#### WMA Board & Energy Council (EC)

# **AGENDA**

Tim Rood, **WMA President** City of Piedmont, WMA, EC

Deborah Cox, WMA 1st Vice President, EC President

City of San Leandro, WMA, EC

Shelia Young, **WMA 2<sup>nd</sup> Vice President** Oro Loma Sanitary District, WMA

Melissa Hernandez, EC 1st Vice President

City of Dublin, WMA, EC

Dan Kalb, EC 2<sup>nd</sup> Vice President

City of Oakland, WMA, EC

Jim Oddie, City of Alameda, WMA, EC

Keith Carson, County of Alameda, WMA, EC

Nick Pilch, City of Albany, WMA, EC

Susan Wengraf, City of Berkeley, WMA, EC

Dave Sadoff, Castro Valley Sanitary District, WMA

Dianne Martinez, City of Emeryville, WMA, EC

Jenny Kassan, City of Fremont, WMA, EC

Francisco Zermeño, City of Hayward, WMA, EC

Bob Carling, City of Livermore, WMA, EC

Michael Hannon, City of Newark, WMA, EC

Jerry Pentin, City of Pleasanton, WMA, EC

Emily Duncan, City of Union City, WMA, EC

Wendy Sommer, Executive Director

MEETING OF THE
ALAMEDA COUNTY WASTE MANAGEMENT
AUTHORITY (WMA) BOARD
AND
THE ENERGY COUNCIL (EC)

Wednesday, January 22, 2020

3:00 P.M.

StopWaste Offices 1537 Webster Street Oakland, CA 94612 510-891-6500

Meeting is wheelchair accessible. Sign language interpreter may be available upon five (5) days notice by calling 510-891-6500. Members of the public wanting to add an item to a future agenda may contact 510-891-6500.

- I. CALL TO ORDER
- II. ROLL CALL OF ATTENDANCE
- **III. ANNOUNCEMENTS BY PRESIDENTS -** (Members are asked to please advise the board or the council if you might need to leave before action items are completed)

### IV. OPEN PUBLIC DISCUSSION FROM THE FLOOR

An opportunity is provided for any member of the public wishing to speak on any matter within the jurisdiction of the boards or council, but not listed on the agenda. Total time limit of 30 minutes with each speaker limited to three minutes unless a shorter period of time is set by the President.

# Page V. CONSENT CALENDAR

- 1. Approval of the Draft Minutes of December 18, 2019 (Wendy Sommer)
- 5 2. Annual Audit for Fiscal Year 2018-19 (Pat Cabrera & Jennifer Luong)

That the WMA Board and Energy Council review, accept and file the Fiscal Year 2018-19 Annual Audit.

- VI. REGULAR CALENDAR
- 7 1. Reusable Food Ware Ordinance (Justin Lehrer)

Review the options listed in the staff report, and provide direction to staff on how to proceed.

2. Interim appointment(s) to the Recycling Board for WMA appointee unable to attend future Board Meeting(s) (Arliss Dunn)

(Planning Committee and Recycling Board meeting, February 13 2020 at 7:00 pm, San Leandro Senior Center, 13909 E. 14th Street, Meeting Room C, San Leandro, CA 94578)

15 3. Heat Pump Water Heater Grant Update and MOU (Jennifer West) (EC only)

Adopt a Resolution authorizing the Executive Director to negotiate an MOU with local energy providers for implementation of the BAAQMD HPWH incentive program and other related actions to be formally approved by the Council when completed and to enter contracts with service providers to implement the MOU work program in an amount not to exceed funds provided by the signatories to the MOU.

- VII. MEMBER COMMENTS AND COMMUNICATIONS FROM THE EXECUTIVE DIRECTOR
- VIII. ADJOURNMENT

#### **DRAFT**

# MINUTES OF THE MEETING OF THE ALAMEDA COUNTY WASTE MANAGEMENT AUTHORITY (WMA) BOARD, THE ENERGY COUNCIL (EC)

Wednesday, December 18, 2019

3:00 P.M.

StopWaste Offices 1537 Webster Street Oakland, CA 94612 510-891-6500

Teleconference
Jim Oddie
City Hall West
950 West Mall Square, Room 201
Alameda, CA 94501
415-509-1964

# I. CALL TO ORDER

President Rood called the meeting to order at 3:00 p.m.

#### II. ROLL CALL OF ATTENDANCE

City of Alameda Jim Oddie, WMA, EC (teleconference)

County of Alameda Keith Carson, WMA, EC
City of Albany Nick Pilch, WMA, EC
City of Berkeley Susan Wengraf, WMA, EC

Castro Valley Sanitary District Dave Sadoff, WMA
City of Dublin Melissa Hernandez, WMA, EC

City of Emeryville Dianne Martinez, WMA, EC
City of Fremont Jenny Kassan, WMA, EC
City of Hayward Francisco Zermeño, WMA, EC

City of Livermore

City of Newark

City of Oakland

Oro Loma Sanitary District

City of Piedmont

City of Pleasanton

City of Union City

Bob Carling, WMA, EC

Mike Hannon, WMA, EC

Dan Kalb, WMA, EC

Shelia Young, WMA

Tim Rood, WMA, EC

Emily Duncan, WMA, EC

**ABSENT:** 

City of San Leandro Deborah Cox, WMA, EC

# **Staff Participating:**

Wendy Sommer, Executive Director Chris Ross, Designer/Developer Robin Plutchok, Program Manager Jeanine Sidran, Program Services Specialist Karen Kho, Principal Program Manager Arliss Dunn, Clerk of the Board Richard Taylor, WMA Legal Counsel

### III. ANNOUNCEMENTS BY PRESIDENTS

President Rood welcomed Mayor Nick Pilch as the new representative for the city of Albany.

# IV. OPEN PUBLIC DISCUSSION FROM THE FLOOR

There was none.

# V. CONSENT CALENDAR

# 1. Approval of the Draft Minutes of November 20, 2019 (Wendy Sommer)

There were no public comments for the Consent Calendar. Board member Zermeño made the motion to approve the Consent Calendar. Board member Hernandez seconded and the motion carried 15-0-1: (Ayes: Carling, Carson, Duncan, Hannon, Hernandez, Kassan, Martinez, Oddie, Pilch, Rood, Sadoff, Wengraf, Young, Zermeño. Nays: None. Abstained: Pentin. Absent: Cox, Kalb).

# VI. REGULAR CALENDAR

# 1. 2020 Meeting Schedule (Arliss Dunn)

It is recommended that the Waste Management Authority Board and the Energy Council adopt the regular meeting schedule for 2020.

Clerk Arliss Dunn introduced the item. There were no public comments on this item. Board member Zermeño made the motion to approve the Consent Calendar. Board member Hernandez seconded and the motion carried 16-0:

(Ayes: Carling, Carson, Duncan, Hannon, Hernandez, Kassan, Martinez, Oddie, Pentin, Pilch, Rood, Sadoff, Wengraf, Young, Zermeño. Nays: None. Abstained: None. Absent: Cox, Kalb).

# 2. Launch of RightPlace search tool (Robin Plutchok)

This item is for information only.

Board member Kalb arrived during the presentation. Robin Plutchok, Program Manager, provided an overview of the staff report and introduced the design team, Chris Ross, Designer/Web Developer and Jeanine Sidran, Program Services Specialist. Mr. Ross provided an online demonstration of the new RightPlace search tool. The site is not ready for public distribution/use and the RecycleWhere portal is still the definitive search tool for information.

Board member Hannon inquired if information on rates would be included in the search tool. Mr. Ross stated that it would be up to the individual jurisdiction to include any information on rates and if so the information could be included under the "other information" tab. Mr. Ross added the goal is to provide the most current and consistent information. Board member Martinez inquired about where staff is obtaining the images and information. Mr. Ross stated that the details are malleable and we are working with the jurisdictions to verify what they would like to have included or excluded from the list but many of the images are from our library and they could be different from what the haulers use in their marketing materials. Board member Zermeno inquired if the update is being done in-house. Ms. Sommer stated yes and added the team has done a terrific job. President Rood inquired if the mobile household hazardous waste drop-off events will be included in the search tool. Jeanine Sidran stated

that they are not currently listed but as they are scheduled they will be loaded onto the site. Board member Sadoff inquired if staff is confirming with the businesses what is currently acceptable. Ms. Sidran stated yes, we are doing a complete update and we are consistently confirming with the businesses and the haulers what is acceptable, hours of operation, etc. Ms. Sidran added hospitals are included as well for pharmaceutical drop-off. Board member Duncan inquired about the timeline for launching the new tool. Mr. Ross stated that the goal is to have a full public launch prior to the end of the fiscal year, June 30, coinciding with the retirement of the current tool. Board member Wengraf extended congratulations to staff on a phenomenal job. Board member Young stated that she is impressed with the new search tool and strongly recommended that staff conduct a marketing campaign to inform the public. Board member Hannon commended staff on an outstanding job and inquired if there would be page translation for the significant number of non-English speaking residents throughout the county. Mr. Ross stated that he is looking for tools for this. President Rood commended staff on creating a phenomenal tool with a thoughtfully designed interface and content, and thanked staff for listening to the Board's input. Ms. Sommer stated that we are planning to have the official public launch around Earth Day (April 22). Board member Hernandez recommended coordinating with city managers as they can be helpful around the launch of the new search tool. Board member Duncan inquired if StopWaste currently has an app for mobile devices. Mr. Ross stated no but the webpage is optimized for mobile use, and the new tool will work as a webpage and stand-alone app.

There were no public comments on this item.

# 3. Interim appointment(s) to the Recycling Board for WMA appointee unable to attend future Board Meeting(s) (Arliss Dunn)

(Planning Committee and Recycling Board meeting, January 9, 2020 at 4:00 pm, StopWaste, 1537 Webster Street, Oakland, CA)

There were no requests for an interim appointment.

# **Energy Council First Vice President Hernandez chaired the EC item.**

# 1. BayREN Contract for 2020-2022 and Regulatory Updates (Karen Kho) (EC only)

Adopt a Resolution authorizing the Executive Director to enter into a three-year contract starting January 1, 2020 with ABAG for Bay Area Regional Energy Network (BayREN) services and other related actions.

Karen Kho provided an overview of the staff report. A link to the report is available here: <u>BayREN-Contract-20-22.pdf</u>

Board member Martinez stated that she was pleased to hear about electrification and heat pump technology and inquired about the level of coordination with the CCAs. Ms. Kho stated that Jennifer West, Program Manager, is working on that particular project with the Air District grant to further regional heat pump market development. Ms. Kho added the scope of work on that particular grant is specifically to work with CCAs and municipal utilities throughout the Bay Area to launch a consistent regional program. Ms. West has made significant progress on that project as 11 of the local energy providers, which includes CCAs as well as municipal utilities, are participating and have come to agreement on a common program design. They are now working on an MOU between the Energy Council and the participating entities to have one consultant to work on incentive processing and also to work on layering rebates that are offered as incentives through the CCAs and municipal utilities with BayREN and single family. Board member Martinez inquired what the interface would look like. Ms. Kho stated that the biggest barrier in the program is that there are not enough contractors, so the market

#### **DRAFT**

development program is designed to increase the workforce by working with local distributors to offer training to enablecontractors to work with the new technology. Board member Carson stated that the BayREN program is a three-year contract and inquired how often staff will be providing updates to the Board. Ms. Kho stated that staff will provide updates more than once a year. Board member Kalb commented that we are keeping track of the amount of energy we're saving through the multi-family rebates and inquired if we are translating the data into greenhouse gas emission reductions. Ms. Kho stated yes, we are tracking this information, and it is one of the issues that we are working on with the evaluation consultants. Board member Kalb asked for an example on how staff is conducting regional marketing and local outreach. Ms. Kho stated that this is done across all programs. With single-family, we are working with city staff to identify events that are happening around the county that are relevant to homeowners and ensuring that the correct information is disseminated, and making sure the information is consistent with any changes that have happened in the regional program. Board member Kalb inquired about how the program is marketed to older multi-family property owners. Ms. Kho stated we are coordinating regionally with the other BayREN members with how they are conducting outreach in their counties and providing consistent messaging. Ms. Kho added that we discovered that the incentive is attractive enough to the owners that they want to participate and there has been pretty good participation among a range of owner types. Board member Hannon requested that staff bring back a report to the Board sometime next year about the 5,000 multifamily units that received rebates. Board member Hannon inquired who provides consulting services for multi-family. Ms. Kho stated that the Association for Affordable Energy provides the service for most of the region as well as in Alameda County. The San Francisco Department of the Environment has an internal team offering BayREN technical services in the City of San Francisco. Board member Hannon inquired if there is proactive outreach for both tenants and owners regarding window replacement for energy efficiency as well as property enhancement. Ms. Kho stated that unfortunately window replacement has become less cost effective for the utility programs and PG&E has dropped window replacement from their program, but in BayREN customers are eligible for incentives through multiple programs and customers can still do window replacement if they bundle them in with other energy saving measures. Ms. Kho added the most effective way to reach the customers has been for the city to send letters on their letterhead to the property owners in their jurisdictions. Board member Pilch stated that his experience with working with the rebate program through Energy Upgrade CA is that the paperwork is too cumbersome and recommended to focus on simplifying the program on where we are getting the most bang for our buck, i.e. municipal buildings and multi-family properties instead of single-family properties.

There were no public comments on this item. Board member Martinez made the motion to approve the staff recommendation. Board member Rood seconded and the motion carried 16-0: (Ayes: Carling, Duncan, Hannon, Hernandez, Kalb, Kassan, Martinez, Pentin, Pilch, Rood, Wengraf, Zermeno. Nays: None. Abstained: None. Absent: Carson, Cox, Oddie).

# VII. MEMBER COMMENTS AND COMMUNICATIONS FROM THE EXECUTIVE DIRECTOR

Ms. Sommer thanked the Energy staff for working so hard in getting over \$7 million annually and that the BayREN program is no longer a pilot program. Ms. Sommer announced that StopWaste was the founder of Build it Green and recently they were able to sell their utility piece of the program to Franklin Energy, a national company, for a healthy figure. They will now focus again on green building in Alameda County. Ms. Sommer distributed the monthly topic brief on "The Problems with PFAS," available <a href="here">here</a>. Ms. Sommer extended happy holidays to all.

# VIII. ADJOURNMENT

The meeting was adjourned at 4:09 p.m.



**DATE:** January 22, 2020

**TO:** Waste Management Authority Board

**Energy Council** 

FROM: Pat Cabrera, Administrative Services Manager

Jennifer Luong, Financial Services Manager

**SUBJECT:** Annual Audit for Fiscal Year 2018-19

#### **SUMMARY**

On January 9, 2020, the Programs and Administration Committee and the Planning Committee/Recycling Board heard a presentation of the Fiscal Year 2018-19 Annual Audit, which now comes to the Waste Management Authority Board and Energy Council for acceptance and filing.

# **DISCUSSION**

Consistent with last year's report the Financial Statements were presented in Comparative Format (two fiscal years). There were no audit exceptions or material deficiency findings. Additionally, there were no recommendations for improvements in internal controls. The Agency continues to be in a solid financial position. The report submitted to the P&A and the Planning Committee/Recycling Board can be found at: Audit-Report-FY-18-19.pdf

# **Committee Action**

By a vote of 7-0 (Absent: Carson, Hernandez, Kalb, Kassan, Wengraf), the P&A Committee reviewed and recommended forwarding the Fiscal Year 2018-19 Annual Audit to the Waste Management Authority Board for review, acceptance and filing. By a vote of 8-0 (Absent: Nourot), the Recycling Board reviewed and accepted for filing the Fiscal Year 2018-19 Annual Audit.

#### **RECOMMENDATION**

That the WMA Board and Energy Council review, accept and file the Fiscal Year 2018-19 Annual Audit.

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**DATE:** January 22, 2020

**TO:** Waste Management Authority Board

**FROM:** Wendy Sommer, Executive Director

BY: Justin Lehrer, Senior Management Analyst

**SUBJECT:** Reusable Food Ware Ordinance

#### **SUMMARY**

At the November 14, 2019 Programs & Administration and Planning Committee/Recycling Board meetings, staff presented potential policy options to help reduce consumption of single-use food service ware in Alameda County eating and drinking establishments. At the January 22 WMA meeting this topic will be continued, with an update on potential budget impacts and discussion of member agency input.

### **DISCUSSION**

There are multiple benefits that can be realized through a policy addressing food ware, including a reduction in litter, plastic pollution, and compost contamination. However, the primary objective is not to switch from one single-use item to another that may be considered "less bad," or "friendlier to the environment," such as replacing plastic food ware with compostable fiber, which will not reduce consumption and ends up as contamination in organics.

At the November committees, staff requested that Board Members take this item to their respective jurisdictions for input. Since then, discussions with member agency staff, city managers, and other public agency stakeholders have yielded additional questions and concerns with regard to impacts on local businesses, cost-benefit analyses, and other priorities (i.e., SB 1383 support).

In order to balance the need to maximize environmental impacts while also recognizing challenges businesses, consumers, and city staff will face in order to comply with a mandatory food ware policy, staff developed a set of options for discussion. Input and direction from the WMA Board will determine the approach and next steps.

# **Option 1: Pilot Projects and Data Collection**

In order for staff to recommend moving forward with a mandatory policy, we need to have high confidence that it will be successful in achieving the desired results, and minimize unintended consequences. For a reusable food ware ordinance, the goal is to drive reduced consumption of single-use food ware. Certain conditions must be in place for such a policy to succeed. For example, many food service establishments do not have proper infrastructure to enable dishwashing (dishwasher hookups, sinks, sewer and waste water permits). There are potential issues with

available space, permitting, and costs that will impact some businesses and not others, possibly leading to an uneven playing field.

Additional analysis is also needed to better understand the financial and environmental impacts of switching from single-use to reusable food service ware. There is an opportunity to develop reusable cup and container infrastructure and services that are currently not available in the county. Staff can partner with member agencies and businesses to initiate pilot projects that will help us evaluate different approaches and better learn what solutions are most effective for different types of businesses and circumstances.

<u>Elements</u>: Pilot projects, cost/benefit study, infrastructure development.

<u>Affected Audience</u>: There are many types of food service establishments that could be included in the pilot projects.

Exemptions: n/a

<u>Cost</u>: \$400,000 for staff time and consultant support for data gathering and research, grants, and stakeholder outreach. See <u>Attachment 2</u> for additional detail.

<u>Enforcement/Implementation</u>: Staff will observe enforcement and implementation activities in other jurisdictions, such as Alameda and Berkeley, and take lessons learned into account.

<u>Pros/Cons</u>: This approach will ultimately lead to a more thoughtful and well-crafted policy, but it will also delay the process by a year or more.

Given the significant amount of feedback received from member agency staff, Agency staff feels this option is the best approach at this time.

# **Option 2: Countywide Ordinance**

The purpose of a countywide ordinance is to maximize impact and ensure consistency across the county. With a number of member agencies already implementing their own local ordinances, limiting the complexity and requirements of a countywide ordinance would increase the success of implementation across the county. For a countywide approach, staff recommends an ordinance that solely requires reusable food ware for dine-in customers, with no additional requirements. Reusables are the best option for reducing food packaging waste at the source and a truly upstream approach to the issue that aligns with the Board's adopted guiding principles. Driving a cultural shift away from disposables and normalizing reusable food ware for consumers dining away from home is a meaningful objective and top priority.

<u>Elements</u>: A countywide ordinance should only include those elements that have buy-in from all member agencies. Adding more elements such as specific material requirements, and fees on single-use items, adds complexity and reduces the likelihood of a uniform approach for the county.

<u>Affected Audience</u>: An ordinance requiring reusables for dine-in customers would apply to all dine-in establishments – approximately 3,300 across the county. This is roughly half of the total number of food service entities in the county. See <u>Attachment 1</u> for a breakdown of the types of establishments that could be affected.

<u>Exemptions</u>: Initial exemptions or additional time to comply could be granted for very small, independently owned establishments when a hardship is demonstrated (e.g., limited dishwashing capacity).

<u>Cost</u>: Estimated \$1.2M for development and rollout, \$350,000 ongoing annual cost for outreach, technical assistance and enforcement, provided by StopWaste, plus additional costs depending on the amount of grant funding awarded to support the growth of reusables infrastructure in Alameda County. See <u>Attachment 2</u> for additional detail.

<u>Enforcement</u>: Complaint-based enforcement would be provided by StopWaste.

<u>Pros/Cons</u>: Countywide approach can achieve widest impact, and focusing solely on reusables for dine-in may make countywide uniformity more feasible; member agencies can adopt additional requirements for local implementation; StopWaste provides outreach, implementation, and enforcement; higher costs/budget impacts pull resources away from other important work, namely SB 1383 implementation.

# **Option 2: Model Ordinance**

A model ordinance offers member agencies the flexibility to design a policy that meets their needs. StopWaste would provide ordinance language and a menu of elements that can be included. The Agency may coordinate technical assistance and provide countywide outreach campaigns and promotional tools but will *not* provide implementation or enforcement. A model ordinance approach will allow some jurisdictions to pursue a more comprehensive ordinance while others take a simpler approach or opt to use a voluntary approach.

<u>Elements</u>: The model ordinance would include a range of options that member agencies could include or exclude. Potential ordinance elements are listed in the next section.

<u>Affected Entities</u>: Food service establishments can be divided into several categories, as shown in <u>Attachment 1</u>. Each member agency would need to determine the affected entities in their community based on the elements included in the ordinance, as well as the number and composition of food service establishments.

<u>Exemptions</u>: Potential exemptions would be included in model ordinance language and include considerations for various hardships including disabilities, economic hardship, and space constraints. Member agencies are responsible for evaluating and determining how to address exemption requests.

<u>Cost</u>: \$636,000 one-time cost for development, adoption and promotional assistance countywide. A more detailed cost breakdown is provided in <u>Attachment 2</u>.

Enforcement: Member agencies are responsible for enforcement.

<u>Pros/Cons</u>: Greater flexibility for member agencies to implement policies based on local needs; city staff are responsible for outreach and enforcement; may be more difficult or confusing for businesses and residents if food ware ordinances are not uniform across the county; preserves Agency resources for other critical projects (i.e., SB 1383 implementation).

#### **Ordinance Elements**

The following elements are listed in order of descending priority, based on environmental impact, complexity to implement, and potential burden on stakeholders.

# **Dine-In Only:**

Reusable food service ware required for all dine-in establishments
 This element is listed first because focusing on upstream is one of the agency's guiding principles.

# To Go:

- Single-use food ware (plates, cups, bowls) and accessories (straws, utensils, condiment cups) must be BPI certified<sup>1</sup> compostable fiber (non-plastic)
- Single-use accessories (straws, utensils, condiment cups) available only on demand/selfservice

The two above requirements do not impact consumption or reduce waste, but would shift material usage away from single-use plastics to materials that are more likely to be successfully composted under the right conditions. They also expand the reach of the ordinance beyond dine-in establishments to potentially include food trucks, catering businesses, prepared food vendors, corporate and institutional cafeterias, and food provided via third party delivery.

- 3. \$0.25 charge on single-use cups
- 4. \$0.25-0.50 charge per meal for to-go food service ware

Numbers 3 and 4 add a financial disincentive for consumers using single-use food service ware. Staff considers these elements to be appropriate only if reasonable reusable alternatives are readily available to the public. For this reason, these elements make sense to phase in at a later date, after additional investment and development of reusables infrastructure in Alameda County.

# **Next Steps and Additional Effort**

Upon receiving direction from the WMA Board, staff will proceed with the groundwork for whichever approach the Board selects.

# **RECOMMENDATION**

Review the options listed above, and provide direction to staff on how to proceed.

<sup>&</sup>lt;sup>1</sup>Compostable certification by the Biodegradable Products Institute (BPI), the industry standard, requires all items are PFAS-free.

ATTACHMENT 1

Reusable Food Ware Ordinance – Potentially Affected Entities

Туре	# of	Examples	Affected by	Affected by
	Businesses		Countywide	Ordinance Requiring
			Ordinance	Specific Food Ware
			(Reusables for	and/or Fees
			Dine-In Customers)	
Restaurants 26 seats and under	812	Cafes, coffee shops, to go, fast casual	X	Х
Restaurants 26-50 seats	1200	Chain and fast food restaurants, cafes within	X	Х
		grocery stores, etc.		
Restaurants 51-75 seats	468	Chains, fast food, large dine-in	X	Х
Restaurants 75 seats and over	734	Restaurants and larger chains	X	Х
Skilled Nursing Facilities	56	Kaisers, Sutter Health cafeterias, senior living	X	X
		facilities		
In-plant feeding	65	Corporate cafeterias	X	Х
Take out	922	All sizes		X
Catering Trucks and Food Carts	937	Food trucks, hot dog carts, ice cream, etc.		Х
Bakery and Bakery Trucks	246	Costco, grocery stores, traditional bakeries,		Х
		pie and bread companies		
Satellite Food Facility/Snack Bars	398	Coliseum, AC Fairgrounds, movie theaters		X
School cafeterias	414	Private and public. State agencies not subject		
		to local ordinances.		
Total Number Potentially	6489	~3300 are dine-in.		
Affected				

Source: Alameda County Environmental Health Food Permit Database. Data is one year old and there is some overlap between categories so figures are approximate and likely higher than actual. Excludes City of Berkeley, which maintains its own Health Department, with an estimated 840 eating establishments.

# **ATTACHMENT 2**

# **Reusable Food Ware Ordinance – Resource Analysis**

	Option 1: Preliminary Groundwork and Pilot Projects					
Year 1	Year 1 Research and Pilot Projects		Staff time, consultants, grants, stakeholder outreach			
Total Cost for Development & Implementation		\$400,000				

	Option 2: Countywide Ordinance: Reusables Required for Dine-In						
Year 1	Ordinance Development	\$431,000	CEQA analysis, stakeholder process,				
			legal, ordinance language				
Year 2	Adoption and Implementation	\$706,000	Adoption, outreach & promotion, TA,				
			data collection, grants				
Year 3	Enforcement	\$87,000	1 PT inspector, ~3,000 inspections				
Total Cost for Development & Implementation		\$1,224,000					
Ongoing Annual Costs		\$350,000	Ongoing staff time and hard costs				
			associated with enforcement, TA,				
			measurement, and				
			outreach/promotion.				

	Option 3: Model Ordinance					
Year 1	Ordinance Development	\$431,000	CEQA analysis, stakeholder process,			
			legal, ordinance language			
Year 2	Implementation Assistance	\$205,000	Promotional campaign and member			
			agency support.			
Total Cost for Development & Implementation		\$636,000				
Ongoing Annual Costs		~\$50,000	TBD, expected to be minimal with			
			possible exception of countywide			
			promotional campaign.			

# **Detailed Resource Analysis**

# Option 1: Preliminary Groundwork and Pilot Projects: \$300,000

- **Staff Time**: \$150,000

Data gathering, research and study. Communication and collaboration with subject-matter experts and businesses. Managing pilot projects.

Research Consultants: \$40,000
 Data gathering, research, and study on cost-benefit analyses, environmental impacts, alternative products and services.

- **Grants**: \$100,000

Support for business investments in reusable food service ware and related equipment.

- Stakeholder Outreach: \$10,000

Surveys, webinars, in-person meetings for affected food service establishments, business associations/improvement districts, residents, city staff, water, health and energy agencies.

# TOTAL ESTIMATED COST FOR GROUNDWORK AND PILOT PROJECTS: \$300,000

# Ordinance Development (applies to countywide or model ordinance): \$431,000

- **Staff Time**: \$236,000

Data gathering and research, defining criteria and ordinance language, internal meetings and planning. Includes communications with member agency staff, affected entities, county health department, the public, and City Council presentations.

Legal: \$10,000

Legal consultation to help staff consider the legal implications of policy options under consideration, as well as for review of proposed ordinance language and terms.

- Environmental Review: \$150,000

CEQA analysis to assess the environmental impacts of switching from disposable food service ware to reusables. Staff will issue an RFP and select a CEQA consultant to conduct this analysis.

- Stakeholder Outreach: \$10,000

Surveys, webinars, in-person meetings for affected food service establishments, business associations/improvement districts, residents, city staff, water, health and energy agencies.

- Outreach Support and Materials: \$25,000

Outreach plan and tools that can be used countywide to promote reusables as the best food ware choice.

# OPTION 2: COUNTYWIDE ORDINANCE: ~\$768,000

Adoption, rollout, outreach, technical assistance, enforcement:

- **Staff Time**: \$236,000

- **Staff Time-Enforcement** (1 PT inspector, ~3,000 inspections): \$87,000

- Baseline Data & Metrics: \$15,000

Data on consumer and business use of food service ware will be collected in order to establish a baseline for measurement of progress in subsequent years.

- **Legal**: \$5,000

- Outreach Materials: \$75,000 - Production & printing of outreach materials to affected entities.

- **Outreach Support**: \$75,000 - Marketing consultant support.

- Countywide Promotional Support: \$100,000

- Technical Assistance: \$100,000

Contracted assistance to help businesses convert to reusable food service ware

- **Grants**: \$100,000-200,000

Including direct support of expenses related to implementing reusables at food service establishments as well as investment in new businesses and services that facilitate greater adoption of reusables for to-go applications.

Ongoing annual cost: \$300,000-\$400,000

Managing ongoing technical assistance and enforcement activities, communications, outreach, data gathering and analysis. Additional costs dependent on grants awarded.

# TOTAL ESTIMATED COST FOR COUNTYWIDE ORDINANCE:

\$431,000 Development \$793,000 Implementation \$1,224,000

# OPTION 3: MODEL ORDINANCE: ~\$205,000

Adoption and promotional assistance; does not include technical assistance or enforcement.

- **Staff Time**: ~\$100,000

- **Legal**: \$5,000

- **Outreach Materials**: \$50,000

- Countywide Promotional Support: \$50,000

# TOTAL ESTIMATED COST FOR MODEL ORDINANCE:

\$431,000 Development \$205,000 Implementation Assistance \$636,000



**DATE:** January 22, 2020

TO: Energy Council

**FROM:** Jennifer West, Program Manager

**SUBJECT:** Heat Pump Water Heater Grant Update and MOU

#### **SUMMARY**

Staff is requesting Energy Council approval to enter into a memorandum of understanding with local energy providers in the Bay Area to implement the regional heat pump water heater (HPWH) incentive program.

# **DISCUSSION**

In February 2016, the Energy Council adopted fuel switching (also referred to as electrification) as a priority area. In consultation with the Energy Council Technical Advisory Group, staff identified heat pump water heaters as a promising technology for fuel switching in buildings. In July 2018, the Energy Council approved a contract with ABAG to promote HPWHs through a project of the Bay Area Regional Energy Network (BayREN) funded by the Bay Area Air Quality Management District (BAAQMD), under its Climate Protection Grant Program. The funded project continues until March 2021.

The core tasks of the HPWH grant include:

- Supply Chain Engagement manufacturers, distributors, and contractors installing HPWHs
- 2. Midstream Incentive Program Design creating a platform that will allow a simple, uniform regional incentive program
- 3. Trainings and Workforce Development contractor trainings and building department staff trainings
- 4. Homeowner Education BayREN website and flyers (late 2020)
- 5. Multifamily Heat Pump Installations for income-qualified residents (completing in early 2020)

At this time, we are asking for the Energy Council to approve entering into an MOU with participating local energy providers, and entering into a contract to administer incentives for the program, to be developed under task 2 in the resolution.

In the region, we do not have one energy provider that can provide rebates for HPWHs; we have 11 local energy providers (CCAs and municipal power agencies). We want to avoid the confusing situation of having 11 different HPWH incentive programs. Having one simple and uniform program in the region is the most important role for the Energy Council, as this will minimize confusion, and allow the market and supply chain actors to take advantage of one program across county and city boundaries. BayREN and the Energy Council by extension is in a key position to make this program regional and uniform.

The Energy Council would provide an administrative role: collecting incentive funds from the energy providers and distributing incentive funds to one program provider that will then disburse funds to participating local contractors. The administrative cost for the Energy Council passing these funds through is covered by the BAAQMD grant. We anticipate that this midstream incentive program offering is time-limited, allowing the Bay Area region to begin to develop the market for HPWHs over the next year, and attract other decarbonization funding sources in the longer term.

In the first quarter of 2020 the incentive program is moving from program design to implementation of the incentive program. Our team is asking local energy providers to sign a MOU with the Energy Council. The local energy providers includes all seven Community Choice Aggregators (CCAs) and four Publicly Owned Utilities (POUs). The list is provided below. The local energy providers will be contributing the incentive funds for equipment installation, as well as an application processing fee per unit. We anticipate that all 11 LEPs (Local Energy Providers) will join the BayREN program within the year.

Local Energy Provider	Type of LEP	Geographic territory
East Bay Community	CCA	Alameda County (excluding City of
Energy		Alameda, and including Tracy as of 2021)
MCE	CCA	Marin, much of Contra Costa, Napa and
		Solano Counties
Clean Power San Francisco	CCA	City/County of San Francisco
San Jose Clean Energy	CCA	City of San Jose
Peninsula Clean Energy	CCA	San Mateo County
Silicon Valley Clean Energy	CCA	Santa Clara County (excluding San Jose, City
		of Santa Clara)
Sonoma Clean Power	CCA	Sonoma County
Silicon Valley Power	POU	City of Santa Clara
Alameda Municipal Power	POU	City of Alameda
City of Palo Alto Utility	POU	City of Palo Alto
City of Healdsburg Utility	POU	City of Healdsburg

By providing all 11 LEPs a streamlined way to pool funds through the Energy Council and by contracting with one program provider, our agency would be creating a uniform, regional midstream program for HPWHs, encouraging the development of the market of this highly energy-efficient, electric water heating technology used commonly in other parts of the world and country, but not yet here. We are still finalizing the total amount of incentives that might be processed through this MOU, but we will come back to the Board for further action if it exceeds \$600,000.

# **RECOMMENDATION**

Adopt the attached Resolution authorizing the Executive Director to negotiate an MOU with local energy providers for implementation of the BAAQMD HPWH incentive program and other related actions to be formally approved by the Council when completed and to enter contracts with service providers to implement the MOU work program in an amount not to exceed funds provided by the signatories to the MOU.

Attachment A: HPWH Program Source of Funding

# ENERGY COUNCIL RESOLUTION #EC 2020 –

# MOVED: SECONDED:

# AT THE MEETING HELD JANUARY 22, 2020

# RESOLUTION AUTHORIZING THE EXECUTIVE DIRECTOR TO ENTER INTO AGREEMENTS FOR THE HEAT PUMP WATER HEATER INCENTIVE PROGRAM AND OTHER RELATED ACTIONS

**WHEREAS**, the Energy Council recognizes that it is in the interest of local, regional, state, and federal agencies to stimulate the economy; create and retain jobs; reduce fossil fuel emissions; and reduce total energy usage and improve energy efficiency; and

**WHEREAS**, the Energy Council was formed to seek funding to develop and implement programs and policies that reduce energy demand, increase energy efficiency, advance the use of clean, efficient and renewable resources, and help create climate resilient communities; and

**WHEREAS**, the Energy Council adopted fuel switching (electrification) as a priority area for external grant seeking; and

**WHEREAS,** in consultation with the Energy Council Technical Advisory Group (TAG), staff identified heat pump water heaters as a promising technology; and

**WHEREAS,** the Bay Area Air Quality Management District (BAAQMD) released a 2018 Climate Protection Grant program to accelerate local climate protection efforts; and

**WHEREAS**, the Energy Council partnered with the Bay Area Regional Energy Network (BayREN) to submit a regional market development proposal for heat pump water heaters, and

**WHEREAS,** BAAQMD awarded BayREN a grant of \$400,000 for the proposal entitled Heat Pump Water Heater Regional Market Transformation;

**WHEREAS,** ABAG provided the Energy Council with a contract of \$390,000 for the scope of work described in Attachment A;

**NOW THEREFORE, BE IT RESOLVED,** that the Energy Council hereby authorizes the Executive Director to:

- 1. Negotiate memorandum of understanding (MOU) and agreements with Local Energy Providers as necessary in order to accept additional funds not to exceed \$600,000, and make any necessary changes to the FY 2019-2020 budget to Project 1311: HPWH Grant. The final memorandum of understanding and agreements with Local Energy Providers shall be brought before the Board as a consent calendar item for final approval.
- 2. Enter into all necessary contracts and agreements with the program provider to streamline incentive processing and payments.

ADOPTED this 22 <sup>nd</sup> day of January, 2020, by the following votes:
AYES: NOES: ABSENT: ABSTAINED:
I certify that under the penalty of perjury that the foregoing is a full, true and correct copy of Resolution #EC 2020 –

ARLISS DUNN Clerk of the Board

3. Approve any required time extensions, modifications, or amendments thereto.

4. Allocate the necessary resources to implement and carry out the amended scope of work.

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# Attachment A

# **HPWH Program Source of Funding**

# BayREN Heat Pump Water Heater Incentive Program Program Elements and source of funding

Midstream Incentive Program Design	Supply Chain & Workforce Development	]	Education	Low-income Multifamily Heat Pump Installations
Local Energy Provider Engagement	Contractor Training		BayREN webpage	Installations for 250 multifamily units
Uniform Regional Incentive Design*	Building Department Staff Training		Costing Tool for residents	
Application Processing system	Enroll Contractors into HPWH program		Informational Flyer	KEY: Program Funding
Leveraging BayREN single family program	Engage Manufacturers, Distributors & Network		Engagement with stakeholders in related fields	Funding by Local Energy Providers (LEP)
Program Collateral and Outreach support	Develop TradeProConnect - contractor platform		Cross-promotion materials (EV, PV, financing fields)	BayREN grant from BAAQMD
Incentives and Processing costs	Customize TradeProConnect for BayREN Program			Energy Solutions - CEC grant and other funding
		•		StopWaste funding
* joint effort of grant funds, StopWa	BayREN support			

Source: StopWaste Dec 2019

# February 2020 Meetings Schedule

# Alameda County Waste Management Authority, the Energy Council, & Source Reduction and Recycling Board

(Meetings are held at StopWaste Offices unless otherwise noted)

SUN	MON	TUES	WED	THURS	FRI	SAT
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
				9:00 AM Programs & Administration Committee Key Items:  1. Food ware ordinance implementation — presentations (tentative)  7:00 PM Planning Committee & Recycling Board San Leandro Senior Center Key Items:  1. Measure D funds		
16	17	18	19	20	21	22
	AGENCY HOLIDAY					
23	24	25	3:00 PM Waste Management Authority and Energy Council Key Items: 1. Altamont property update	27	28	29

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# Energy Council TECHNICAL ADVISORY GROUP (TAG)

Tuesday December 17, 2019 – 1:00 to 2:30 pm

# **Attendance:**

City of Albany: Claire Griffing, Lizzie Carrade, Bianca Hutner (Fellow)

City of Berkeley: Billi Romain, Yeymi Rivas (Fellow)

City of Dublin: Rebecca Parnes

City of Fremont: Rachel DiFranco, Robbie Barton City of Hayward: Erik Pearson, Jack Steinmann (Fellow)

City of Livermore: Marisa Gan (phone) City of Piedmont: Justin Szasz (Fellow)

City of Pleasanton: Zack Reda

City of San Leandro: Hoi-Fei Mok (phone)

StopWaste: Jennifer West, Jeffery Liang, Emily Alvarez, Meghan Starkey, Candis Mary-Dauphin, Karen Kho, Ben

Cooper, Shasta Phillips

Guests: JP Ross, EBCE, Beckie Menten, EBCE

# **Notes/Summary:**

# Introductions and welcome

- Meghan Starkey from StopWaste provided a summary of the Countywide Integrated Waste Management Plan (CoIWMP) update
- TAG members were interested how carbon farming and sequestration are addressed in the ColWMP.
  - Carbon farming on Altamont property as a demonstration project
  - Team working with Dublin (and possibly Alameda) to conduct a study on carbon sequestration value of compost applications in urban settings
  - Miya Kitahara working with cities to include carbon sequestration in language in Climate Action Plan updates (Oakland, Albany, Dublin)
  - TAG members would like to hear more on carbon farming and SB 1383 requirements (possible topics for TAG/TAC in January)

**BayREN strategic re-alignment and deep dive into programs** – Energy Council Team, StopWaste Karen Kho provided an overview of regulatory changes affecting BayREN

- An August 2019 PUC ruling overturned the 3-prong test, replacing it with the Fuel Substitution Test. Previously there were limitations on energy efficiency (EE) programs offering incentive measures for fuel-switching
  - BayREN can provide electrification rebates in 2020
  - Workpapers will be submitted to the PUC to show cost-effectiveness and how to calculate energy savings. Southern California Edison has taken the lead on most workpapers, but BayREN may be developing others.
  - Timeline for workpapers and availability of electrification rebates is unknown, but would like to offer them as soon as possible (expected in early 2020).

- PUC removed RENs from pilot status (two older RENs: BayREN and SoCalREN, new: 3C-REN)
  - Recognized the unique value that RENs can contribute to State energy policy goals vs.
     CCAs and IOUs, which are held to strict cost-effectiveness standards
  - RENs to report on separate metrics (in addition to cost-effectiveness) that demonstrate how they fill gaps towards achieving State goals
  - RENs must not duplicate energy provider programs, except ones that serve hard-toreach markets, and may pilot activities that can be scaled statewide
- BayREN strategic realignment
  - Began as an internal process alignment, hired EM&V consultant to further assess the unique value that BayREN can bring
  - Consultant interviewed 40% of cities in region, found that there is a lack of knowledge about the programs that BayREN offers
  - Need to align BayREN programs with a unified approach to programs to comprehensively meet the needs of cities
  - What BayREN activities add value? What can be dropped?
    - Target sectors that IOUs/CCAs can't because working in those sectors is not cost-effective or is being phased out
    - Act on levers that local governments have that utilities don't → credibility in community, access to building departments
    - Nature of regional entity and economies of scale
  - Consultant will recommend which metrics BayREN should be tracking and which can be reported on beyond traditional cost effectiveness
- TAG members asked if BayREN is pursuing non-traditional EE programs that may be of interest for local governments
  - BayREN dollars may not be able to be used for programs like distributed generation at this time, but they can prioritize ways to support that activity (like supporting CCAs)
  - PUC has punted the decision of re-evaluating cost-effectiveness to the future, but has opened up the conversation about looking at different metrics (i.e. carbon emissions)
  - Will calculate emissions reductions of fuel switching under BayREN programs in 2020

# BayREN Home+ Program Update (Single Family)

- Working on incorporating a decarbonization pathway into 2020 rebates
  - Stack BayREN Home+ incentive for HPWH with CCAs/Munis (BAAQMD grant)
- Focus: moderate income households and non-participating households
  - o Redefine moderate income?
  - o Reach out to renters/property managers more?

# BayREN Multifamily Building Enhancements Program (BAMBE)

 Currently conducting pilot on electrification with help from BAAQMD grant, with 444 units in pipeline, 15 units in Alameda County.

- Will be roll out electrification measures within program in 2020 (HPWH, HP HVAC, dryers, electric induction cooking)
- Change format of reports with a desire to help projects phase-in to Zero Net Carbon (ZNC) and develop long-term relationships to track reductions
- Strategic realignment where does EE intersect with other areas of interest?
  - Health: convening with County public health agencies to help develop a referral tree so that public health professional can refer clients to EE when it makes sense
  - Harder to serve properties: HOAs, co-ops, smaller projects (not be as cost-effective), deed-restricted affordable, naturally-occurring affordable (don't want to become more expensive and displace people – work with cities), disadvantaged communities
  - Increase flexibility of building types: target projects with potential for substantial tenant savings (not as appealing for property managers who typically save money from common area improvements), electrification, part of larger on-site generation projects
- PG&E Multifamily Upgrade Program is phasing out now. How will this affect the Joint Cooperation Memo (JCM) with PG&E and what will the new third party program look like?
  - o Cities felt that a single point of contact is very helpful to provide to residents
- Suggestion from TAG to partner with rent controlled properties (in cities with this protection)
   as the incentives and capital for improvements are very limited
  - Could BayREN provide more rebates to rent-stabilized projects? BAMBE can layer other programs to maximize rebates (ex: the Low Income Weatherization Program)

# BayREN Green Labeling

- Provide \$200 rebate for Home Energy Score
  - Possible "kicker" rebate for scores conducted before and after upgrade project
  - Approximately 20% of 2019 scored homes went on to participate in Home+ program
- 2020 focus is on enrolling more assessors
  - o Pilot for home inspectors (partner with REALTORS trained by NAR Green Designation)
- Hold green real estate trainings for REALTORS, appraisers, and lenders
- Recommended upgrades will align with Home+ electrification rebates in 2020

# **BayREN Codes & Standards**

- Forums 4x year
- Provide reach code support and coordination with EBCE
- Building department trainings (2019 code training, HPWH training) and permit guides (e-permit tool)
- Attending East Bay ICC meetings (building officials/consultants doing plan check, inspections)
- Municipal ZNE technical assistance

Dashboard on BayREN programs shared

# **Reach Code Updates and Member Comments**

- Berkeley: passed electric-favored reach code, but facing lawsuit for natural gas ban from California restaurant association; undergoing BESO evaluation including an expansion of their

- seismic transfer tax rebate to more comprehensively cover resiliency (including electrification), passed low embodied carbon (EC) concrete reach code
- Hayward: bringing electrification reach code to Council January 21, 2020; also setting new
   GHG reduction targets (55% by 2030, carbon neutral by 2045)
  - Current GHG reduction targets are included in the General Plan and will require an amendment. Carbon neutral is not a hard line so that development projects can still comply with the General Plan under CEQA.
- Piedmont: exploring reach codes focused on existing single building electrification of space and water heating at time of major remodel; getting community input
- Albany: Council adopted new Climate Action and Adaptation Plan; planning to follow Berkeley on natural gas ban, paused for now; working on CalGreen Tiers 1 and 2 analysis
- Dublin: taking draft CAP to Council 12/17; hopefully will move forward with electric-preferred option for new construction; future adoption of low EC concrete reach code
- Pleasanton: bringing CAP contract to Council 12/17
- Fremont: working on GHG inventory for CAP update; plan to issue RFP for CAP consultant in January 2020; continued work on fleet electrification paired with distributed energy resources through BAAQMD grant; still investigating electrification reach codes (outreach with commercial and manufacturing community); graywater-readiness ordinance

# **Topics for 2020 Meetings**

- Induction cooktop rental program, like Sonoma Clean Power (possible EBCE item)
- Inspiring people who have influence outside their cities of residence to reduce emissions?
   (such as business owners)
- Difference between CalGreen Tiers 1 and 2 (possible BayREN TA item)
- Deeper dive into electric panel upgrade requirements
- Electrification for ADUs
- SB 1383 implementation (could be joint topic for TAG/TAC)
- Examples of innovative development or climate reduction projects throughout Bay Area
- Multifamily electric vehicle reach codes

# Adjourn

- Jennifer West will email two surveys, one covering statewide codes team cost effectiveness studies and one on the energy data mapping tool (CATALENA from SCE for CPUC)
- Member agencies to let StopWaste know if they need ICLEI support for Global Covenant of Mayors reporting (and in which month of 2020) most indicated June/July 2020.

# 2:30 – 3:30 pm East Bay Community Energy meeting

Notes by EBCE, not StopWaste



**EDUCATION** 

# Regional partnership uses compost to tackle climate change



M By The Merced County T...

On Jan 6, 2020

A thin layer of compost applied to grasslands could help fight climate change by capturing carbon from the atmosphere and storing it in the soil, recent research shows. UC Merced Professor Rebecca Ryals and a team of researchers, ranchers and public agencies will demonstrate this practice for the first time in the East Bay. The project, which began Dec. 3, is funded by a California Department of Food and Agriculture Healthy Soils Demonstration grant.

The collaboration between Ryals, the Alameda County Resource Conservation District and StopWaste (the Alameda County Waste Management Authority) is an example of a partnership that is working to advance the scientific understanding and demonstrate success of ecosystem-based climate solutions in California. The project began with researchers applying a thin layer of compost on a 10-acre sloped section of rangeland in the Altamont Hills east of Livermore that is owned by

StopWaste. Applying compost to rangeland is part of local and statewide efforts to engage agricultural producers in "carbon farming," practices that help capture greenhouses gases such as carbon dioxide, bolster groundwater recharge, reduce erosion, and increase plant productivity. The state has identified carbon farming as a pillar of its approach to fighting climate change. The researchers chose the sloping land to measure results and compare them to tests already conducted on flatter areas cookies to improve your experience. We'll assume you're ok with this, but you can opt-out if you wish. Accept Read More

"Most grasslands in California occur in places with highly varied terrain," Ryals said. "If the results of our study are positive, planners and landowners should feel more confident about applying compost to a wider array of locations, including hillsides, which would greatly expand the applicability of the practice throughout the state."

"The goal of our project is to demonstrate to ranchers that they can adopt new practices or adapt existing practices to sequester carbon," Alameda County Resource

Conservation District biologist Hillary Sardiñas said. "Many farmers and ranchers already use climate-beneficial practices, but they may not recognize that what they're doing can help mitigate climate change." The Resource Conservation District recently developed a Carbon Farm Plan for StopWaste's 1,600-acre property. The plan outlines practices — from compost application to riparian restoration — that would sequester carbon while supporting the grazing operation and enhancing wildlife habitat. Spreading compost is viewed as the first phase in several designed to capture carbon.

Ryals is a member of the Department of Life and Environmental Sciences in the School of Natural Sciences. Her Agroecology Lab studies ecosystem-based climate solutions and researches the effects of organic matter amendments to agricultural soils. Over the next three years, Ryals and her lab will measure changes in the amount of carbon stored in the soil and greenhouse gases that are emitted from soil. The team will also measure the co-benefits provided by higher levels of soil carbon, including better water infiltration and forage production.

The partners plan to continue implementing carbon farm practices, measuring the results, and inviting the public, farmers and ranchers to learn how they can get involved.

"This is just the first step," said Kelly Schoonmaker of StopWaste. "Carbon farming shows a lot of promise in helping to reverse climate change impacts while returning organic matter back to the soil. We're also excited about the potential for improved forage for the cows, increased water holding capacity in the soil, and being a model for other landowners in the state."





# The Merced County

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