap Program, SANDAG will assist the City in developing updated GHG emissions inventories every two years. These inventories will be developed using the same methodology provided in this CAP to estimate citywide emissions and will be used to track the City's overall progress in reducing GHG emissions.

Monitoring Reports

City staff will prepare an annual monitoring report that provides updates on CAP implementation progress, GHG reductions achieved to date, and other important milestones in the CAP implementation process. As technologies and markets change and the City implements the measures in the CAP, these reports will be used to track progress and identify measures that need to be improved, adjusted, or removed. The report will also serve to inform City Council, Planning Commission, [SANDAG](#), and the general public about implementation progress on measures, as well as overall progress towards the City's GHG reduction targets.

Full implementation of the GHG reduction measures in this CAP will require City staff to further evaluate the cost, effectiveness, and benefits of each individual measure. Evaluating CAP measure performance entails monitoring the level of community participation, costs, and potential barriers to implementation, as well as actual reductions in fuel consumption, vehicle miles traveled, energy usage, water usage, landfilled waste, or other activities that result in GHG emissions reductions. This evaluation of measure effectiveness in reducing local GHG emissions will assist the City when it updates this CAP to maintain successful measures and reevaluate or replace under-performing ones.

CAP Update

The City will prepare a CAP update every five years, beginning in 2026. CAP updates would reflect the findings and recommendations of the monitoring reports and inventory updates. Future CAP updates would be necessary to account for any new State or federal legislation that may affect the CAP, and to focus on GHG reduction strategies that may have been difficult to implement previously due to a lack of appropriate technologies or high upfront implementation costs.

Figure 4-1 outlines the CAP implementation and monitoring schedule.

Commented [LH9]: We need to decide if we want a stand alone commission or a subcommittee of the Planning Commission. Just remember that, while we have be

Implementation and Monitoring Schedule	
2020	<p>CAP Adopted City Council adopts plan and staff begins to implement CAP measures. <u>Translate CAP into Spanish.</u></p> <p>Initial Set-up Staff performs initial start-up tasks and develops tools and methodologies for tracking implementation efforts and achievements. <u>City will create Climate Commission.</u> Staff will begin administering the CAP Checklist for environmental review</p>
2020 & 2022	<p>Update GHG Emissions Inventory In coordination with SANDAG, the City will receive an updated 2018 GHG inventory in 2020. If funding is available, SANDAG will continue to provide updated GHG inventories every two years. However, if funding is not available, City staff will work on the development of an updated emissions inventory for the year 2020, to be published by 2022, and every three years thereafter.</p>
2021 - 2025	<p>Monitoring Reports <u>With input from the Climate Commission</u> City staff will prepare an annual monitoring report and present the report to City Council and Planning Commission. Each monitoring report will identify CAP implementation efforts to date, assess the CAP's performance in achieving targets, and set implementation milestones for the following year.</p>
2025	<p>Measure Review and CAP Review Based on findings from the monitoring report and inventory updates, City staff will review the performance of each individual measure, evaluate the effectiveness of maintaining existing measures into the future, and identify new technologies and methodologies that did not exist at the time of CAP adoption.</p>
2026	<p>CAP Update Through the review of CAP measures and monitoring, the City will update the CAP to include new measures, remove ineffective</p>

Source: Ascent Environmental, 2020.

Figure 4-1

Climate Action Plan Implementation and Monitoring Schedule

4.3 Ongoing Engagement

Continued engagement and participation from the community is critical for implementation of the CAP. This includes individual residents and business, community organizations, developers, property owners, other local and regional government agencies, and others. While this CAP focuses on measures in which the City has a role, many of the measures require partnerships and collaboration. Specific measures, such as increasing transit ridership (Measure T-3.8) or increasing citywide waste diversion, (Measure S-8.1) require the public to adopt new daily habits that reduce GHG emissions.

The City is also committed to educating the public about the important role individuals play in combating climate change. Effective and long-term climate action and resilience in the City can only be achieved through efforts that continue to change the way individuals interact with the environment. Most measures will require ongoing public input to achieve maximum GHG reductions. Measures aimed at reducing waste generation, transitioning to alternative modes of transportation, and developing/updating plans will require public input and support.

The City is also committed to educating the public about the important role individuals play in combating climate change. Effective and long-term climate action and resilience in the City can only be achieved through efforts that continue to change the way individuals interact with the environment. Many of the measures in Chapter 3 are focused on increasing community awareness and participation in existing programs or connecting the community with new information, tools, funding, or resources to take action. Thus, this CAP serves as a resource that supports community-based action.

4.4 Funding Sources

Implementation of GHG reduction measures to increase energy efficiency and reduce the use of non-renewable resources will result in substantial cost-savings for the City and its residents in the long term. The City will incur initial start-up, ongoing administration, staffing, and enforcement costs. The City will be proactive in seeking cost-effective implementation and strategic funding opportunities and developing partnerships to share costs. All measures with potential for significant costs will be brought to City Council for consideration and approval.

To reduce the cost burden of implementation, a variety of funding sources are available to the City. A preliminary summary of funding and financing options are summarized in Table 4-4; however, these funding sources and programs are subject to change over time. As the CAP is updated and monitored, the City will need to reevaluate its overall costs and funding sources available. Leveraging funding opportunities would facilitate successful implementation of the GHG reduction measures.

The State's Climate Change Funding Wizard website provides updates for funding available to cities, residents, and businesses for projects and activities that reduce GHG emissions and improve local resiliency.

Table 4-4 Potential Funding Sources to Support Greenhouse Gas Reduction Measures	
Funding Source	Description
For City Operations	
California Department of Resources Recycling and Recovery ("CalRecycle")	<p>CalRecycle grant programs allow jurisdictions to assist public and private entities in management of waste streams. Incorporated cities and counties in California are eligible for funds. Program funds are intended to:</p> <ul style="list-style-type: none"> Reduce, reuse, and recycle all waste. Encourage development of recycled-content products and markets. Protect public health and safety and foster environmental sustainability.
California Air Resources Board ("CARB")	<p>CARB offers several grants, incentives, and credit programs to reduce on-road and off-road transportation emissions. Residents, businesses, and fleet operators can receive funds or incentives depending on the program. The following programs can be utilized to fund local measures:</p> <ul style="list-style-type: none"> Air Quality Improvement Program (Assembly Bill ["AB"] 118); Loan Incentives Program; and California Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project
Transportation-Related Federal and State Funding	<p>For funding measures related to transit, bicycle, or pedestrian improvements, the following funding sources from the Southern California Association of Governments ("SCAG") may be utilized:</p> <ul style="list-style-type: none"> Sustainability Planning Grant Program; Fixed Guide Way Capital Investment Grants; Job Access and Reverse Commute and New Freedom Programs; and Enhanced Mobility of Seniors & Individuals with Disabilities
New Development Impact Fees	<p>These types of fees may have some potential to provide funding for proposed programs and projects, but such fees are best implemented when the real estate market and overall regional economic conditions are strong.</p>
General Obligation Bond	<p>A general obligation bond is a form of long-term borrowing and could be utilized to fund municipal improvements.</p>
Other Funding Mechanisms for Implementation	<p>Grants may be available from the Strategic Growth Council ("SGC") or the State Department of Conservation ("DOC") to fund sustainable community planning, natural resource conservation, and development, and adoption.</p>
For Community Operations	
San Diego Gas & Electric ("SDG&E")	<p>SDG&E is one of the utilities participating in the Go Solar initiative. A variety of rebates are available for existing and new homes. Photovoltaics, thermal technologies, and solar hot water projects are eligible. Single-family homes, commercial development, and affordable housing are eligible.</p>
Property-Assessed Clean Energy ("PACE")	<p>The PACE finance program is intended to finance energy and water improvements within a home or business through a land-secured loan, and funds are repaid through property assessments. Municipalities are authorized to designate areas where property owners can enter into contractual assessments to receive long-term, low-interest loans for energy and water efficiency improvements, and renewable energy installation on their property. Financing is repaid through property tax bills. SANDAG has implemented the Home Energy Renovation Opportunity ("HERO"; a PACE program) in San Diego County to assist residents in financing residential energy efficiency and solar retrofits.</p>

Commented [KB10]: CalFire Grants Program to support forestry initiatives. 2021

Commented [KB11]: Ag management practices and subsequent funding via the [CDFA Health Soils Funding Program](#)

Commented [KB12]:

Commented [KB13]: Low-income Weatherization program (LIWP) <https://www.csd.ca.gov/Pages/Residential-Energy-Efficiency.aspx>
The **resyndication** process for affordable housing is also an opportunity to improve energy efficiency, healthfulness, and lower costs for residents in affordable housing units

Table 4-4 Potential Funding Sources to Support Greenhouse Gas Reduction Measures

Funding Source	Description
Clean Vehicle Rebate Project	Individual, fleet operators, local government entities, and businesses can apply for rebates for purchases of plug-in electric hybrids ("PHEVs"), battery electric vehicles ("BEVs"), fuel-cell electric vehicles ("FCEVs"), and other non-highway, motorcycle and commercial BEVs.
Energy Upgrade California	Program is intended for home energy upgrades. Funded by the American Recovery and Reinvestment Act, California utility ratepayers, and private contributions. Utilities administer the program, offering homeowners the choice of one of two upgrade packages—basic or advanced. Homeowners are connected to home energy professionals and can receive up to \$4,000 back on an upgrade through the local utility. Rebates, incentives, and financing are available.
Federal Tax Credits for Energy Efficiency	Tax credits for energy efficiency can be promoted to residents.
Energy Efficient Mortgages ("EEM")	An EEM is a mortgage that credits a home's energy efficiency in the mortgage itself. Residents can finance energy saving measures as part of a single mortgage. To verify a home's energy efficiency, an EEM typically requires a home energy rating of the house by a home energy rater before financing is approved. EEMs typically are used to purchase a new home that is already energy efficient, such as an ENERGY STAR® qualified home.
Private Funding	Private equity can be used to finance energy improvements, with returns realized as future cost savings. Rent increases can fund retrofits in commercial buildings. Net energy cost savings can fund retrofits in households. Power Purchase Agreements ("PPA") involve a private company that purchases, installs, and maintains a renewable energy technology through a contract that typically lasts 15 years. After 15 years, the company would uninstall the technology or sign a new contract. On-Bill Financing ("OBF") can be promoted to businesses for energy-efficiency retrofits. Funding from OBF is a no-interest loan that is paid back through the monthly utility bill. Lighting, refrigeration, heating, ventilation, and air conditioning, and light-emitting diode streetlights are all eligible projects.
Community Choice Aggregation ("CCA") Revenue	Revenue generated by a local CCA program may be used to fund or incentivize GHG reduction measures.
Housing Rehabilitation Loan Programs	Critical Home Repair Program through Habitat for Humanity provides home improvements for low-income homeowners to improve home efficiency, safety, and accessibility. The U.S. Department of Housing and Urban Development ("HUD") Community Development Block Grant ("CDBG") program provides communities with resources to address redevelopment needs, specifically for home rehabilitation. HUD also administers the HOME program, providing grants to improve affordable housing opportunities and conditions.

General Funding and Staff Capacity

CivicSpark Program	Supports sustainability-focused research, planning, and implementation projects throughout California by providing public agencies and other organizations with capacity building support and community engagement. This program provides volunteer engagement through AmeriCorps fellows to provide added staff capacity for eleven months
California Climate Investments ("CCI")	CCI is the statewide initiative that provides funds from the Cap-and-Trade program for GHG reducing projects and programs. Funds can support a variety of projects including affordable housing, renewable energy, public transportation, zero-emission vehicles, environmental restoration, sustainable agriculture, recycling, and more. Numerous State programs listed above are

Table 4-4 Potential Funding Sources to Support Greenhouse Gas Reduction Measures

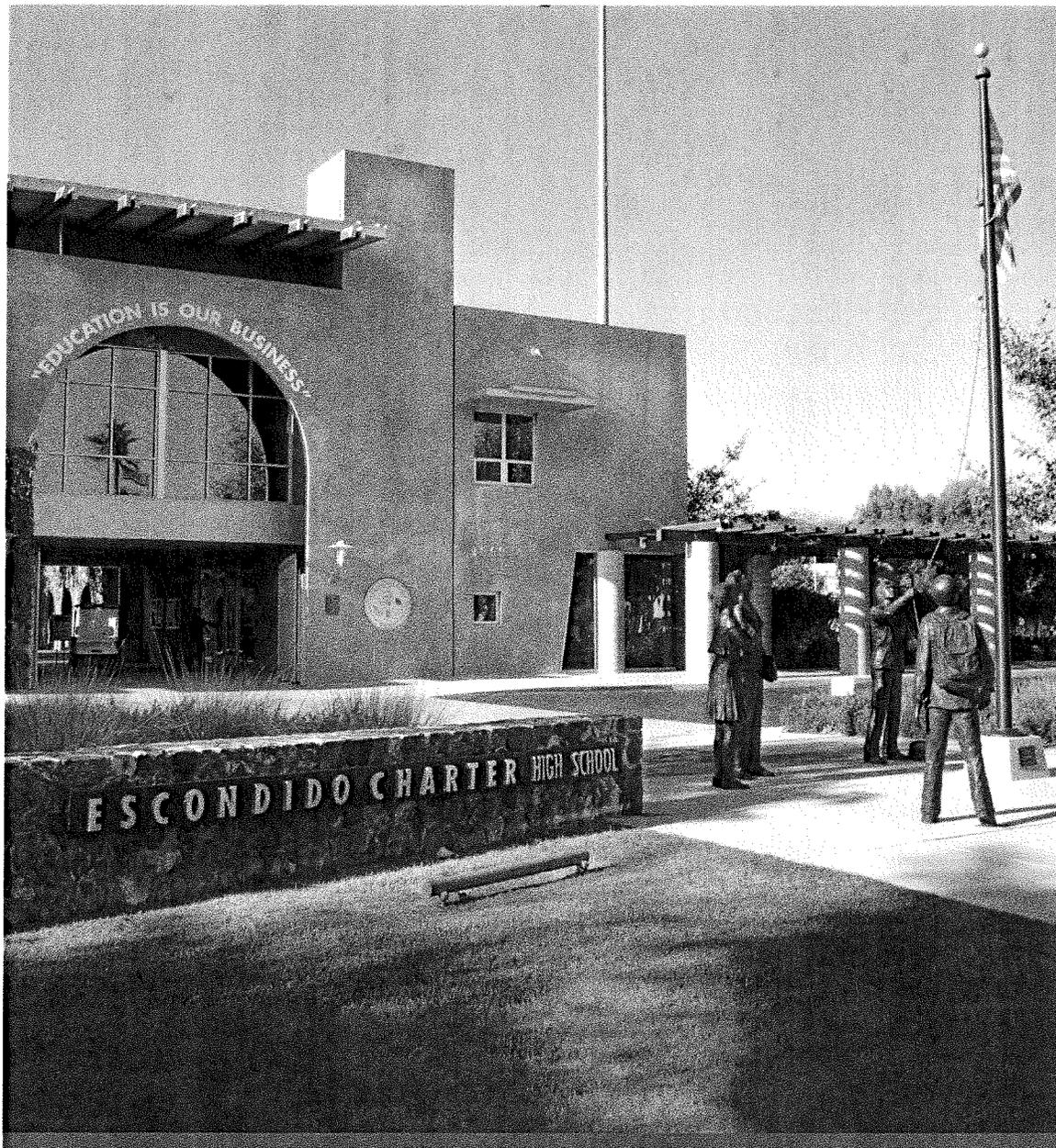
Funding Source	Description
	funded by CCI; however, the program continues to evolve and is updated by the State periodically to include new or modified programs.

Source: Ascent Environmental 2020

The City of Escondido is currently participating in the California Greenhouse Gas Reduction Program (CGRP) through the California Climate Investments (CCI) program. The CCI program is a major funding source for climate change programs in California. The program is managed by the California Air Resources Board (CARB) and provides funding for a wide range of projects, including energy efficiency, renewable energy, and public transit. The City of Escondido has received funding from the CCI program for various projects, including the installation of energy-efficient lighting and the purchase of electric vehicles. The CCI program is a key funding source for the City of Escondido's climate change programs.

The State of California's Affordable Housing (SOH) program provides funding for affordable housing projects. The program is managed by the State Housing and Community Development Department (SHCD) and provides funding for a wide range of projects, including the construction of new affordable housing units, the rehabilitation of existing affordable housing units, and the provision of rental assistance. The City of Escondido has received funding from the SOH program for various projects, including the construction of new affordable housing units and the rehabilitation of existing affordable housing units. The SOH program is a key funding source for the City of Escondido's affordable housing programs.

Source: California Greenhouse Gas Reduction Program (CGRP) website.



Chapter 5
CLIMATE ADAPTATION

This chapter summarizes climate change-related impacts that may affect the City of Escondido (“City”) in the future and evaluates how these impacts would potentially affect the community’s population, functions, and structures. Following identification of potential climate change—related impacts, this chapter outlines key strategies for improving community resiliency and adaptation, and addresses and provides equitable resilience and hazard mitigation for everyone in the community. The City is committed to ensuring socially equitable climate change outcomes through the implementation of adaptation strategies and measures.

5.1 Introduction

Long-term climate trends are not dependent on any single extreme event. A single large storm event or even a single wet or dry year may just be a normal fluctuation in atmospheric conditions. However, continuing changes that are sustained year after year can be attributed to a climate change. While there is general consensus that global climate change is occurring, there is less certainty as to the potential consequences of climate change, particularly at the local level. Based on a climate system that is no longer staying within a stationary range of extremes, weather-related emergencies and climate hazards are expected to increase (Hay 2016). Our changing climate can affect every aspect of the local, natural environment – and each of these impacts often causes chain-reaction changes that affect people, places, resources, and other aspect of the ecosystem. If we hope to limit the negative impacts of climate change in Escondido, we must assess the range of possibilities, likelihoods, and consequences of climate risk and explore strategies for their prevention.

“Adaptation planning” is a process of identifying climate risks and opportunities, assessing the options to manage those risks and opportunities, and implementing actions to sustain and even improve the quality of life.

This chapter of the Climate Action Plan (“CAP”) provides a range of adaptation strategies and measures that the City can implement to be better prepared for and adapt to climate change. Through “adaptation planning” the City is undertaking a process of identifying climate risks and opportunities, assessing the options to manage these risks and opportunities, and implementing actions to sustain and even improve the community’s quality of life. However, this CAP is about much more than climate change. Rather than being indifferent to the reality that groups are situated differently relative to their access to resources and opportunity, our vision for a climate-positive future starts when we address existing disparities and advance more equitable outcomes. Not only will the City adapt and become more resilient to unavoidable impacts from climate change, the City will also position itself for a more positive future – one that addresses social equity and environmental justice to help mitigate the disproportionate harm faced by certain groups and classes in the city. This CAP has established a series of cross-cutting priorities to build thriving and resilient neighborhoods for all. Because the climate will keep changing over time, and our responses change with it, the adaptation strategies and measures identified in this chapter will be continuously monitored and updated by the City.

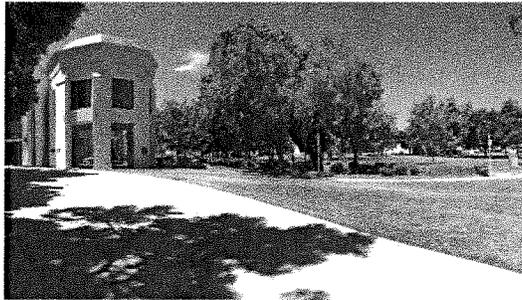
Section 5.4, *Adaptation Measures and Next Steps*, outlines the strategies and measures the City will implement to adapt to climate change, as well as the next steps in this implementation process. These strategies, measures, and next steps will be continually reviewed and refined over time to address changing climate impacts and understanding of adaptation. The City’s adaptation approach outlined within this chapter is based upon best available science, currently known adaptation practices, and a snapshot understanding of the existing vulnerabilities. Additional background information on the methodology used to develop the adaptation measures is included in Appendix F.

In the future, the City will reevaluate the feasibility and necessity of adaptation options as appropriate, continuing to use best available data, with reference to current State adaptation planning guidance.

5.2 Vulnerability Assessment

In the San Diego region, as well as throughout California, climate change is already affecting and will continue to affect the physical environment. It is the responsibility of all to prepare for increased temperatures, more frequent extreme weather events, and changes in precipitation patterns. Because impacts of climate change vary by location and other social and economic characteristics, it is important to specifically identify the projected severity of these impacts on the city and the surrounding area. Consideration of how the City can respond effectively to mitigate that risk, or how the City can and should respond to increasing future risk would make the community more prepared for projected climate impacts.

The goal of this section is to increase the understanding of the vulnerabilities associated with what is projected to happen in Escondido and encourage consideration of these impacts without creating further vulnerabilities or liabilities. The direct, or primary, changes analyzed for the city include increased temperatures, increased frequency of extreme weather events, and increased intensity and frequency of precipitation. Secondary impacts, which can occur because of one or more primary changes, are also assessed and include increased risk for wildfire, flooding, and landslides.



Source: City of Escondido

To begin assessing potential climate change impacts over time, Cal-Adapt (a climate change scenario-planning tool developed by the California Energy Commission [“CEC”] and the University of California Berkeley Geospatial Innovation Facility) was used. To address the uncertainty in future emissions of greenhouse gases (“GHGs”), Cal-Adapt uses Representative Concentration Pathways (“RCPs”), which encapsulate different possible future GHG emissions scenarios; a “medium” RCP emissions scenario that models a future where communities attempt to reduce GHG emissions and a business as usual (“BAU”) RCP scenario. The BAU emissions scenario predicts GHG emissions will continue to rise over the 21st century. The medium GHG emissions scenario predicts GHG emissions will level off in the middle of the 21st century (approximately 2040) and decrease to lower than 1990 levels by the end of the century (CAL ADAPT 2020).

5.2.1. Increased Temperatures

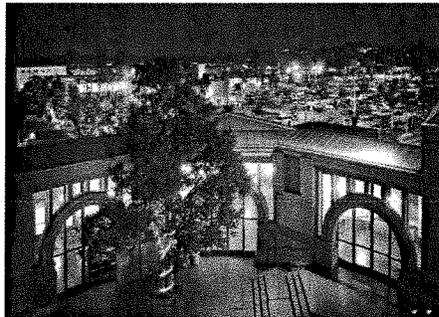
- Temperature affects the smallest details of our daily life. It influences how you dress to stay comfortable, whether you enjoy outside activities, stay inside, or retreat to safer areas during weather-related emergencies and climate hazard events. It also has been found to affect the living organisms in various ways, including the physiology, behavior, growth, and distribution of plants and animals. Increases in average temperatures can have many impacts on the environment. For example, temperature plays an important part in the life cycle of insects. Many insects die during the colder winter months, but if

temperature increases by just a couple of degrees, some of these insects would persist. This could lead to an increase in the insect population or a change in insect breeding habits, which could be devastating to farming practices and/or the agricultural crop industry. In addition, increased air temperatures can result in stagnant air masses, which could retain pollution from vehicles and industry for extended periods of time and would increase the frequency and intensity of conditions conducive to smog formation. A growing body of research into pollution and climate change is finding that minorities bear a disproportionate share of risks. Heat-island effects coupled with pollution sources are most likely to impact communities of color. A June 2020 study reported in the Journal of the American Medical Society Network Op, links climate change to harm to newborn and unborn children. The study found a relationship with heat or air pollution linked to birth outcomes such as preterm births, birth weights, stillbirths. <https://www.nytimes.com/2020/06/18/climate/climate-change-pregnancy-study.html>

Children and the elderly are particularly vulnerable to respiratory, cardiovascular, and heat-related illnesses exacerbated by increased average temperatures. Furthermore, numerous research studies have shown that indoor air temperature and circulation can impact one's level of productivity, as well as one's ability to learn, concentrate and remember important information (Schneider 2016). Warmer lakes, rivers, and streams threaten aquatic species by disrupting reproductive cycles, displacing cold-water species, through acidification, and/or creating dead zones in deep lakes. Warmer air temperatures may put inland communities at risk by expanding dry areas and their propensity to fuel wildfires.

Some areas of the city will also experience heat island effects. An urban heat island or a heat island effect is an urban or built-up area that is significantly warmer than its surrounding rural areas despite having similar climate systems. The temperature difference is usually due to human activities and from the modification of land surfaces.

The temperature difference is usually larger at night than during the day and is most apparent when winds are weak. The City developed a mapping tool to identify at-risk areas. The 2020 Heat Vulnerability Map is provided in Appendix F and is referenced in Section 5.4, *Adaptation Measures and Next Steps*.



Source: City of Escondido

Commented [LH1]: Don't really get this sentence. It isn't the people, it's the pavement and hardscape.

The greenhouse effect, described in Chapter 1, has already begun to heat the atmosphere beyond normal levels and will continue to do so over the next century, even if the City's emission reduction targets are met. From 1900 to 2000, the average global daily maximum temperature increased approximately 1.0 degrees Fahrenheit ("°F") (Nature 2019). Within the last 20 years, the average global temperature has increased by an additional 1.0 °F. Using Cal-Adapt, it was predicted there would be an average temperature increase of 3.0 to 10.0°F by 2099 worldwide (CAL ADAPT 2020). It is important to note that the tipping point to many of the aforementioned climatic changes is an increase of 1.0 to 2.0°F. Although future climate-risks depend on the rate and duration of the "warming," in the aggregate they are expected to be irreversible or irrecoverable if temperatures exceed 2.7°F (IPCC 2018). Using baseline observed

temperatures in the city from 1960 to 2000, the collective projections from Cal-Adapt show an average maximum temperature increase of 3.9 to 4.9°F by 2050, and 5.4 to 9.6°F by 2099, depending on a range of GHG emissions scenarios.

Commented [LH2]: Shouldn't we mention that life as we know it will inalterably change at 2 degrees?

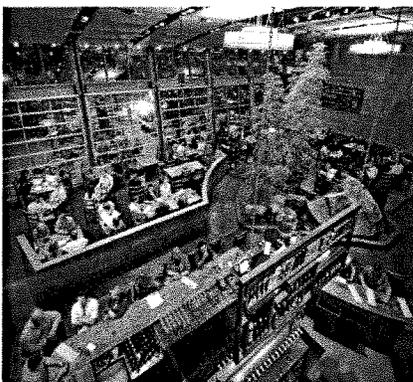
5.2.2. Extreme Weather Events

Extreme weather events include extreme heat and storms. Extreme heat events generally include extreme heat days and heat waves. Extreme heat days are days in which the temperature is significantly greater than the historic average temperature and can be further exacerbated when combined with high relative humidity. Heat waves can occur when high daily temperatures persist for several days and if nighttime temperatures do not drop significantly enough to reduce nighttime cooling. Extreme heat events can further exacerbate the threat of wildfire by increasing the drying of vegetation. The frequency of extreme heat days, heat waves, and warm nights are a threat because they induce injury, illness, and death from the resulting heat waves and wildfires. Heat stroke and dehydration can occur during extreme heat and hazardous weather can cause injuries and, in some cases, death. Warmer climates have increased levels of harmful air pollutants, such as ground-level ozone, which can damage lung tissue, inflame airways, impair respiratory health, and aggravate lung diseases, which are amplified during extreme weather events. Extreme weather events also impact the transmission of food, water, and animal-borne diseases. Prolonged drought in dry areas can lead to property and infrastructure damage. Power outage, road surface deterioration, railroad track buckling, and bridge damage are some of the types of resource or asset failures that have occurred during extreme weather events.

Extreme weather events include extreme heat, heat waves, and extreme storms. These events can be extremely harmful to human populations, especially vulnerable populations, such as low-income communities and children.

Disruptions in daily life caused by property and infrastructure damage can mean lost work and school days and harm commercial trade. Extreme weather-related health risks also reduce productivity, such as when extreme heat curtails construction, or when more potent allergens and more air pollution lead to lost work and school days.

Cal-Adapt loosely defines extreme heat days at or above the 98th percentile daily maximum temperature for a given area based on observed historical climate data. For the city, an extreme heat day is a day in which the average temperature is greater than 97.1°F, and historical observations show an average of five extreme heat days per year from 1961 to 2000. The frequency of extreme heat days are projected to increase as average temperature increases, rising to 15 to 20 extreme heat days per year by 2050, and 21 to 40 extreme heat days per year by 2100 (CAL ADAPT 2020). Warm nights, defined by the 98th percentile daily minimum temperature, are project to increase as well. For the city, a warm night is a night during which average temperature is greater than 66.4°F. Historical observations show an average of five warm nights per year from 1961 to 2000, and projections show an average of 25 to 37 extreme heat nights by 2050, and 36 to 91 extreme heat nights by 2100 (CAL ADAPT 2020).



Source: City of Escondido

While the world is experiencing an overall warming trend, more significant changes are occurring in winter months beyond temperature — snowfall and large storms depend on moisture in the atmosphere, which is increasing as a result of climate change. Snowy weather patterns depend on the large-scale flow of the atmosphere, which is changing, too. A phenomenon, called “winter temperature dipole”, is shifting winter weather patterns. This phenomenon yields a severe temperature contrast between eastern and western North America, where cold periods in the winter have been increasing in their frequency, as arctic air is pushed into areas further south than where it has historically flowed. Many extreme temperature conditions that redistribute heat and produce some combination of clouds, precipitation, and wind are becoming more common. These atmospheric conditions will affect snowstorms, derechos, hailstorms, rainstorms, blizzards, low-pressure systems, lightning storms, hurricanes, typhoons, and twisters. Scientific studies indicate that extreme weather events, like large storms, are likely to become more frequent and/or more intense with climate change. Tropical storm activity in the Atlantic Ocean, the Caribbean, and the Gulf of Mexico has increased during the past 20 years (Earth Observatory 2020). Storm intensity is closely related to variations in sea surface temperature in the tropical Atlantic. Although Escondido is unlikely to experience snowstorms and derechos, climate change may result in changes to the atmospheric processes that could result in increased frequency of damaging winds, hailstorms, rainstorms, lightning storms, and hurricanes or other tropical storm systems.

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5.2.3. Frequency and Intensity of Precipitation

Both the amount and distribution of precipitation are likely to change over the coming years. Southern California already experiences highly variable precipitation patterns, and climate change will further increase this volatility. The range of precipitation extremes will likely expand, resulting in fewer wet days and more dry days. More intense rainstorms could occur, distributing precipitation over a smaller window of time, followed by longer periods of minimal precipitation or drought.

The city is anticipated to experience more frequent extreme precipitation events and greater variability in the amount of rainfall from year to year.

The Cal-Adapt projections do not show a significant increase or decrease in the average annual precipitation for Escondido, which is observed to be 15.3 inches per year using the 1961 to 2000 baseline. However, as a result of increased climate variability, annual averages may not best represent the climate change-related impacts that would occur. For example, the average annual precipitation in Escondido from 1996 to 1999 was 15.3 inches, which is equal to the observed baseline average (CAL ADAPT 2020). The recorded precipitation for those years were 13.1, 14.0, 27.4, and 6.8 inches, respectively (CAL ADAPT 2020). Thus, while the average precipitation for those years suggests normalcy, the recorded rainfall for each year suggests the city is experiencing significant precipitation variability. The Cal-Adapt projections show yearly precipitation highs of 40 inches and lows of two to three inches, highlighting the variability and uncertainty of the projections on a year to year basis.

Extreme precipitation events can delay planting and harvesting, cause power outages, reduce transportation system efficiency, delay air travel, induce soil erosion and mudslides, and otherwise make it difficult for people to go about their daily business. The expansion of flood-prone areas, flood plains, and inundation zones could put more people and property at risk within the city. Higher year-to-year variability can change overall water availability, even if the yearly average does not change significantly over time. Wetter years will see a higher proportion of water lost to runoff, along with higher risk of flooding. Drier years will increase water demand, while also losing more to evaporation. Overall, these factors will lead to less water capture by constructed and natural environments, depleting the local water supply. It could also lead to more water entering the lakes from the surrounding watershed, bringing with it pesticides and invasive species.

5.2.4. Wildfire Risk

Wildfires in open, wildland areas typically display a range of fire behavior and fire characteristics that depend on factors such as vegetation fuel, terrain, types of past management, stage of succession after previous fires or other disturbances, and climate and weather patterns (including prevailing wind factors). Fire regimes (i.e. the general pattern of natural wildfire occurrence in a particular geography) may also be affected by terrain features and slope exposure. The city's environment consists of a broad mixture of urban settings, semi-urban settings, rural areas, and open space areas characterized by shrubs, native trees, and high fire fuel areas with steep topography. During the dry months, the wildfire risk in these open, vegetated areas can increase when exacerbated by occasional Santa Ana winds and high temperatures. Additionally, extreme weather conditions, such as high temperature, low humidity, and/or winds of extraordinary force, may cause an ordinary, localized fire to expand into one that is more intense and difficult to contain. Currently, about 43,388 homes within Escondido are located in the Fire Regime II & IV; this includes the wildland-urban interface, which is characterized by zones of transition between wildland and developed areas and often include heavy fuel

Wildfire occurrence would be exacerbated by climate change impacts including increased frequency of droughts, extreme heat days, and heat waves

loads that increase wildfire risk (City of Escondido 2018). The potential loss of these homes is valued at over 12 billion dollars. The City also has 426 critical facilities and infrastructure assets in these areas. The potential exposure of these assets is valued at over 1.9 billion dollars (City of Escondido 2018).

Increased temperatures and changes in precipitation patterns associated with climate change are expected to increase the risk of wildfire. Cal-Adapt's Wildfire Tool is a useful modeling tool to help predict the potential amount of area at risk of burning through the year 2100. According to Cal-Adapt's Wildfire Tool, because of the City's diverse environment, the amount of area at risk of burning will increase anywhere from 1.5 to 28.3 percent (based on different location attributes) (CAL ADAPT 2020). Even though areas with greater population are inherently more vulnerable than areas with less population, it is anticipated that fire behaviors and fire characteristics in urban areas are different than more fire prone, open space areas. Based on CalAdapt's Wildfire Tool, an increase in burn rates is most likely to occur within the eastern portions of the city, which include much of the unincorporated and open space lands.

The California Department of Forestry and Fire Protection ("CAL FIRE"), in collaboration with the City, has developed the City's Fire Hazard Severity Zone Map identifying Very High Fire Hazard Severity Zones that are included in the City's Local Responsibility Area ("LRA") (See Appendix F). The map identifies areas in the City included in the different fire hazard areas. Due to topography and vegetation, properties located within and surrounding the Very High Fire Hazard Severity Zones have increased risks of wildfires and associated hazards than that of most areas within the city.

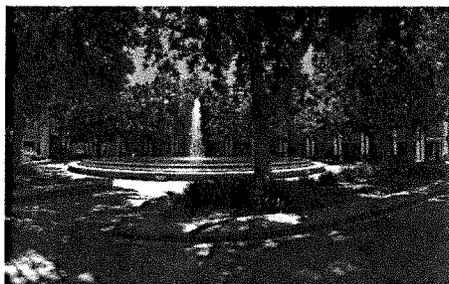


Source: City of Escondido

In addition to increased threats to human safety, the increased frequency of wildfire results in the release of harmful air pollutants into the atmosphere, which dissipate and can affect the respiratory health of residents across a broad geographical scope. Particulate matter (soot and smoke), carbon monoxide, nitrogen oxides, and other pollutants are emitted during the burning of vegetation, and can cause acute (short-term) and chronic (long-term) cardiovascular and respiratory illness, especially those suffering from pre-existing cardiovascular or respiratory conditions. The issue may be even more complicated with an increased burden in specific, vulnerable populations such as the elderly, children, homeless, minorities and non-English speaking populations, and agricultural and outdoor workers. The complex interplay between social and economic factors that these groups and classes experience cause them to generally be more susceptible to certain systemic illnesses because of a lack of targeted health care policies and/or lack of access to adequate health care.

5.2.5. Flooding and Landslides

Several factors determine the severity of floods, including rainfall intensity and duration. Along with reductions in the amount of snowpack and accelerated snowmelt, scientists project greater storm intensity. Climate change is predicted to vary the frequency, intensity, and duration of extreme storm events, such as sustained periods of heavy precipitation and increased rainfall intensity during precipitation, resulting in more direct runoff. Flash floods occur when a large amount of rain falls over a short period of time. The city's flooding potential will also be exacerbated when experiencing atmospheric rivers, or narrow streams of warm, concentrated precipitation, often resulting in considerable rainfall over a short period of time. Under higher emissions scenarios, the intensity and magnitude of atmospheric rivers are expected to become more severe, resulting in increased regional and localized flooding. With the added potential increases in the frequency and intensity of wildfires due to climate change, there is potential for more floods following wildfires, which will increase sediment loads and impact water quality. Floodwaters during storm events can interact with sources of pollution and distribute hazardous pollutants locally and regionally. The resulting water contamination may lead to human health impacts, as well as degradation of ecosystems.



Source: City of Escondido

Currently, the city experiences localized flooding in several areas during heavy rainfall and extreme weather events. Historically, the city has experienced property-related losses and damage because of localized flooding. As variability in precipitation frequency and intensity occurs, what is currently considered a 100-year flood may occur more often than projected, further increasing the risk of flooding to communities already located in these areas. Currently, there are 1,399 homes in the city located within the 100-year floodplain mapped areas. As these floodplain maps are updated and revised to account for increased flooding as a result of climate change, it is anticipated more homes in the city would be located within these areas of risk. The potential exposure or loss of residential buildings currently located within the 100-year floodplain is valued at \$393,819,000 (City of Escondido 2018). During flooding events, infrastructure (e.g., roadways, power lines) may be damaged, resulting in disruptions to communications, energy transmission, public services, and transportation systems. There are 37 critical facilities and City assets within the 100-year floodplain, with an asset value of \$43,352,000 (City of Escondido 2018). Flood events can also cause considerable property damage from extended exposure to water, and structural damage from erosion and mudslides. There are approximately 76 homes at high risk and 22 homes at moderate risk, with a potential exposure or loss value of \$27,587,000 (City of Escondido 2018). A snapshot assessment of potential home threat exposure is provided in the City's 2018 Multi-Jurisdictional Hazard Plan, with tabular excerpts provided in Appendix F.

5.3 Social Equity and Environmental Justice

Environmental issues are almost always rooted in economic and social issues. In fact, climate change is a direct product of extended environmental and social policies. An ironic, yet unfortunate, aspect of climate change is that the individual, businesses, agencies, or organizations most responsible for

This City's vision of climate justice is where solutions begin with addressing the needs of those who are most vulnerable to climate change and/or experiencing disparate outcomes.

causing climate change are often the ones that are the least affected by it. The world's richest households, businesses, and industries generate more than half of the GHG emissions and the poorest half contribute just 10 percent of all emissions (The Guardian 2015). Even though all residents and businesses will all be affected by a changing climate, they will be impacted in different ways. The interactions between climate change and health are numerous. Not only will climate change have significant health impacts, but how we prepare to, mitigate, and adapt to our changing climate will also influence human health. Preparing and responding to climate change is a powerful opportunity to improve the health of Escondido's residents. To do this, the City will need to determine the scope and extent of existing social and economic vulnerabilities and disparities and identify ways to make the community less susceptible to, or able to cope with, the adverse effects of climate change.

Social equity, as a term, is more than just the fair, just, and equitable distribution of public services and implementation of public policy; it also means understanding and giving people what they need to enjoy full and healthy lives. If properly incorporated into planning efforts, social equity ensures traditionally disadvantaged and under-represented groups equally experience the positive outcomes of these planning efforts. This involves being inclusive of both dominant and marginalized groups, and ensuring that the benefit to one does not result in the detriment to the other. Planning for equity does not stifle growth or impede development. Instead, it expands opportunities to all members of a community and builds local resiliency.



Source: City of Escondido

This City's vision of climate justice is where solutions begin with addressing the needs of those who are most vulnerable to climate change and/or experiencing disparate outcomes.

Climate adaptation plans should address both the City's priority neighborhoods and the vulnerability of water users for critical treatments and early treatment of social and equity issues. By focusing on these priority neighborhoods, the City will provide equitable protection from environmental hazards and burdens, climate adaptation planning efforts involve all social groups and classes in the development and implementation of environmental policies, and ensure equitable benefits to all community members from projects funded and directed by the City (a snapshot assessment of Escondido's unique socio-economic profile is provided in Appendix F).

Commented [KB3]: This is where we should reference a PIN Map that would be based on the soc eq and Health map or however the City wants to characterize priority investment neighborhoods.

5.3.1. Social Equity and Health Index Map

Climate adaptation measures should not be implemented without consideration of wider social equity and environmental justice concerns. Understanding these vulnerability factors and the populations affected is critical for crafting climate change adaptation measures. Although disaster impacts can vary from hazard to hazard, vulnerability indicators – or measurable variables – allow for the quantification and comparison of climate risk within cities, counties, or sub-regions. Using a risk-based approach, the City created a mapping tool, called a Social Equity and Healthy Index Map, to measure the degree to which climate change would impact different geographical areas and to evaluate levels of access to opportunity within a census tract. The data-backed mapping tool created a heat map of related risk factors. All indicators fall into one of five broader categories: housing, mobility, economic, environmental, and health. The overlap of these risk factors highlight areas of greater cumulative risk that should be prioritized when

Commented [KB4]: Consider use of Cal Enviroscreen to inform identification of PINs, and revise map in Appendix F to clearly reflect investment priority areas.

implementing corresponding adaptation strategies. As a result, a significant majority of the adaptation actions include implementation steps that will require the City to prioritize these actions in areas of highest need. The 2020 Social Equity and Healthy Index Map is provided in Appendix F and is referenced in Section 5.4, *Adaptation Measures and Next Steps*.

5.4 Adaptation Measures and Next Steps

The CAP provides evidence-based measures to reduce GHG emissions and preventative measures to address the negative outcomes of climate change. In implementing the measures listed in this section, this CAP also outlines how the City will adapt and improve its resilience to existing and future climate change impacts. As documented in this chapter and Appendix F, the City's sensitivity and vulnerability to climate change is influenced by diverse demographic and socio-economic factors. The City will strive to achieve climate justice (the concept that no group of people should disproportionately bear the burden of climate impacts or the health costs of adaptation) by addressing these factors. The City's most vulnerable communities will be considered as a priority for investments in adaptation to assure near-term co-benefits of improved quality of life while contributing to GHG reduction targets. As this is the beginning of the City's process of developing its adaptation strategies and measures, many early initiatives are exploratory in nature and aim to identify potential changes or actions to respond to the impacts of concern. The City will begin responding to climate change impacts through the initiation of two climate adaptation strategies.

Commented [LH5]: Do you mean financial 'cost' or human health cost?

Commented [LH6R5]: 0

Strategy A-1: Become a "Climate Smart" Leader

Table 5-1 Strategy A-1: Become a "Climate Smart" Leader

Measure A-1.1: Fully anticipate, plan for, and mitigate the risks of climate change and seize the opportunities associated with the social and environmental change.

Recognize climate impact variables as a risk in how the City manages programs, projects, and infrastructure.

Target Year	Adaptation Action
2020	Annually monitor climate change research and best practices to improve the understanding of local climate change, weather-related emergencies and climate hazards, and to support climate change preparation efforts in local, state, and federal partners.
2023	Adopt established methods for projecting the lifecycle carbon emissions of land use and transportation investments and begin to prioritize projects that have the greatest potential to sustain future changes and changing weather-related emergencies and climate hazards.
2021	

Table 5-1 Strategy A-1: Become a "Climate Smart" Leader

2023	Assess climate impacts in the 2023 MJHMP update, incorporate social equity and environmental justice concepts to the extent practicable, and develop system wide approach to prepare for and respond to changing weather-related emergencies and climate hazard events.
2021-24	Complete planning and establish priorities for Prioritize plantings, materials, and infrastructure specifications that will be resilient to climate change hazards and be cost-effective over the lifetime of the asset in infrastructure design. Initiate projects in 2022.
2025	Update the "2020 Escondido Climate Adaptation Study".

Measure A-1.2: Make sure that everyone is given the opportunity to be prepared for the current and future risks that are exacerbated by climate impacts.

Develop and build capacity for a transparent and inclusive education and outreach processes and design a decision-making framework to achieve equitable access and other climate health-related goals.

Target Year	Adaptation Action
2020	Designate point of contact(s) to establish and maintain staff ability and capacity to ensure effective implementation and equitable outcomes of climate action efforts. Initiate interdepartmental education and planning with City staff to motivate and seek opportunities for creative partnerships to jumpstart priority actions.
2021	Identify and initiate Create collaborative partnerships with community-based organizations including vulnerable populations to broaden and diversify community engagement, and to support community-based initiatives that align with climate action planning priorities.
2021	Partner with interested organizations to develop a climate change adaptation public outreach and education program. Engage typically underrepresented vulnerable populations by creating neighborhood climate ambassador liaisons.
2021	Provide quality information and/or "how-to" resources for local climate adaptation using interactive approaches that may include competition, feedback, and recognition. Activities may include: <ul style="list-style-type: none"> ▪ Provide free technical assistance to businesses. ▪ Develop working groups with workforce development and training organizations to integrate green jobs into existing work. ▪ Develop and implement a local green business program to provide recognition for business achievements. ▪ Partner with business groups to conduct Fix-It Fairs or participate in street-fairs by engaging under-served businesses in learning about sector opportunities ▪ Hold regular workshops with building contractors on green building best practices.
2021	Minimize health issues and disparities caused by weather-related emergencies and climate hazard events (such as extreme heat days, wildfire smoke), especially for populations most vulnerable to these impacts, by improving the preparation for and response from health, community service, public safety, and emergency staff, resources, and/or services. Actions may include: <ul style="list-style-type: none"> ▪ Leverage partnerships and support organizations to provide assistance to vulnerable populations in high fire hazard areas. ▪ Advertise outdoor worker protection measures, including heat safety and employment security.

Table 5-1 Strategy A-1: Become a "Climate Smart" Leader

- Develop a cool zone plan in consultation with resident, business, and community groups and provide updates in conspicuous locations online and on social media when cool zones are activated.
- Educate homeowners and tenants of multi-family housing about weatherization projects and the cost savings gained from energy efficient homes through training programs.
- Develop evacuation assistance plans and advertise their availability to vulnerable populations in hazard areas and be prepared to implement these plans as part of climate hazard-related emergency operations.
- Utilize citywide publication and social media to reach a broad audience to advertise preparedness, risks of potential climate hazard events, and/or implementation status of these measures.

Commented [LH8]: Also moved to Chapter 3 as a ghg reduction strategy.
Commented [LH9R8]:
Commented [LH10R8]: AI

Measure A-1.3: Hardwire social equity and environmental justice into new programs and projects.

Focus planning and intervention programs ~~in Priority Investment Neighborhoods neighborhoods~~ that currently experience social or environmental injustice and/or bear a disproportionate burden of potential public health impacts.

Target Year	Adaptation Action
2020	Address social equity Address social equity disparities by targeting prioritizing some and targeting of the CAP implementation projects into in the most vulnerable areas as defined by the "2020 Social Equity and Health Index Map".
2020	Maximize mitigation benefits locally by prioritizing community specific (i.e. local) mitigation for GHG emissions. If no local mitigation credits or mitigation opportunities are available, allow project applicants to seek out regional solutions first.
2023	Consider e Establishing equity equity considerations for recreation/parks programming, planning, engineering, and public works projects, such as: <ul style="list-style-type: none"> ▪ Does the proposed action generate burdens either directly or indirectly to vulnerable populations? If yes, are there opportunities to avoid, minimize, or reduce those impacts? ▪ Can the benefits of the proposed action be targeted in ways to reduce vulnerable population disparities? ▪ Are the benefits of the proposed action broadly accessible to residents or businesses of vulnerable populations?

Measure A-1.4: Develop working relationships with other agencies and continue to analyze climate impacts.

Establish working groups and collaborate with regional and State agencies and groups to promote becoming "Climate Smart" and promote complementary adaptation strategy development.

Target Year	Adaptation Action
2020	Work with SANDAG and NCTD to make the regional transportation network more resilient, incorporate consideration of climate impacts as part of infrastructure planning and development, and prioritize transportation investments that have the capacity to adapt to climate change, while promoting social equity and environmental justice.
2022	Work with law enforcement, CAL FIRE, City of San Marcos, County of San Diego, City of Vista, and City of Poway to assure updates for wildfire hazard maps , reduce risk from high fire hazard areas and develop effective response

Commented [KB11]: Our assumption here is that "working groups" are formalized with clearly identified objectives and deliverables, facilitated with City input.

Table 5-1 Strategy A-1: Become a "Climate Smart" Leader

mechanisms and evacuation scenarios. Model future climate conditions to identify at-risk areas. Integrate fire hazard maps to identify areas most susceptible to fire.

Notes: CAL FIRE = California Department of Forestry and Fire Protection; City = City of Escondido; GHG = greenhouse gas; MJHMP = Multi-Jurisdictional Hazard Mitigation Plan; NCTD = North County Transit District; SANDAG = San Diego Association of Governments
Source: City of Escondido 2020

Commented [KB12]: New Strategies:
-Assess Updated maps and adopt policy to avoid development in high-risk fire zones.
-Replace roadside vegetative clearings with natural/native habitat to mitigate invasive and flammable species/grasses proliferation.

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Strategy A-2: Build Thriving and Resilient Neighborhoods

Table 5-2 Strategy A-2: Build Thriving and Resilient Neighborhoods

Measure A-2.1: Make sure that everyone has equitable access to

Recognize the importance of the ecosystem in improving personal, environmental, and economic health

Target Year	Adaptation Action
2021	Partner to develop equitable programmatic resources to increase the production and consumption of home grown and locally sourced food by supporting farmers' markets, expanding community gardens on public and private lands including school campuses, City lands and church properties, and other forms of urban agriculture. <ul style="list-style-type: none"> - Develop a local food map and communication program for city residents. - Regional emergency food distribution plan that accounts for climate and energy-based disruptions. - Partner with SD Food System Alliance, CA Food Link and the SD New Farmers Guild.
2022	Establish partnerships with local businesses and groups to provide educational opportunities for residents to gain skills in organic gardening, fruit production, composting, food preservation, and cooking healthy foods.
2023	Review and update heat response plans to: <ul style="list-style-type: none"> ▪ Coordinate operations of readily accessible cooling centers. ▪ Recommend potential ways for property managers and homeowners' associations to implement Cool Zones. ▪ Develop an "early warning system" and response plans that alert residents, businesses, and community members, especially those most vulnerable to heat, when projected heat conditions exceed 100 degrees.
2023	Develop incentives to increase the planting of fruit trees in appropriate areas on private property.
2024	Use regulatory and voluntary tools to increase access to neighborhood parks, passive parklands, parklets, and/or pop-up recreation programs to increase parkland coverage and/or expand equitable access to recreational opportunities.
2025	Consider ways to improve equitable access to clean and sustainable energy. This could include the creation of a "Clean Energy Equity Plan" to support low-income residents and small organizations to purchase or obtain renewable energy.

Commented [KB13]: Possibly include a strategy that speaks to establishing a sustainable agriculture research and experimental design facility in Escondido in partnership with UC? Both to support a climate friendly ag industry, employment opportunities and

Commented [LH14]:
Commented [LH15R14]: Moved to Chapter 3

Measure A-2.2: Create "climate safe and decent" housing options.

Support more comfortable and resilient homes and buildings to proactively adapt to changing weather-related emergencies and climate hazard events.

Target Year	Adaptation Action
2020	Increase the use of public and private roofs for rooftop gardens. Provide education on how private property owners can use rooftop gardens as an eco-friendly alternative to: bring greenery into a sterile space, provide a place to relax or grow food, delay stormwater runoff, and cool the building to reduce energy consumption. Expand green roof installations through outreach and incentives, such as the Stormwater Credit Fee.

Table 5-2 Strategy A-2: Build Thriving and Resilient Neighborhoods

2022	Update the building code to require new private buildings to have operable windows, providing choice levels of light and wall-to-wall ventilation.
2023	Update the building code to mandate the installation of cool roofs on all new and retrofitted roofs on multi-family projects.
2027	Analyze the feasibility of a point-of-sale weatherization audit and wildfire risk assessment for existing single-family homes in high or very high wildfire hazard areas.
2027	Develop and implement a mitigation plan for power outages, which may include the following: <ul style="list-style-type: none"> Adopt an ordinance that requires new senior housing or large care facilities to install air conditioning in all units and on-site home energy batteries and energy storage. The ordinance shall also require conversion projects to provide adequate on-site temperature-controlled spaces in indoor common areas, if any. Adopt an ordinance that requires new affordable housing projects to install air conditioning in all units. Require affordable rehabilitation projects or other conversions to provide adequate on-site temperature-controlled spaces in indoor common areas, if any.
2028	Consider ways to reduce reliance on centralized sources for energy including: <ul style="list-style-type: none"> Facilitate access to local, decentralized renewable energy by incorporating renewable energy projects into CCA or other community-wide renewable programs. Complete a micro-grid feasibility study and begin implementation.

Commented [LH16]: Also in Chapter 3

Commented [LH17]: Moved to Chapter 3.

Measure A-2.3: Build capacity for adaptive neighborhoods.

Reduce risks and impacts from increased temperatures, drought conditions, and precipitation variability in the areas around homes and businesses.

Target Year	Adaptation Action
2022	Utilize the "2020 High Fire Hazard Map" to better manage the risk of wildfires as a result of drier summers, especially in areas where homes are next to natural open space areas: <ul style="list-style-type: none"> Enforce statutory standards for provision of defensible space inhibiting wildfire spread on private properties, and implement brush clearing and fuel breaks to manage the potential spread of wildfire. Evaluate other ways to reduce risks in and around wildland-urban interface areas that are rated as high fire hazard areas, such as improving the quality and plant palette around wildfire prone areas, and/or other ways to reduce risks in and around high fire hazard areas. Manage the increased risk of wildfires of new residential subdivisions in very high fire hazard areas by expanding the required fuel modification zones from 100 to 150 or 200 feet, depending on geographic conditions such as land slope, unburnable areas, and surrounding vegetation fuel points. For new residential projects in very high fire hazard areas, incorporate evacuation route planning into the analysis. Evaluate brush fire spread and wildland fire behavior characteristics that utilize a 60 mph prevailing wind factor at a minimum, or higher wind speeds, if documented, as necessary.
2024 ³	Adopt plant palettes in the Landscape Ordinance to withstand drought conditions and promote plant-type resilience (in street and park trees, green roofs, etc.)

Table 5-2 Strategy A-2: Build Thriving and Resilient Neighborhoods

2024 ³	Utilize the "2020 Heat Vulnerability Map" to identify at-risk areas and help inform decisions and priorities about implementing ways to cool the urban environment. When evaluating programs, projects, and infrastructure in at risk areas and PINs, prioritize efforts that decrease the urban heat island effect, especially in areas with populations most vulnerable to heat, through strategies like revegetation, tree preservation, new plantings, depaving and porous pavement, green infrastructure, and site specific development design.
2025 ⁴	Consider a coordinated, integrated approach to flood or water-surge event planning and consider new innovative ways to adapt to climate impacts, including the following: <ul style="list-style-type: none"> ▪ Increase resilience of natural systems by keeping natural resources areas, especially streams and creeks, cooler by adding vegetation in areas adjacent to the resource and maintain upland tree canopies. <u>Riparian restoration is critical for co-benefits of managing storm surge, reducing GHGs and improving habitat for human and wildlife use.</u> ▪ Establish a fund to acquire or protect land in particularly vulnerable areas.
2027	Develop, adopt, and implement integrated plans for mitigating climate impacts in wildland-urban interface areas that include the following: <ul style="list-style-type: none"> ▪ Collaborate with agencies managing public lands to identify, develop, or maintain corridors and linkages between undeveloped areas. ▪ Use purchase of development rights or conservation easements to protect climate-vulnerable habitats. Develop, adopt, and implement integrated plans for mitigating wildfire impacts in the wildland-urban interface.

Measure A-2.4: Build a sustainable and resilient transportation network.

Align the transportation system improvements with quality of life and enable a variety environmentally friendly choices that feature green infrastructure and have the capacity to adapt to climate impacts.

Target Year	Adaptation Action
2023	Work with NCTD to build more bus shelter amenities to help prevent health effects from long sun exposure and incentivize usage of public transportation.
2024	Evaluate and pursue stable funding sources and financing strategies to accelerate and sustain natural and green infrastructure within the public right-of-way.
2025 ⁴	Conduct walk audits around prioritized schools, transit boarding areas, and parks to encourage Safe Routes to Schools, Transit, and Parks.
2026 ⁴	Integral to the development of an urban forestry plan, establish urban tree canopy targets and equitable distribution of tree-related benefits, which may include any one of the following: <ul style="list-style-type: none"> ▪ Develop an urban heat island reduction program that includes an urban forest program or plan. ▪ Develop a governance structure, including a way to fund new tree plantings such as an in-lieu program to offset trees plantings on highly constrained sites. ▪ Expand and focus tree plantings in low-canopy neighborhoods and neighborhoods at a higher risk of adverse outcomes of urban heat island effects. ▪ Encourage urban agriculture through edible landscapes within public spaces.

Table 5-2 Strategy A-2: Build Thriving and Resilient Neighborhoods

	<ul style="list-style-type: none"> ▪ Adopt a new tree code in the Landscape Ordinance that considers tree selections so that tree plantings are known to perform well in the general climate conditions, are climate resilient trees, and will increase canopy or vegetative cover. ▪ Set priorities to expand planning, maintaining and management of trees, such as expanding urban forest canopy to cover at least 20 percent of each neighborhood and 10 percent of commercial and industrial areas. As part of the next CAP update, monitor tree canopy changes due to development and determine if policy and rule changes are needed.
2026	Give greater weight to investing in improvements to transportation infrastructure that are projected to be affected by multiple climate changes and/or build in flexible options that can adapt to changing conditions.
2027	Launch and implement a City Vision Zero initiative and help achieve the goal of zero traffic deaths and serious injuries on-in City transportation facilities

Commented [LH18]: Revised and moved to Chapter 3

Notes: CCA = community choice aggregation; City = City of Escondido; NCTD = North County Transit District, mph = miles per hour
 Source: City of Escondido 2020

Mike Strong

From: Penn Diehl <penndiehl@gmail.com>
Sent: Friday, July 31, 2020 12:07 AM
To: Mike Strong
Subject: [EXT] Escondido Climate Action Plan Draft Comments
Attachments: Letter to City of Escondido Regarding Climate Action Plan.pdf

CAUTION : This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender email address AND know the content is safe.

Dear Mr. Strong,

I have worked with 3 other youth activists from North County to review and respond to the 2020 proposed Escondido CAP. We also obtained many signatures from San Diego County residents supporting our feedback. We hope you find our feedback helpful and informative and hope that you will consider implementing our advice. Please find our letter attached.

Thank you,
-Penn Diehl, Escondido resident, B.S. Environmental Science

Dear Director Strong,

Thank you to the City of Escondido for releasing the Escondido Climate Action Plan draft for public review.

As residents of North County, we are excited to have the opportunity to comment on Escondido's draft Climate Action Plan. We commented on a series of items pertaining to Chapters 3 and 4 and hope to see them considered in the final climate action plan.

The comments are broken down into categories for your convenience.

Waste

1. Regarding Table 3-9: Waste reduction standards (e.g. 80% citywide waste diversion) should apply to all entities in the city (businesses, industry, residents, and city operations)
2. Compost and recycling dumpsters or collection bins should be provided at apartment complexes, condos, multi-family housing sites and in public city spaces including parks and city buildings.

Transportation

1. Regarding Table 3-2, Measure T-1.1: The city should not buy PHEVs if possible. The city should only buy battery electric vehicles. PHEVs are only a half measure in reducing car emissions and do not reduce emissions as significantly as BEVs. Since vehicles are a long term investment, the greatly increased efficiency and lack of emissions of BEVs make the price premium over PHEVs worth the investment.
2. Where will the intra-city shuttle routes run? How will residents on the edge of Escondido (such as Harmony Grove Village) reach the interior of the city without using single occupant cars? Will shuttles address this need?
3. The city needs to establish public transportation servicing K-12 students running both to and from school that is zero emission, safe, and accessible to all students.
4. The city must develop infrastructure to allow easy, safe, and widespread use of all modes of transportation including bikes, scooters, and walking. The expansion of bike lanes and pedestrian access should occur across Escondido, not just in the downtown area.

Water

1. Regarding Table 3-7: Greywater systems and rain barrels should be installed in multi-family units as well as single-family homes. Creative and water wise landscaping (especially native and drought tolerant plants) should be encouraged to reduce water needs.
2. Incentivize and facilitate greywater reclamation and usage to irrigate landscaping at new and existing properties both residential (single *and* multi-family) and commercial.

Energy

1. Regarding Table 3-5: Energy efficiency standards should apply to all buildings in the City, not only multi-family residential units. The City should also be looking at all possible ways to increase efficiency such as passive heating/cooling, closing insulation gaps, lighting efficiency in buildings, and green roofs.
2. Regarding Table 3-6, Measure E-5.3: The zero-carbon electricity supply should be achieved by generation in Escondido or as close to the city as possible. The city of Escondido should ensure that we receive 100% clean and renewable energy directly. It would also be incredibly valuable to work with the county of San Diego to ensure that no community is burdened by natural gas generating plants. No city should get 100% renewable energy at the expense of another city. The county must work together to decarbonize the electrical generating system.
 - a. The city of Escondido must also provide 100% clean energy at night. This will likely require energy storage infrastructure. Building physical storage systems such as Pumped Storage Hydropower could provide good paying jobs to local workers, use less rare earth minerals than batteries, and allow us to fully transition to clean energy. Storage and grid integration must be fully considered in any serious plan to transition our electricity generation to renewables.
3. Regarding Table 4-3, Strategy 4, E4-4: Require non-residential buildings pursuing alteration and addition projects to retrofit all existing lights with LED lights.
4. Regarding Table 4-3, Strategy 5: Require all new residential developments to achieve Zero Net Energy to meet more aggressive energy goals.
5. Regarding Table 4-3, Strategy 4: This strategy discusses an increase in building energy efficiency and utilizing alternatively-fueled water heaters and electric appliances. The strategy aims to implement these strategies in all new developments. However, it does not provide information on existing municipal buildings. Existing buildings should also be reconditioned to achieve high energy efficiency along with new developments.

New Developments

1. Regarding Table 3-10: The city's ordinance to require new developments to plant trees must encourage planting native and low water use trees. Planting water hungry trees would be a disservice to the community in the long run. The Urban Forestry program and Community Garden Ordinance should focus on providing services in areas with little shade and/or less access to fresh and affordable food.
 - a. How will the City ensure all residents have access to community gardens?
Membership fees should be waived for those who cannot afford them.
2. On Table 4-1, there is a section about increasing transit commuters, but no requirement to have new developments be close to public transit to reduce urban sprawl and car usage.

3. New developments should prioritize brownfield development instead of greenfield development.
4. Efforts should be made to prioritize denser developments like apartments over an increasingly large number of single family homes. Escondido should also work to build more affordable housing that is sustainably built and well maintained. Escondido should attempt to avoid sprawl from the city in the form of single family homes. Such expansion is inefficient in terms of resources, traffic, and addressing climate change.
5. The city should require all new developments to achieve net zero carbon impact. Reductions should be made primarily through using materials with a low carbon footprint, efficient construction tools and vehicles, and brownfield or dense development. If a construction project cannot be net zero directly, offsets should be done first in Escondido, and then the surrounding cities. Foreign carbon credits are not usually a very effective solution to creating carbon neutral development. They are hard to verify and regulate, which makes local solutions preferable.

Monitoring Reports/Accountability

1. In regards to the monitoring reports on Page 11 of Chapter 4, city staff is preparing annual reports to identify CAP implementation efforts to date, assess the CAP's performance in achieving targets, and set implementation milestones for the following year. Does the city council and planning commission plan to hold government agencies and independent groups accountable for upholding CAP requirements? If so, how will they do so and enforce the CAP?
 - a. In addition to enforcement, are there methods of enforcing CAP for private entities? If so, how will these measures be upheld and accounted for?

Long-term Planning

1. Does the CAP plan beyond 2035? Will Escondido hit net zero carbon emissions by 2050 as outlined in the Paris Climate Accord? The city of Escondido should attempt to match or surpass the carbon reduction timeline agreed to in the Paris agreement.

Job Creation

1. Jobs created by this CAP should benefit the community. If possible, the city should try to hire Escondido or North County residents so that they can participate in and benefit from the just transition to a carbon neutral city.
2. Regarding Table 4-3, Strategy 9: This table discusses the development of the Agricultural Land and Open Space Conservation Program and an Urban Forestry Program. These programs should employ people rather than remaining volunteer-based. It should employ city and county residents to ensure these programs benefit as many Escondido folks as possible.

We really appreciate the time and effort that you all have put into this aggressive Climate Action Plan, especially designating specific avenues of funding. We hope to see a final Climate Action Plan that has concrete means to implement these goals and look forward to working with you to create a brighter future.

Thank you for your consideration of our feedback,
-Penn Diehl, Danielle Polson, Alexander Han, Vicky Dinov

The following people have read and agree that the City of Escondido should pursue all the suggestions outlined in this document:

Penn Diehl, respondent and Escondido resident, B.S. Environmental Science
Danielle Polson, respondent and Escondido resident, B.A. Environmental Studies
Andrew Hanson, Escondido resident, B.A. Biology and Biochemistry/Molecular Biology
Siria Ayala, Escondido resident
Alexander Han, respondent and Carlsbad resident, B.S. Electrical Engineering
Vicky Dinov, respondent and Poway resident, U.C. Berkeley student
Barbara DeSilva, Carlsbad resident, Barnard College student
Connor Franklin Rey, La Mesa resident
Ido Shoshani, San Diego resident, M.S. Computer Science
Fiona Jackson, San Diego resident
Melissa Elder, San Diego resident, P. E., Environmental Engineer
Adam Cooper, San Diego resident, PhD student in Atmospheric Chemistry
TJ Gascho, San Diego resident, B.S. Human Centered Design & Engineering
Nicolai Reeve, San Diego resident, Bioinformatics Data Scientist
Riley Liiva, San Diego resident, Electrical Engineer
Czeska L.M. Cabuhat, San Diego resident, first generation college graduate
Jake Fishman, San Diego resident, M.S.

Mike Strong

From: Penn Diehl <penndiehl@gmail.com>
Sent: Friday, July 31, 2020 12:16 AM
To: Mike Strong
Subject: [EXT] Re: Escondido Climate Action Plan Draft Comments

CAUTION : This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender email address AND know the content is safe.

Dear Mr. Strong,

Danielle also wanted to add the following comment, but it came late in the process so we couldn't add officially to the letter. I also support this comment:

"We recommend adopting a program like Los Angeles' Transit Oriented Communities (TOC). Under this program, developers get certain entitlement incentives the closer that a project is located to mass transit and these are also given priority according to the type of mass transit; that is, trains and subways are worth "more" than a bus.

We also recommend researching inclusive transit-oriented development, which intends to bring people together through a mix of residential, business, public space, and activities connected easily by transit and bike lanes. Here are a few resources that might be helpful, including EPA funding for smart growth:

<https://www.itdp.org/library/standards-and-guides/tod3-0/what-is-tod/>

<https://www.epa.gov/smartgrowth/epa-smart-growth-grants-and-other-funding>

"

I also would like to see the city consider solar incentives for residents and private entities. Melissa Elder initially suggested that policy.

Thank you,
-Penn Diehl

On Fri, Jul 31, 2020 at 12:07 AM Penn Diehl <penndiehl@gmail.com> wrote:

Dear Mr. Strong,

I have worked with 3 other youth activists from North County to review and respond to the 2020 proposed Escondido CAP. We also obtained many signatures from San Diego County residents supporting our feedback. We hope you find our feedback helpful and informative and hope that you will consider implementing our advice. Please find our letter attached.

Thank you,
-Penn Diehl, Escondido resident, B.S. Environmental Science