City of Hermosa Beach

City Hall
1315 Valley Drive
Hermosa Beach, CA 90254

Staff Report

File #: ID#2015-0193, **Version:** 1

Honorable Mayor and Members of the Hermosa Beach City Council
Regular Meeting of February 24, 2015

CARBON NEUTRALITY INITIATIVES: RECEIVE GREENHOUSE GAS EMISSIONS INVENTORY AND MEMO ON ECONOMIC/HEALTH BENEFITS OF CARBON NEUTRALITY; ACCEPT MUNICIPAL CARBON NEUTRAL PLAN AND ADOPT RESOLUTION OF MUNICIPAL CARBON NEUTRAL TARGET OF 2020; AUTHORIZE CLIMATE ACTION PLANNING SERVICES (BRENDLE GROUP); AND UPDATE ON RELATED INITIATIVES

(Continued from meeting of February 10, 2015)

(Environmental Analyst Kristy Morris)

Recommended Action:

1. Receive City of Hermosa Beach GHG Inventory, Forecasting, Target-Setting Report for an Energy Efficiency Climate Action Plan, January 2015;
2. Review Addendum to Brendle Group's Report regarding Health Costs/Benefits of Carbon Neutrality (Economic Benefits of Carbon Neutrality Follow-Up Response to City Council Questions, February 3, 2015);
3. Authorize Brendle Group to provide Climate Action Planning Services coordinated with the General Plan Update in the amount of $24,000;
4. Accept Hermosa Beach Municipal Carbon Neutral Plan including Action Plan and Funding Scenarios to support both 2017 and 2020 Municipal Carbon Neutral Targets;
5. Adopt Resolution adopting a Municipal Carbon Neutral Target of 2020;
6. Direct staff to commence the Municipal Carbon Neutral Implementation Measures including the employee commute program; and
7. Receive information on Renewable Energy opportunities/PV Solar Installations; Community Choice Aggregation; and Hermosa Beach's Existing Transit/ Transportation Systems.

On November 5, 2014 the Council provided direction relating to carbon neutraility issues which support Council's Strategic Plan, Goal 4- More Livable, Sustainable Beach City which calls for a Municipal Carbon Neutral Plan and identifies the following actions: Municipal Greenhouse Gas Emissions Inventory Update, Draft Municipal Carbon Neutrality Road Map, SCE Street Light Energy Efficiency, Municipal Solar Energy Production, Economic Comparison of Being 'Leading Edge' versus 'First To' be Carbon Neutral, and Community Carbon Neutrality Policy. These actions advance implementation of the City's Sustainability Plan and climate change planning and mitigation. The Staff Report and related information provided on November 5 th may be reviewed at these links:

Staff Report <http://hermosabeach.granicus.com/MetaViewer.php?view_id=6&clip_id=3386&meta_id=165370>
Supplemental Memorandum from Community Development Director Ken Robertson (added 11/4/14 @ 5:05 pm) <http://hermosabeach.granicus.com/MetaViewer.php?view_id=6&clip_id=3386&meta_id=165371>
Supplemental Presentation from the Brendle Group on Economic Benefits of Carbon Neutrality (added 11/5/14 @ 8:25 am) <http://hermosabeach.granicus.com/MetaViewer.php?view_id=6&clip_id=3386&meta_id=165372>

Supplemental Letter from Robert Fortunato (added 11/10/14 @ 7:00 pm)
<http://hermosabeach.granicus.com/MetaViewer.php?view_id=6&clip_id=3386&meta_id=165755>
Supplemental Letter from Robert Fortunato (added 11/5/14 @ 4:47 pm)
<http://hermosabeach.granicus.com/MetaViewer.php?view_id=6&clip_id=3386&meta_id=165373>
Presentation Slides (added 11/5/14 @ 5:21 pm)

On February 10, 2015 the subject matters addressed in this report were agendized but were continued to this date without Council discussion. Updated or additional information is provided. While this report supersedes the February 10th Staff Report, that report, attachments and public comment are provided here; please refer to Item 6(c):
<http://hermosabeach.legistar1.com/hermosabeach/meetings/2015/2/907_A_City_Council_15-02-10_Meeting_Agenda.pdf>

Analysis:
On November 5th the Council provided direction to staff to return with information on various topics which are addressed in this report.

1. Receive "City of Hermosa Beach GHG Inventory, Forecasting, Target Setting Report for an Energy Efficiency Climate Action Plan."

On November 5, 2014 Council was provided a summary of the greenhouse gas emissions inventory update being prepared by the South Bay Cities Council of Governments (SBCCOG) in consultation with the City to support climate action planning and the energy efficiency component of the City's climate action plan evaluating energy consumption and identifying strategies that will increase energy efficiency over time. The final greenhouse gas inventory is provided for your information in Attachment 1. Key Findings include:

Community

- The City of Hermosa Beach decreased emissions 7.7% from 2005 to 2012, from 137,160 MT CO2e to 126,611 MT CO2e.
- On-Road Transportation, Commercial Energy, Solid Waste, Water, and Off-Road Sources sector emissions decreased while Residential Energy and Wastewater sectors increased emissions from 2005 to 2012.
- Energy-related emissions account for about 40% of the total community emissions.
- Under the Adjusted Business-as-Usual (BAU) forecast, emissions will be 111,690 MT CO2e in 2020 and 94,162 MT CO2e in 2035. These emissions levels are 19% lower in 2020 than 2005 and 31% lower than 2005 by 2035.
- The City should choose a reduction target that is feasible and ambitious. The State recommends a 15% reduction below 2005 levels by 2020, which would be achieved under the Adjusted BAU scenario.
- To continue reductions consistent with the State's long-term emissions reduction goal of lowering emissions 80% below 1990 levels by 2050, the City would need to reduce emissions in 2035 by 24,210 MT CO2e from an Adjusted BAU forecast. This is a 24% reduction from the Adjusted BAU emissions level and would achieve a 49% reduction from 2005 levels.

Municipal

- Municipal emissions have decreased 9% from 2005 to 2012, from 1,501MT CO2e to 1,372 MT CO2e.
- Emissions in all sectors decreased between 2005 and 2012 except for the Vehicle Fleet & Equipment and SCE-Owned Outdoor Lights.

- Municipal energy use accounts for approximately 1% of all emissions.
- Under the Adjusted BAU forecast, emissions will be 1,751 MT CO2e in 2020 and 1,872 MT CO2e in 2035. These emissions levels are 17% higher in 2020 than 2005 and 25% higher than 2005 by 2035.
- The City would need to reduce emissions by 1,751 MT CO2e from the 2020 Adjusted BAU emissions level to meet its carbon neutrality goal by 2020.

The recommended action is to receive this report. Staff will continue to work with the SBCCOG to identify community programs to improve energy efficiency.

2, 3. Review of Addendum to Brendle Group's Report regarding Health Cos of Carbon Neutrality and Authorize Brendle Group to continue to provide Clima Planning Services coordinated with General Plan Update.

The Brendle Group presented a memorandum on the "Economic Benefits of Carbon Neutrality Analysis and Recommendations" to City Council on November 5th for consideration and direction.

City Council requested that the following questions and comments be addressed:

- Explain the potential role of the City in implementing community carbon neutrality.
- Present the costs and savings in a way that shows the direct investment needed by and benefits to the City organization.
- Further define and quantify the health and other indirect benefits of reduced emissions.
- Expand the process to allow for greater exploration of the potential benefits of carbon neutrality investment from a range of community stakeholders.

This memorandum provided by Brendle Group, Economic Benefits of Carbon Neutrality Follow-Up Response to City Council Questions (Attachment 2), provides additional detail in response to each of these issues and a summary is provided below:

Role of the City in implementing community carbon neutrality:

1. Leadership by example: the City of Hermosa Beach has the opportunity to continue to provide leadership by pushing to achieve carbon neutrality in its municipal operations ahead of the entire community.
2. Community Convener: the City of Hermosa Beach can play a major role in bringing together residents, businesses, organizations, and investors to initiate and sustain conversations about how to reduce emissions in the private sector.
3. Social Mobilization: the City of Hermosa Beach can offer education and incentives to encourage behavior change and investments among residents and businesses to climate mitigation strategies to scale community-wide.
4. Cost Share and Program Funding: providing financial incentives to residents and businesses is one way that the City of Hermosa can support and invest in community carbon neutrality.

Direct investment needed by and benefits to the City

The City of Hermosa Beach cannot invest in and achieve community carbon neutrality alone. With an annual budget of approximately $34 million, the City of Hermosa Beach cannot simply "purchase" neutrality, unless it wants to achieve it through purchase of offsets. Instead, the investment would need to involve the City, as well as its residents, businesses, and private investors.

A summary of some potential options for financing the community's carbon neutrality efforts are provided below.

Local Government	Individuals & Businesses	Others
• Bonds • Tax increment financing • Consumer grants, loans, and direct installs • Community Choice Aggregation	• Self-funded • Mortgage/Home equity • Traditional bank loans or consumer lending • Energy efficiency loans • Property Accessed Clean Energy (PACE) Programs • On-bill tariffs or financing	• Sponsorships and donations • User fees and revenue • Regional, State and Federal grants • Development exactions

Direct savings to the City of Hermosa Beach from achieving community carbon neutrality would most likely come in the form of savings from reduced energy and fuel expenses among municipal facilities and fleets. It is important to note that most of the direct savings from reductions in utility bills from efficiency improvements and renewable energy generation would be realized by the bill payers themselves. Those savings could result in additional disposable income, which could in turn indirectly benefit the City's sales tax revenue.

In terms of property taxes, high-performance and energy efficient buildings are shown to sell for more than comparable non-efficient buildings, which could lead to increased property assessments and tax revenue for the City. Other potential direct benefits might include reduced maintenance costs on roads from reduced vehicle use and potentially reductions in waste expenses. Further benefits to the City of Hermosa Beach from an investment in community carbon neutrality are described below.

Define and quantify the health and other indirect benefits of reduced emissions

The methodology to quantify health care expenses and the creation of jobs is described in the Memo. In addition to the general cost savings for each household annually of $2,500-$6,500 from reduced emissions, there is an additional health cost savings per household of $200-$500 year.

	Pathway A	Pathway B
Pathway Summary	Purchase offsets fo 100% of emissions (null alternative for illustration/bracketin	Moderate to aggressiv implementation of various strategies (including pathway in 10/30/14 memo).
Target Year	2030	2030
Emissions Reduction Required (MT CO2e)	134,000	134,000
One-Time Community Investment to Achieve Goal[1]	n/a	$103 – 155M
Community Offset and Green Rate Purchases	$2 – 3M/yr[2]	$1 – 3M/yr
Community Cost Savings from Achieving Goal	$0/yr	$31 – 63M/yr
Additional Community Health Cost Savings[3]	$0/yr	$1.9 – 4.8M/yr
Jobs Created (job-years)	0	800 – 1,000
Per-Household Normalization		
Total Cost per Household[4]	$200 - 300/yr	$1,000 - 1,200/yr
General Cost Savings per Household[5]	$0/yr	$2,500 - 6,500/yr
Additional Health Cost Savings per Household[6]	$0/yr	$200 – 500/yr
Total (Costs) Savings per Household	($200 - 300/yr)	$1,700 - 5,800/yr

[1] Estimated one-time investment is the estimated size of the program to be financed in partnership with Hermosa Beach, homeowners, business, contractors, developers, utilities, transportation agencies, f agencies, grants, and other organizations and foundations.
[2] The total offset and Green Rate purchase costs depend on the mix of offsets, assumed at $15 per t electricity purchases under the Green Rate premium of $0.07 per kilowatt hour.
[3] Note that the estimated health cost savings are calculated using estimated reductions in vehicle miles tra defensible estimate of all of the potential savings.
[4] Note that the cost per household is estimated by dividing the total community costs by the total num households. As described in the City Investment and Benefits section, the proportion of investment by t residents, businesses, and others has yet to be determined; yet it is unlikely that households will bea implementation.
[5] Cost savings per household is estimated by dividing the total community savings by the total number c It is unlikely that households will reap the full benefits of the total cost savings; these savings are alsc shared by businesses and investors.
[6] Health cost savings per household is estimated by dividing the total community health cost saving number of households. It is unlikely that households will reap the full benefits of the total health cost s these savings are also likely to be shared by businesses and investors.

Expand the process to allow for greater exploration of the potential benefits of carbon neutrality investment from a range of community stakeholders:
In order to facilitate a more inclusive process around the topic of community carbon neutrality, it is proposed that economic analysis efforts be aligned with the current General Plan update process. Both efforts are exploring options for reduced carbon emissions across the community, including land use and transportation decisions that will have direct impacts on emissions. As a result, it will be most effective to explore questions such as the pathway to community carbon neutrality, the potential direct and indirect benefits, and who pays and who saves as part of the larger dialogue around the community's desired future via the General Plan update process. As well as being more inclusive and aligning with the community's desired future, advancing carbon neutrality also requires a more robust techno-economic analysis in the next phase tied to increasing specificity on the strategies, tactics, and near-term policies to achieve neutrality. Staff notes that a group is going to visit best practices in Lancaster and Council is welcome to join us.

Brendle Group's Memo in Attachment 4 provides a scope of work for this coordination effort and has estimated the cost to be $24,000. Funds are incorporated into the mid-year budget and staff requests Council to authorize Brendle Group to continue to provide Climate Action Planning Services coordinated with General Plan Update.

4, 5, 6. Accept Hermosa Beach Municipal Carbon Neutral Plan, Adopt Resolution adopting a Municipal Carbon Neutral Target, and Review Employee Commute Actions to Implement Municipal Carbon Neutral Plan.

On November 5th the Council reviewed the Hermosa Beach Municipal Carbon Neutral Plan prepared by Kaizenergy, funded by a SCAG grant, which provided three carbon neutral scenarios for Council to consider: Least Aggressive (2025), Recommended (2020), and Aggressive (2015). Council directed staff to return with an action plan and costs to support the "Recommended" 2020 target pathway.

The Carbon Neutral Municipal Plan (Attachments 5 and 6) incorporates many potential pathways that the City of Hermosa Beach can take toward achieving the climate and renewable energy goals such as procuring renewable electricity, articulating a strategy for employee commutes, and recommending a specific plan to neutralize gross emissions in support of an aggressive Carbon Neutrality commitment. The Plan presents a unified approach to neutralizing greenhouse gas emissions across local government operations sectors and emissions reductions projects.

Per Council direction, an implementation schedule and costs is provided to support the 2020 goal in Attachment 7. Major costs in the first three years include implementing the Accelerate Clean Fleet Master Plan, upgrading street lighting and dedicating staff to accelerate the implementation of the employee commute reduction program. The consultant has also determined that the City could alternatively credibly achieve municipal carbon neutrality by 2017. This more aggressive approach would dedicate additional funding for the accelerated implementation of the Clean Fleet Policy and Master Plan, more bicycles and electric vehicles, and additional staff time and subsidy's to employees who purchase or lease zero-emission vehicles. Both of the goals would require the purchase ARB offsets. Staff emphasizes that this would increase the City's leadership but also require a priority to be placed on use of staff resources to achieve this goal potentially over other work.

Moreover, on February 4, City staff convened a meeting of community members to explore and discuss the alternative goals, costs and implementation pathways described in the Municipal Carbon Neutral Plan. Juan Matute, Kaizenergy, presented the costs and benefits associated with the pursuit of both the 2017 and 2020 goals and the majority of attendees conveyed a preference for the more aggressive 2017 goal expressing that the added return on investment far exceeded the $52,475 additional cost.

As directed by the Council, the attached resolution (Attachment 9) asks Council to propose a target for municipal carbon neutrality which demonstrates the City's commitment to being a climate action leader. Should the Council desire to adopt a 2017 target, the resolution may be revised accordingly. This will signal the City's firm commitment to become one of the first municipalities to demonstrate substantial and quantifiable reductions in greenhouse gas emissions and procure numerous economic and health benefits. It will also support the credible pursuit of community-wide carbon neutrality.

Electricity for buildings and lighting and transportation are shown in the figure in Attachment 7 to be the largest source of greenhouse gas emissions from municipal operations. To offset these emissions by 2020 the Carbon Neutral Municipal Plan recommends the following implementation measures related to electricity, transportation and waste.

Electricity

1. Continued pursuit of energy efficiency since these projects are highly cost effective and can be financed on energy bills.
2. The city should begin to purchase high-quality renewable energy certificates as a first step toward procuring zero emissions green power.
3. The city should install solar PV panels at a municipal facility in order to take a visible action toward carbon neutrality - and to take advantage of low photovoltaic panel costs.
4. In the long term, the City should pursue a Community Choice Aggregation program to procure 100% renewable energy.

Transportation

1. Implement the clean fleet policy and master plan, centered around electric vehicles.
2. To help develop a culture of cycling, involve employees in the Blue Zones program, start a shared bicycle program for municipal employees.
3. Accelerate efforts to encourage employees to carpool, vanpool, bike, walk, or take transit to work.
4. In the long term, consider incentives that steer employees toward zero emissions vehicles, which they'll use to commute. Incentives that the city provides the employee pay many times over in terms of reduced vehicle operations cost.
5. Notable long-term challenges are the City's Public Safety Fleet & very long distance commute trips, which are responsible for a disproportionate share of employee miles traveled and can't be served well by carpooling or electric vehicles.

2013 Employee Commute Survey Summary

The 2013 City of Hermosa Beach Employee Commute Survey was completed by 108 (76%) of full-time and part-time employees. A summary of the survey results is provided here for informational purposes:

- The majority of City employees have a round-trip commute of less than 30 miles
- Approximately 26% of employees commute 6 or less miles round-trip, which is generally considered within walking of biking distance
- Over half of City employees work a 4-day fulltime work week and 91% of respondents drive alone to work at least 4 days a week.
- 31% of respondents are interested in participating in a rideshare programs and expressed the monetary incentives would influence their participation
- Many employees are interested in EVs and list access to charging outlets, life expectancy of current vehicles, and the high-price of EVs as barriers that prevent them from purchasing EVs.
- Barriers that prevent employees from biking include distance, schedules, weather or darkness, work attire, or unsafe conditions.
- Showers, secure bike racks and bike lanes would encourage more employees to bike to work.

After adopting a target staff will proceed to implement the work plan including inclusion of appropriate costs in the FY 2015/16 budget.

7. Receive information on Renewable Energy opportunities/PV Solar Installations; Community Choice Aggregation; and Hermosa Beach's Existing Transit/ Transportation Systems.

On November 5th and 13th City Council additionally directed staff to return with information related to recommendations outlined in the Municipal Carbon Neutral Plan as follows.

Continue to pursue the feasibility of Community Choice Aggregation (CCA)

On November 18, the City of Hermosa Beach and South Bay Clean Power organized a Study Session on Community Choice Power in the South Bay. Representatives from South Bay Cities' staff and elected officials attended the workshop to learn about Community Choice Aggregation (CCA) in California and its status and prospects in the South Bay. Shawn Marshall, founder and Executive Director of LEAN Energy US (Local Energy Aggregation Net-work) Community Choice programs discussed success operational programs in Marin and Sonoma, Lancaster and other counties, as well as the process and the opportunity for South Bay Clean Power.

Since this meeting, the Santa Monica, Redondo Beach, Torrance, and Carson City Councils each unanimously approved a resolution to participate in a CCA feasibility study, joining the Cities of Hermosa Beach and Manhattan Beach which had already passed the same resolution. It is expected that the City of Inglewood will become the 7th city to join the feasibility study group. These seven strategically chosen cities have a greater electric power load then earlier successful programs and more information on this seven-city strategy can be found here: <https://southbaycleanpower.wordpress.com/2015/01/19/santa-monica-city-council-votes-to-join-sbcp-feasibility-study/>. South Bay Clean Power is also meeting with representatives of the Cities of Culver City, Gardena and Palos Verdes Estates and conducting other outreach.

The South Bay Community Power Working Group met for the first time on January 29th with 17 representatives from 6 cities reviewing progress and discussing and planning next steps. City staff will continue to participate and assist in pursuit of CCA, updating Council as development occurs.

Update on solar installations on City property including return on investment and financing, and preparation of a program level RFP for solar PV on municipal buildings

City staff is currently exploring opportunities for collaborative PV solar projects and will be meeting with the Hermosa Beach City School District, large retailers (Vons), and Los Angeles County to understand the opportunity for PV solar for the Library.

City staff successfully submitted an application to ICLEI for technical assistance to develop an RFP for a comprehensive assessment of solar opportunities and funding options. Maestro Consultant Group will assist the City in developing the RFP.

Summary of Hermosa Beach's Transit/Transportation Options in relation to Carbon Neutral Goals

On November 13, 2014 City Council requested staff to return with a summary of the Hermosa Beach's existing

transportation options which people may not know about and could be using to support the City's carbon neutral goals. The City currently provides a number of alternatives to fossil fueled vehicles or single-occupant travel on its website (Attachment 10). The "Public Transportation" page listed under the "Residents" webpage, also accessed through the "Visitors-Public Transportation" page on the City's website provides a link to public transportation in the City of Hermosa Beach and surrounding areas provided by Beach Cities Transit and MTA. This page also shares a link to obtain Bus Passes and Dial-A-Taxi vouchers at reduced rates for senior citizens and disabled City of Hermosa Beach residents. The Seniors Programs and Services webpage provides additional information on obtaining a bus pass and the Dial-a-Ride services.

The Community Development "Go Green/Sustainability" webpage provides transportation and route information for bicyclists and pedestrians in the city. This page provides information on obtaining permits for neighborhood electric vehicles, the location of bus stops, and links to vanpool options and trains. <http://www.hermosabch.org/index.aspx?page=499>

Staff plans to update this information in the near future to travel and parking information for all users can be accessed from one place.

Attachments:

1. City of Hermosa Beach GHG Inventory, Forecasting, Target-Setting Report for an Energy Efficiency Climate Action Plan, SBCCOG
2. Economic Benefits of Carbon Neutrality Follow-Up Response to City Council Questions, Brendle Group, February 3rd, 2015
3. Brendle Group Report PowerPoint Presentation
4. Brendle Group Phase 2 Scope of Work
5. Executive Summary of Municipal Carbon Neutral Plan, Kaizenergy, February 2015
6. Municipal Carbon Neutral Plan, February 2015
7. Implementation Costs and Schedule (2020 target)
8. Municipal Carbon Neutral Plan PowerPoint Presentation
9. Resolution adopting a Municipal Carbon Neutral Target of 2020
10. Transportation information on City Website

Respectfully Submitted by: Kristy Morris, Environmental Analyst
Concur: Pam Townsend, Senior Planner
Noted for Fiscal Impact: Viki Copeland, Finance Director
Approved: Tom Bakaly, City Manager