Attachment A – Land Acknowledgement

Land Acknowledgement Statement

We should take a moment to acknowledge the land on which we are gathered. For thousands of years, this land has been the home of Patwin people. Today, there are three federally recognized Patwin tribes: Cachil Dehe Band of Wintun Indians of the Colusa Indian Community, Kletsel Dehe Band of Wintun Indians, and Yocha Dehe Wintun Nation.

The Patwin people have remained committed to the stewardship of this land over many centuries. It has been cherished and protected, as elders have instructed the young through generations. We are honored and grateful to be here today on their traditional lands.

Approved by Yocha Dehe Tribal Council (July 23, 2019)

Attachment B – 2023.01.23 YCCAC Meeting Minutes

MEETING MINUTES
Yolo County Climate Action Commission
January 23, 2023 | 4:00 PM – 6:30 PM

COMMISSION MEMBERS:
Suzanne Reed, District 1 Appointee
Robin Datel, District 2 Appointee
Mark Aulman, District 3 Appointee
Andrew Truman Kim, District 4 Appointee (**VICE-CHAIR**)
Adelita Serena, District 5 Appointee
Chris White, Technical Lead
NJ Mvondo, Environmental Justice Lead (**CHAIR**)
Bernadette Austin, Climate Scientist/Subject Matter Expert
Pelayo Alvarez, Climate Scientist/Subject Matter Expert
Mica Bennett – At Large
Ken Britten – At Large

EX-OFFICIO MEMBERS:
Sarah Morgan, Yocha Dehe Wintun Nation
Camille Kirk, UC Davis **(ABSENT)**

SUPERVISORS:
Supervisor Lucas Frerichs, Yolo County Board of Supervisors, District 2
Supervisor Jim Provenza, Yolo County Board of Supervisors, District 4

MEETING MINUTES

1. **Authorize remote (teleconference/videoconference) meetings by finding, pursuant to Assembly Bill 361, that local officials continue to recommend measures to promote social distancing as a result of the COVID-19 pandemic.**

2. **Land Acknowledgement** *(read by B. Austin) (Attachment A)*

3. **Approval of the Agenda**

   Decision: Approve
   Approved By / Seconded By: B. Austin / K. Britten

Ayes: R. Datel, M. Aulman, A. Kim, A. Serena, NJ Mvondo, B. Austin, P. Alvarez, M. Bennett, K. Britten
Noes: None
Abstain: None
Absent: S. Reed, C. White

4. **Public Comment**
    - A comment was made that mentioned congress's change in tone regarding climate action. The commenter encouraged the County and the public to push climate action initiatives forward and advocated for keeping elected officials accountable.

5. **Approve December 19, 2022 Meeting Minutes** *(Attachment B)*

    Decision: Approved with amendments made by R. Datel
    Approved By / Seconded By: B. Austin / R. Datel
    Ayes: R. Datel, M. Aulman, A. Kim, A. Serena, NJ, B. Austin, P. Alvarez, M. Bennett, K. Britten
    Noes: None
    Abstain: M. Bennett
    Absent: S. Reed, C. White

    Additional Comments/Action Items:
    - An amendment was made to change the word 'pretense' regarding working with Dudek collaboratively to 'preface'.
    - An amendment was made on a section mentioning Dudek's presentation summary on the top of page 5 to replace the word 'efforts' with 'outcomes'.

6. **Staff Announcements/Reports (Staff)**
    - Update on Commission/Working Group Stipends
        - Staff shared that the County is finally rolling out participatory stipends and reminded Commission members to submit the paperwork they were sent if they are interested in receiving a stipend.
        - If people are not able to complete a vendor agreement form, they can opt for a gift card.
    - Yolo County Received a SolSmart Bronze Designation
        - Staff updated the Commission on Yolo County's Bronze Designation by SolSmart.
    - Update on Early Action Projects
        - Staff provided an update on the Countywide Zero Emission Vehicle (ZEV) Action Plan. They shared that the County has been coordinating with partners in each of the four cities as well as with SACOG and the Yolo Transportation District to talk about the best strategies for

approaching this project as a regional effort. The County is also pursuing a Caltrans Sustainable Communities Grant to fund this effort.
    - Staff provided an update on the Agriculture Equipment Retrofit Program. They stated that staff is in discussion with RCD to explore creative options to reframe this project. Staff plans to bring an updated project description to the Commission in March.
    - Staff stated that the updated Governor's budget has potentially impacted the timeline of the Electrification Retrofit Rebate Outreach program, though Staff are currently working with Valley Clean Energy (VCE) to determine next steps.
    - Staff shared that initial conversations on the Carbon Farming Partnership are occurring, and that project is in its planning stage.
        - It was added in the chat that the Center for Land Based Learning (CLBL) is making progress on a carbon farming plan for their headquarters at The Maples Ranch and the Yolo Resource Conservation District (RCD) is working with River Garden Farms. Draft plans are scheduled to be completed by the end of March.
    - Staff shared that they are still working on switching accounts in PG&E territory to 100% renewable electricity. It was shared that coordinating with PG&E has been a slower process than switching over accounts with VCE; County staff will provide an update in the coming months.

Additional Comments/Action Items:

- A question was asked about whether there is a strategy in case the County is not awarded the Caltrans grant.
    - Staff responded that the Early Action Grant Strategy identified other funding options in the case that the Caltrans grant does not work out.
- A question was asked to provide a short summary on the complications of the Agriculture Equipment Retrofit Project.
    - Staff shared that delay on this project is in part due to limited staff capacity. Staff also received feedback that they needed to better quantify the emission reduction benefits of Utility Task Vehicles (UTVs). Staff plan to come back to the Commission in March with a clearer vision on whether to move forward with the project description as it was or to change course.
- A question was asked about how fast the Agriculture Equipment Retrofit project can be launched, as many walnut orchards are ready for processes such as whole orchard recycling
    - Staff shared that this project would not likely be approved until at least May.
    - The following link was shared: https://orchardrecycling.ucdavis.edu/
    - A commenter shared that the United States Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS) Environmental Quality Incentive Program (EQIP) Program is something that tribes are

looking into for orchard work on their farms. It was suggested to look into this program for the next round of applications.
    - A commenter shared that the Healthy Soils Program will fund individual farmers doing whole orchard recycling. It was recommended to defer to the RCD on whole orchard recycling as an option to pursue in the short term.
        - Healthy Soils Incentive Program: https://www.cdfa.ca.gov/oefi/healthysoils/IncentivesProgram.html
- **Public Comment:** A comment was made from a proponent of the 100% Renewable Energy Accounts Early Action Project asking if delays on the PG&E end are also a problem at the individual level. The commenter added hopes that it is less difficult to make changes at the individual level than it is at the municipal level. It was also suggested to mention how many tons of carbon the County avoided with the Early Actions.

7. **Update on Yolo County Storm Response** *(Kristin Weivoda, Yolo County Chief of Emergency Services) (Attachments C, D, E) (20 minutes)*
    - A presentation by Kristin Weivoda was given. K. Weivoda shared that the Yolo County Office of Emergency Services (OES) and Special Districts started identifying needs and concerns heading into the storms, and that the un-forecasted storms did much more damage than the forecasted storms. It was shared that Yolo County declared a state of emergency in January with wind and power outages as the biggest concern. The rural areas were hit the hardest, and after learning that the county's levee pump systems run on electricity, OES had to work quickly with PG&E to get those running to avoid more flooding. The levee systems held up, likely because there was a lot of pre-flooding mitigation, though they were severely impacted by the storm.
    - It was shared that the county is in the recovery stage and a tour of the damages will be conducted. The damage totaled $11M with most of the damage costs coming from the levee systems and flooding, as well as tree damage. It was shared that OES hopes to get public assistance they are applying for.
    - A question was asked how Regional Emergency Alert System announcements were determined with regard to the severity of the different storms.
        - OES Staff responded that Yolo Alerts is separate from Regional Alerts but they are working on more education on emergency alerts.
    - A question was asked regarding damaged roofs and if any families had to be displaced due to the storms.
        - OES Staff responded that they were not aware of anyone who was forcefully displaced. It was shared that some residents opted to go to hotels. It was shared that there were no evacuation orders.
    - A question was asked if OES was aware of any loss of crops/farms.

    - OES Staff responded that they are not yet aware of the damages, but damage claims often come up months later after the storms. Staff will keep an eye out to support farmers who experienced crop damages.
- A commenter mentioned the sudden weather changes Yolo County has been experiencing and asked about education efforts on this issue.
    - OES Staff shared that Yolo is operating in both drought and flooding state of emergencies. It was noted that sharing more information on how to become more resilient would be helpful. It was shared that the county has shallow wells, which contributes to flooding. The long-range plan captures some of these issues and contains water-capture ideas during high flood/storm times.
- A question was asked about whether the County has worked with the utilities to anticipate points of failure when disaster strikes. It was also asked if they are considering critical medical tools being available in homes or how to get medical care/equipment to those in hard-to-reach places.
    - OES Staff shared that they have been trying to stay ahead of infrastructure since 2017, acknowledging that PG&E infrastructure is often a point of failure when it comes to wind. When it comes to messaging, Yolo County gets a list of those clients with critical medical equipment who they then notify. Yolo County works to notify people about charging stations and ways to keep medical equipment running. They also send out information through In-Home Supportive Services (IHSS), though there are still gaps in outreach to older communities. OES is working with the Fire Department/Emergency Dispatch so they are aware of people who are bed-ridden and in need of critical services during an emergency. It was shared that there is still a lot of work to do to make sure all critical groups are identified, and OES is working on improving this to help enable the community to be more resilient.
- A commenter mentioned that they did not have electricity for several days, and the local food co-ops did not have backup generators, thus losing all their perishable foods. It was asked if there are steps in place to prevent this.
    - OES Staff responded that this is an ongoing effort to make the community more resilient. It was mentioned that OES is also working on identifying more grants to assist local stores during emergencies. The Disaster Service Council is going before the Board of Supervisors in February and hopes to come up with more collaborative approaches and services when it comes to emergency response.
- A question was asked if emergency preparation/readiness would fall under the scope of work of the Commission.
    - County Staff responded that this is something for the Commission to think about during the CAAP update. It was shared that the CAAP update could be linked with the local Hazard Mitigation Plan update.
- A question was asked regarding whether there should be a policy working group that the Commission could consider on the long-range calendar.

- County Staff responded that this could be discussed during the Long-Range Calendar agenda item and that this type of working group is a possibility during the planning stages of the CAAP.

Public Comment

- A comment was made to note that people in Yolo County are looking into developing community resilience centers, and that County Staff should look into coordinating this with OES's work.

8. Update from the Dudek Team *(Jane Gray, Project Director/Regional Planner)*

- Dudek Staff Project Director, Jane Gray, shared an update on behalf of the Dudek team on the CAAP work that has been completed to date. The team has been dialoguing internally and with the County to plan for community equity and engagement work. It was shared that the Dudek team is about 90% of the way towards completing an initial information request effort.
- Dudek shared that they are working on an outline for the Equity and Engagement Plan but plan to coordinate with the Equity and Engagement Working Group before bringing it forward to the full Commission.
- Dudek shared that they will be updating the Community and Municipal inventories in relation to activity data updates.

Additional Comments/Questions:

- A question was asked regarding how Dudek will coordinate with incorporated municipalities of Yolo County.
  - Dudek Staff responded that they would like to get in contact with municipality sustainability teams to work closely on collaboration and see what efforts are ongoing in municipalities.
- Dudek staff were asked to elaborate on the consumption inventory and how it will relate to the overall CAAP processes.
  - Dudek Staff responded that the updated inventory will set a baseline for goods and services that come in and out of the county to generate a robust spreadsheet that represents consumption-based data. Transportation of goods was provided as an example of consumption data.
- A commenter asked what partners the Dudek Team has reached out to.
  - Dudek Staff responded that they will commence outreach once the Equity & Engagement Working Group is meeting in full.

9. Working Group Updates *(20 minutes)*

- Equity and Engagement Working Group (*B. Austin*)
  - It was shared that the Equity and Engagement Working Group received fourteen applications for working group seats by the application deadline of January 20th.

        - A question was asked about how many formal seats the Working Group is planning to fill.
            - Staff responded that the Working Group is planning to fill approximately five additional seats.
- Natural and Working Lands Working Group (*Kate Reza, Resource Conservation District*)
    - Kate Reza from the Yolo Resource Conservation District shared that the Ad-Hoc working group is planning on filling four additional seats in representation of large-scale conventional farming, small-scale farming, ranchers, and organizations that are represent farmworker perspectives. She added that outreach is going to be conducted via one-on-one interviews, surveys, and roundtable discussions.
    - The Ad-Hoc working group also discussed the division of responsibilities between working group members and the Dudek Team members involved in the Natural and Working Lands outreach program.

Additional Comments/Action Items:

- A question was asked about if there is intent to reach out to the Community Alliance with Family Farmers (CAFF).
    - The Working Group does intend to conduct outreach and discussions with CAFF.
- A question was asked about how farmworker vulnerability is considered in greenhouse gas reduction strategy planning.
- A commenter mentioned that they attended the latest annual Farm Bureau meeting. It was added that a speaker at the meeting expressed concern about not being recognized for the sequestration efforts that farmers are currently doing while being presented with new legislation regarding Diesel fuel.
    - Staff responded that the Working Group intends to listen to farmers about where they currently are and acknowledging existing efforts.

10. Commission Member Reports, Comments, Future, Future Agenda Items

- It was shared that the Climate Action Commission in Winters is looking to fill two seats. It was added that the Commission is looking to diversify their members and that interested residents within and nearby Winters can contact cityclerk@cityofwinters.org.
- It was shared that there is a live survey asking electric vehicle users who have experienced a power outage how they coped with the situation. Since it is a non-scientific survey there is no harsh headline.
- It was shared that theclimatecenter.org has an ongoing webinar series that has been useful to hear about new ideas and community education. Recordings for past webinars are also available on the website.
- It was shared that the National Association for the Advancement of Colored People (NAACP) is doing an environmental justice survey for all of California that will be shared with the County to share.

11. Long Range Calendar

- Staff shared the staff report on the long range calendar, stating that the County and Ad-Hoc Working Groups will shortly launch major outreach campaigns. It was suggested that any long-term planning items should be added to the calendar ahead of time to ensure that they are allocated the proper amount of time. Commission members were asked to bring up planning items that they would like to see added as agenda items in the upcoming months.
- A commenter mentioned that a discussion on strategies and priority of strategies should be given time on the long-range calendar along with an update on outreach efforts and engagement.
- A comment was made that the discussion on food security, food systems and food waste are of interest to be added to the calendar for upcoming months along with an outreach update. It was also added that there is interest in a discussion on a policy working group.

Public Comment:

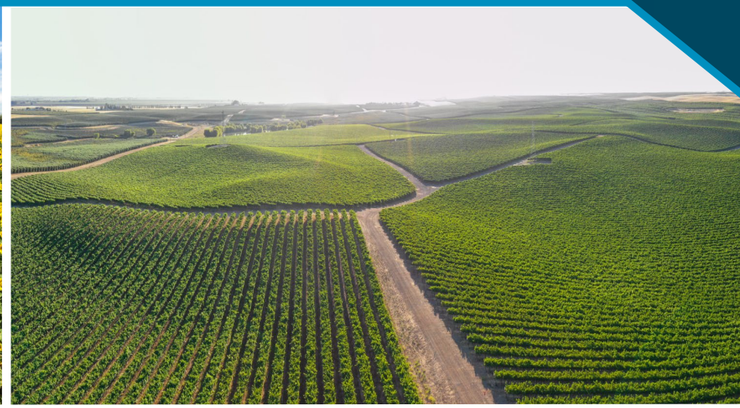
- A commenter added that they would like the Commission to discuss a second wave of Early Action projects in this year.

12. Adjournment

- Meeting adjourned at: 6:28 PM.

Attachment C – Update from Dudek on Climate Action and Adaptation Plan Progress

DUDEK



Climate Action & Adaptation Plan

COUNTY OF YOLO

PRESENTED BY DUDEK TEAM

FEBRUARY 27, 2023

Table of Contents

01 Introductions

02

Equity & Engagement Strategy and Communications Plan

Equity & Engagement Strategy and Communications Plan

- Dudek team is working with the Equity & Engagement Ad Hoc Working Group to refine the Equity & Engagement Strategy.
- This strategy will outline how equity and a Just Transition will be centered in CAAP Engagement work.
- Dudek team is developing draft interview questions, draft outline and draft strategies.
- Dudek will provide an update at the March meeting after coordinating with E&E Ad Hoc Working Group.

Equity & Engagement Strategy and Communications Plan

- The Strategy and the Communications Plan (CP) will outline methods, timing, and frequency of communications with communities and public through development of the CAAP.
- The Strategy and the CP will be available in English and Spanish and will use accessible language.
- Shared a preliminary outline with E&E Ad Hoc Working Group for input in February.
- Dudek will provide an update at the March meeting after incorporating feedback from E&E Ad Hoc Working Group.

03

VMT and Land Use

04

Natural and Working Lands Meeting – Summary

Attachments D, E, & F

NWL Ad-Hoc Working Group Meeting (February 21, 2023)

- Reviewed outreach interview questions (Att. E)
  - First of many opportunities to collect farmer and rancher input on CAAP process.
- Reviewed preliminary list of NWL strategies (Att. F)
  - Carbon sequestration (e.g., cover crops, mulching, improved fertilizer management, etc.)
  - GHG emission reducing strategies (e.g., reduce fossil fuel consumption, biogas control systems, etc.)
- Discussed roles of working group vs. Dudek
  - Roles for interview, presentations, content development

05

Carbon Sequestration
Attachment G

Need for Sequestration Analysis

- Yolo County Resolution No. 20-114 goal:

  carbon negative by 2030

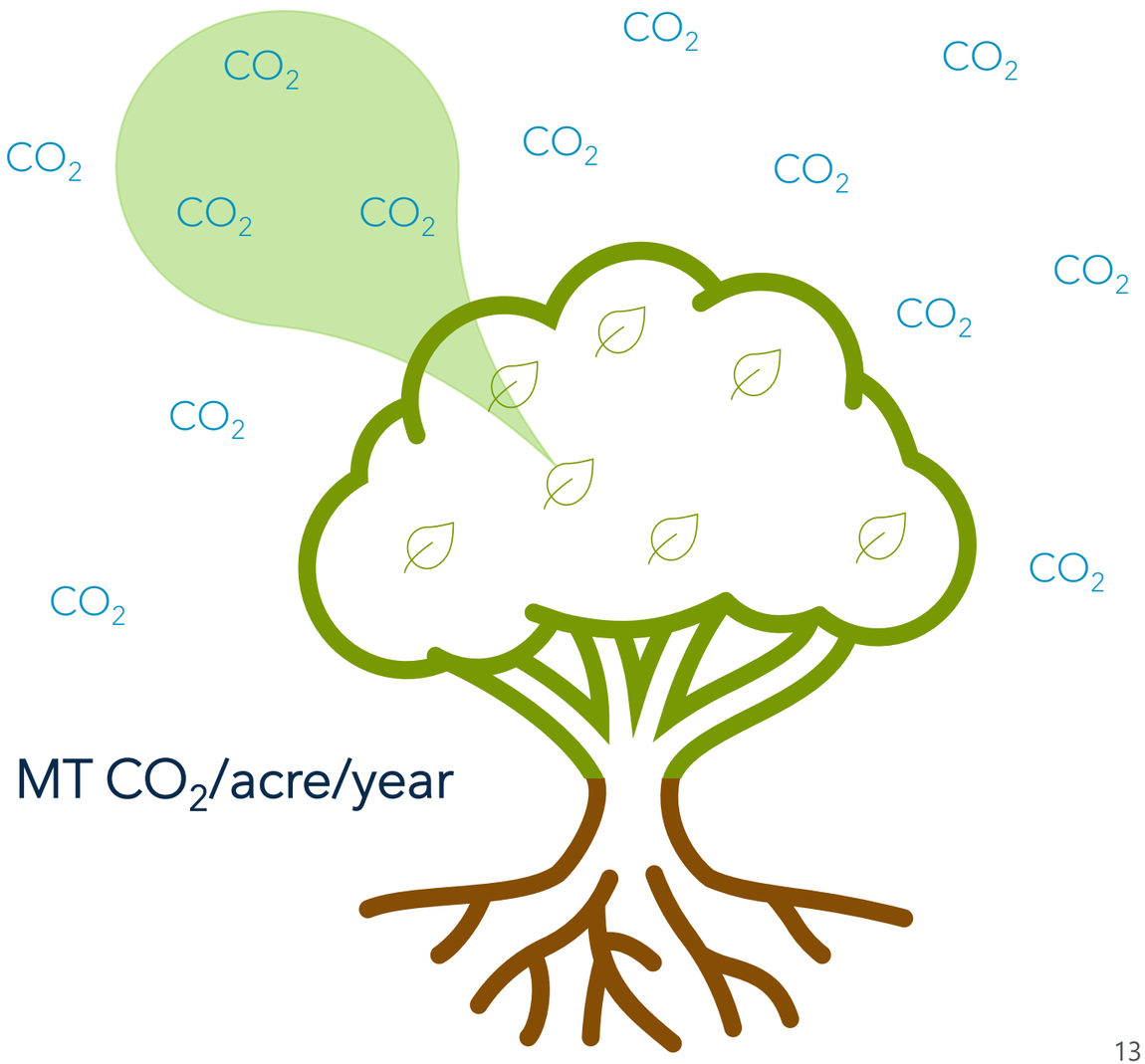
- State of California Assembly Bill 1279 goal:

  carbon neutrality by 2045

- CARB 2022 Scoping Plan:
  - *"no path to carbon neutrality without carbon removal and sequestration"*
  - *Re-envisions the state's NWL for their role in incorporating and storing carbon to close emissions gap*

Carbon Sequestration Potential Approach

- Map and quantify existing land use and land cover types within the County
  - *Land use: agriculture, open space, urban*
  - *Land cover: crop and vegetation types, soil types*
- Summarize existing carbon sequestration practices
  - *By land use/land cover type, by acreage*
  - *Identify gaps and new opportunities*
- Quantify total sequestration potential
  - *Annual sequestration rates by strategy: USDA, CDFA, peer-reviewed journal articles*
  - *Guide for landowners*



06

Consumption Based Inventory

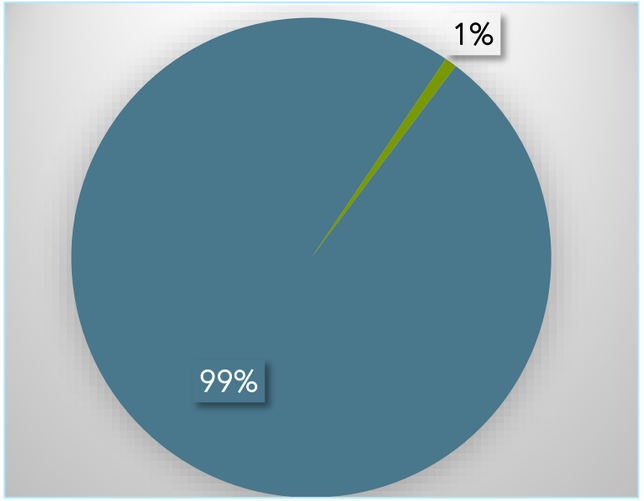
Attachment H

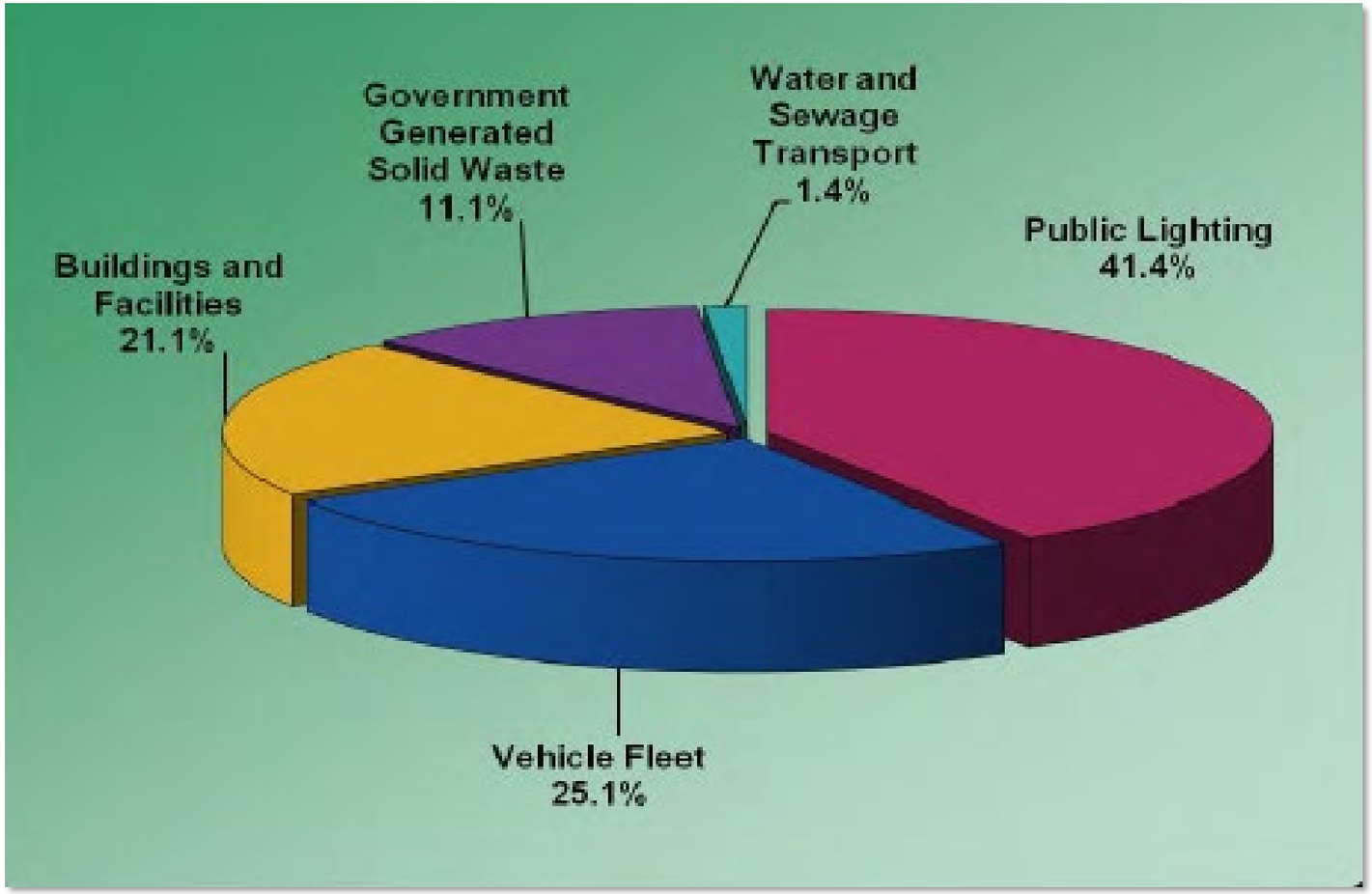
Three Types of GHG Inventories will be in the CAAP

- Municipal Inventory
  - Inventory of emissions from County owned facilities, equipment, and vehicle fleet.
- Community-wide sector-based Inventory
  - Traditional inventory of emission sectors within the community that the County serves and has direct or indirect control over the emission sources.
- Consumption-based Inventory Narrative
  - Emissions associated with the consumption of goods, materials, and services.

Municipal GHG Inventory

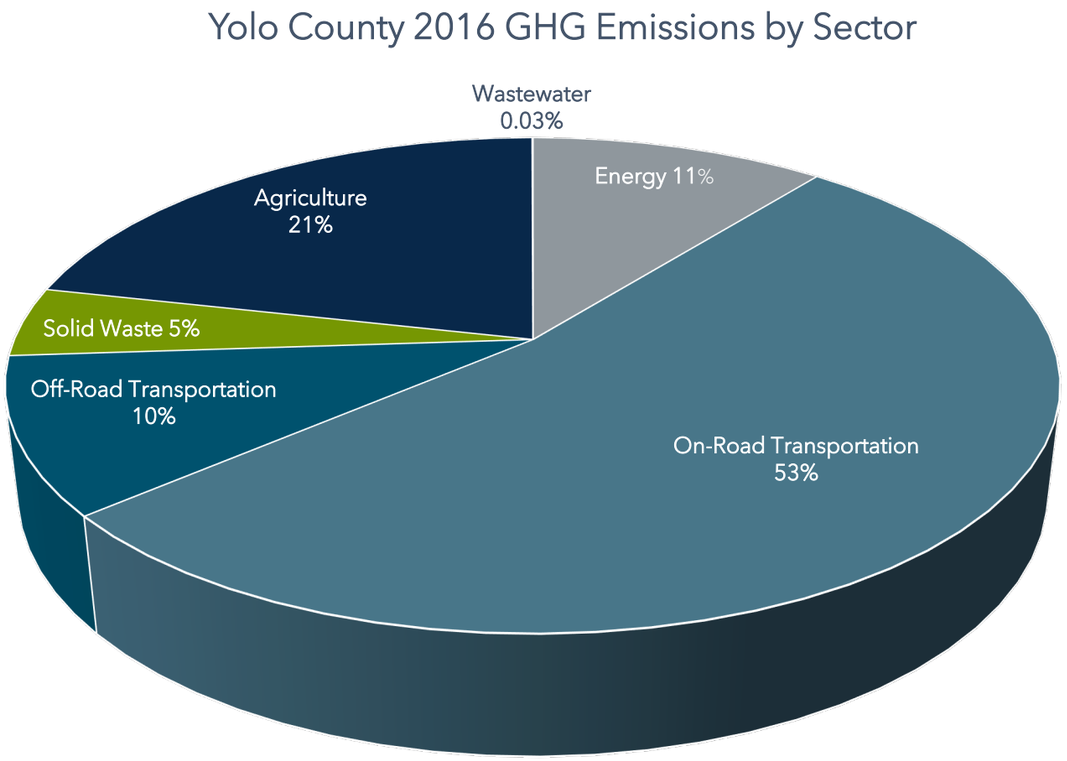
Inventory of emissions from County owned facilities, equipment, and vehicle fleet.





Community-wide GHG Inventory

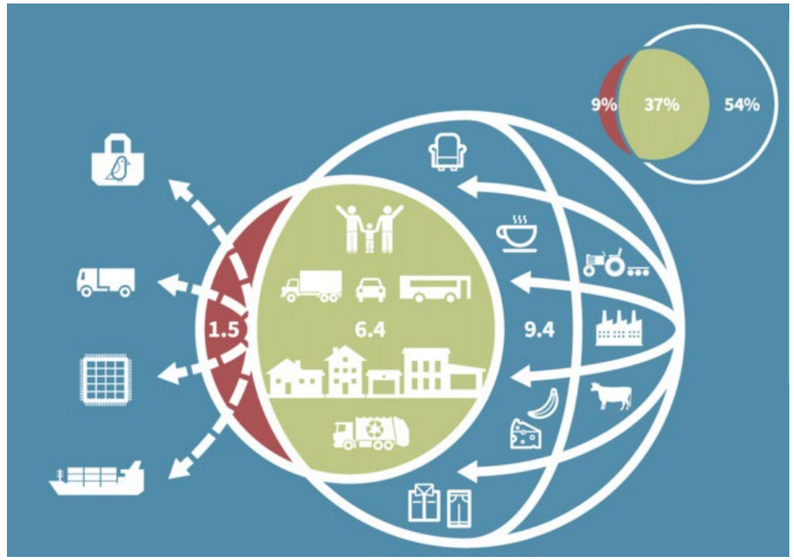
Traditional inventory of emission sectors within the community that the County serves, where the County has direct or indirect control over the emission sources.



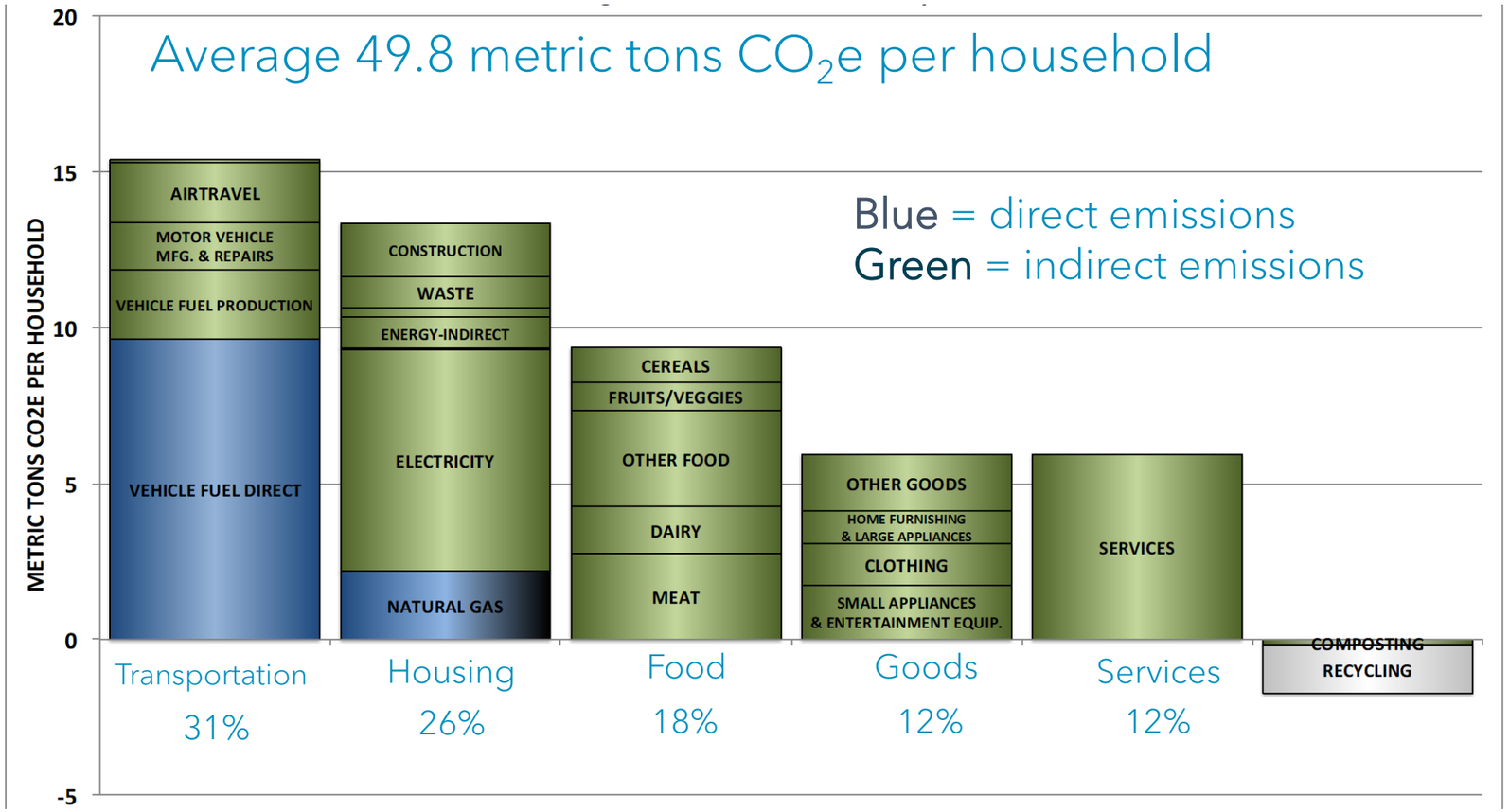
Consumption-based GHG Inventory Narrative

Emissions associated with the consumption of goods, materials, and services.

Includes lifecycle emissions.



US Average Household GHG Footprint



Thank you for your time and attention.

Questions?

Attachment D - Staff Report on Draft Natural and Working Lands Outreach Materials

STAFF REPORT

DATE: February 27, 2023

TO: Yolo County Climate Action Commission

FROM: Kristen Wraithwall, Sustainability Manager, Dept. of Community Services
Sarah Halterman, Dudek
Mike Howard, Dudek

RE: Yolo County Climate Action and Adaptation Plan Natural and Working Lands Draft Interview Questions and Working Lands Strategies List

RECOMMENDED ACTIONS

Receive an update on progress regarding outreach materials for farmers and producers, including draft interview questions (Attachment E) and the draft natural and working lands carbon sequestration strategies list (Attachment F).

REASON FOR RECOMMENDED ACTION

The recommended action will provide an update and an opportunity for the Commission to provide additional input to County Staff, Yolo Resource Conservation District (RCD) staff, and the Dudek Team on the development of draft interview questions for farmers and producers and the draft working land carbon sequestration strategies list.

BACKGROUND

The Natural and Working Lands Ad-Hoc Working Group met on February 21, 2023. In preparation for the Working Group meeting, County Staff, RCD staff, and the Dudek Team developed draft outreach questions (Attachment E) and a draft list of carbon sequestration strategies (Attachment F) for the natural and working lands sector. The draft interview questions were developed to elicit feedback as part of upcoming outreach efforts to farmers and producers on carbon farming practices and carbon sequestration strategies. In an effort to stimulate responses from those questions and provide examples of carbon sequestering practices and strategies, a draft list of carbon sequestration and emissions reduction strategies for natural and working lands was also developed based on known authoritative sources, such as U.S. Department of Agriculture's Natural Resource Conservation Service (NRCS) and California Department of Food and Agriculture. Where appropriate, the list of sequestration strategies includes a link to the NRCS Conservation Practice Standard (CPS) code for the practice for more information on why and where each practice could be applied, and the planning criteria that must be met during implementation in order to achieve its intended purpose(s).[1] Input from the Ad-Hoc Working Group and the Commission will be incorporated into the draft interview questions and the draft strategies list for use during upcoming outreach efforts.

[1] https://www.nrcs.usda.gov/getting-assistance/conservation-practices

Attachment E - Draft Interview Questions for Farmers and Ranchers

Yolo County Climate Action and Adaptation Plan
Draft Interview Questions for Farmers and Ranchers

1. Is climate change impacting your ag operation (eg. drought, high-heat days, etc.)? (*When asking this question via survey, respondents will have the opportunity to answer on a 1 - 5 scale, with 1 being "strongly disagree" and 5 being "strongly agree"*)
    a. How? (*e.g., Do you see differences in water availability such as rainfall? Do higher summer temperatures affect your growing season or yields? Have you changed your irrigation schedules?*)
    b. Are you taking steps to try to minimize the impacts on your operations? If so, what are they?
2. Is climate change impacting your workers (eg. drought, high-heat days, etc.)? (*When asking this question via survey, respondents will have the opportunity to answer on a 1 - 5 scale, with 1 being "strongly disagree" and 5 being "strongly agree"*)
    a. How? (*e.g., Do you see more heat-stress related incidents or absenteeism?*)
    b. Are you taking steps to try to minimize the impacts on your workers? If so, what steps?
3. Are you familiar with "carbon farming" (CF) practices (ie. practices that sequester carbon)? (*Please refer to the attached list for example practices*).
    a. Do any of your current practices include CF? If so, what are they?
    b. Do you see any opportunities to increase practices?
    c. If so, what incentives would be most likely to have you implement new CF practices?
    d. If not familiar, what is the best way to provide information and training to you?
4. Where are there the most opportunities for carbon sequestration and/or greenhouse gas (GHG) emissions reductions on working lands in Yolo County?
5. Carbon Farming Practice feedback (*Please refer to the attached list for example practices*):
    a. Which practices make the most sense for your operation?
    b. Which practices do not seem feasible and why?
    c. What are the opportunities to modify any of the practices to be more feasible/ appropriate for your operation?
    d. What are the challenges with specific practices?
    e. What resources are needed to scale specific practices?
    f. Are there benefits to your operations from CF practices?
    g. Are there additional practices not included in the attached list that you would like to see included?
6. What are the challenges with increasing adoption of carbon farming practices?
7. What are the needs and opportunities for increasing adoption of carbon farming practices?
8. Can you foresee any impacts (*positive or negative*) to farmworkers if carbon farming practices are implemented?
    a. If so, what are the impacts?
    b. If so, do you know of ways to mitigate potential negative impacts?
9. What actions or incentives would encourage you to reduce farm-related GHG emissions? (*Please refer to the attached list for examples of GHG emission-reducing strategies*)

a. What opportunities are there to reduce emissions?
b. Do you have any diesel-fueled equipment (*including water pumps, UTVs, etc.*)?
c. Assuming that an electric tractor has sufficient motive power and range, would you be willing to use this type of equipment?
d. What are barriers to using less diesel fuel and what would lessen those barriers?
e. What are barriers to changing fertilizer practices and what would lessen those barriers?
f. Can you foresee any other barriers related to implementation of GHG emission-reducing strategies?

10. Are you aware of any incentive/funding programs (or are you utilizing any programs) to assist with reducing farm-related GHG emissions?
11. Is there anything else you think we should know or would like to add?

Attachment F - Draft Sequestration and GHG Reduction Strategies for Natural and Working Lands

Yolo County Climate Action and Adaptation Plan
Draft Carbon Sequestration and Emission Reduction Strategies for Natural and Working Lands

POTENTIAL STRATEGIES			
Action	**NRCS CPS Code**	**Where Practice Applies**	**Description**
Carbon Sequestration Measures			
Conservation Crop Rotation: Decrease Fallow Frequency or Add Perennial Crops to Rotations	328	This practice applies to all cropland where at least one annually planted crop is included in the crop rotation.	A planned sequence of crops grown on the same ground over a period of time. This practice results in an increase in soil carbon from higher carbon inputs from plant residue.
Cover Crops	340	All lands requiring seasonal vegetative cover for natural resource protection or improvement.	Grasses, legumes, and forbs planted for seasonal vegetative cover. This practice helps to reduce erosion, and maintain or increase organic matter content, among other benefits.
Mulching	484	This practice applies to all lands where mulches are needed.	Applying plant residues or other suitable materials to the land surface. This practice improves plant productivity and health and maintains or increases organic matter content.
Nutrient Management	590	All fields where plant nutrients and soil amendments are applied. Does not apply to one-time nutrient applications at establishment of permanent vegetation.	Manage rate, source, placement, and timing of plant nutrients and soil amendments. This practice improves or maintains soil organic matter.
Soil Carbon Amendments	336	This practice applies to areas of Crop, Pasture, Range, Forest, Associated Agriculture Lands, Developed Land, and Farmstead where organic carbon amendment applications will improve soil conditions.	Soil carbon amendments (SCA) are materials derived from plant materials or treated animal byproducts that are applied to the soil to improve or maintain soil organic matter, sequester carbon and enhance carbon stocks, improve soil aggregate stability, and/or improve habitat for soil organisms. Available SCAs include compost, biochar, and other regionally-appropriate carbon-based materials (e.g., waste plant materials, wood chips, pulverized paper, bagasse, or distillation residue). Whole Orchard Recycling (WOR) is a type of SCA where orchard trees are chipped and incorporated into the field in which they were grown (i.e., wood chips not exported off-site).

Residue and Tillage Management: Reduced Till	345	This practice applies to all cropland.	Managing the amount, orientation, and distribution of crop and other plant residue on the soil surface year-round while limiting soil-disturbing activities used to grow and harvest crops in systems where the field surface is tilled prior to planting. This practice improves soil health and maintains or increases organic matter content.
Residue and Tillage Management: No Till	329	This practice applies to all cropland.	Limiting soil disturbance to manage the amount, orientation and distribution of crop and plant residue on the soil surface year around. This practice improves soil health and maintains or increases organic matter content.
Stripcropping	585	This practice applies to cropland.	Growing planned rotations of erosion-resistant and erosion-susceptible crops or fallow in a systematic arrangement of strips across a field. This practice improves plant productivity and health.
Alley Cropping	311	On all cropland and hayland where trees, shrubs, crops, and forages can be grown in combination.	Trees or shrubs are planted in sets of single or multiple rows with agronomic, horticultural crops or forages produced in the alleys between the sets of woody plants that produce additional products.
Prescribed Grazing	528	This practice applies to all lands where grazing and/or browsing animals are managed.	Managing the harvest of vegetation with grazing and/or browsing animals with the intent to achieve specific ecological, economic, and management objectives. This practice reduces soil erosion and maintains or improves the soil health.
Prescribed Burning	338	All lands as appropriate.	Planned fire applied to a predetermined area to manage undesirable vegetation to improve plant community structure and composition, reduce wildfire hazards, and improve and maintain habitat for soil organisms and enhance soil health, among other benefits.

Range Planting	550	This practice applies to land where the principle goals and method of vegetation management are or will be based on ecological processes and interactions. This practice will be applied where desirable vegetation is below the acceptable level for natural reseeding to occur or where the potential for enhancement of the vegetation by management of herbivory is unsatisfactory.	The seeding and establishment of herbaceous and woody species for the improvement of vegetation composition and productivity of the plant community to meet management goals. This practice increases and/or stabilizes carbon balance and sequestration.
Silvopasture	381	This practice may be applied on any area that is suitable for the desired forages, trees, and livestock.	Establishment and/or management of desired trees and forages on the same land unit. This practice improves soil quality and increases carbon sequestration and storage.
Hedgerows	422	All lands as appropriate.	Establishment of dense vegetation (e.g., trees, shrubs, perennial grasses, forbs, rushes, sedges) in a linear design surrounding a farm field. This practice increases carbon storage in biomass and soils.
Windbreak-Shelterbelt Establishment and Renovation	380	Apply this practice on any areas where linear plantings of woody plants are desired and suited for controlling wind, noise, and visual resources. Use other tree/shrub practices when wind, noise and visual problems are not concerns.	Establishing, enhancing, or renovating windbreaks, also known as shelterbelts, which are single or multiple rows of trees and/or shrubs in linear or curvilinear configurations. This practice increases carbon storage in biomass and soils.
Avoided Conversion	-	All lands as appropriate.	Planning policies, protective mechanisms (Williamson Act), or active land management to prevent conversion of working lands to lower carbon land covers. This strategy maintains carbon storage (persistence) to prevent carbon losses from land cover conversion.
Riparian Forest Buffer	391	Apply riparian forest buffers on areas adjacent to permanent or intermittent streams, lakes, ponds, and wetlands where channels and streambanks are sufficiently stable.	An area predominantly covered by trees and/or shrubs located adjacent to and up-gradient from a watercourse or water body.
Riparian Herbaceous Cover	390	This practice applies to land adjacent to water courses, water bodies, and wetlands where natural riparian vegetation has been altered and bank stability is adequate to support the practice.	Grasses, sedges, rushes, ferns, legumes, and forbs tolerant of intermittent flooding or saturated soils, established or managed as the dominant vegetation in the transitional zone between upland and aquatic habitats.

Grassed Waterway	412	This practice is applied in areas where added water conveyance capacity and vegetative protection are needed to prevent erosion and improve runoff water quality resulting from concentrated surface flow.	A shaped or graded channel that is established with suitable vegetation to convey surface water at a nonerosive velocity using a broad and shallow cross section to a stable outlet.
Filter Strip	393	Filter strips are established where environmentally sensitive areas need to be protected from sediment, other suspended solids, and dissolved contaminants in runoff.	A strip or area of herbaceous vegetation that removes contaminants from overland flow.
GHG Emission Reducing Measures			
Energy Efficient Agricultural Operation	374	This practice applies to nonresidential structures, equipment, and other energy-using systems that support agricultural production and related enterprises except where another NRCS Conservation Practice Standard (CPS) is more appropriate.	On-farm facilities, equipment, and management strategies that provide increased energy efficiency.
Reduce Fossil Fuel Consumption in Field Equipment	-	All lands where diesel offroad equipment is used.	Reduce fossil fuel use through one or more of the following: 1. Routine maintenance of existing equipment, 2. Efficient operation of existing equipment (*e.g., optimizing drawbar load*), 3. Engine and equipment upgrades to more efficient models.
Reduce Energy Use in Agricultural Irrigation Pumping	-	Croplands	Transition to more efficient irrigation systems which could include: 1. Solar Irrigation Return Pumps, 2. Maintenance of pump bowl components to increase efficiency.
Reduce confined livestock manure methane emissions	-	Livestock	Use of biogas control systems (BCS) for capture of methane gases. Examples of BCS technologies include open flaring, electricity generation, and thermal energy production.
Increase Use of Biofuels or Low-Carbon Fuels in Field Equipment	-	All lands where diesel offroad equipment is used.	Replacing conventional gasoline and diesel fuels with biofuels or low-carbon fossil fuel alternatives.

Attachment G - Staff Report on Approach to Carbon Sequestration

STAFF REPORT

DATE: February 27, 2023

TO: Yolo County Climate Action Commission

FROM: Kristen Wraithwall, Sustainability Manager, Dept. of Community Services
Sarah Halterman, Dudek
Michael Howard, Dudek

RE: Yolo County Climate Action and Adaptation Plan Natural and Working Lands Carbon Sequestration Work Effort Overview

RECOMMENDED ACTIONS

Provide input regarding the Natural and Working Lands (NWL) carbon sequestration approach for Yolo County.

REASON FOR RECOMMENDED ACTION

The recommended action will provide direction from the Commission to County Staff and the Dudek Team on the NWL carbon sequestration approach and narrative within the forthcoming CAAP.

BACKGROUND

Resolution No. 20-114, Resolution Declaring a Climate Crisis Requiring an Urgent and Inclusive Mobilization in Yolo County (2020), established Yolo County's (County's) goal to be carbon negative by the year 2030. This ambitious goal aims to achieve carbon neutrality 15 years earlier than the state's adopted carbon neutrality goal as outlined in Assembly Bill (AB) 1279, which requires the state to achieve net zero greenhouse gas (GHG) emissions no later than 2045 and achieve and maintain net negative GHG emissions thereafter. The California Air Resource Board (CARB) 2022 Scoping Plan, which outlines the state's plan to achieve the 2045 neutrality target, indicates that there is "no path to carbon neutrality without carbon removal and sequestration," and re-envisions the state's Natural and Working Lands (NWL) for their role in incorporating and storing carbon to help reach reduction targets. Consistent with CARB's findings for the statewide strategy the County has the opportunity to incorporate carbon sequestration strategies in the NWL sector into the CAAP, in addition to the emissions reduction strategies from solely anthropogenic sources, to close the emission gap with the goal of achieving carbon neutrality.[1]

[1] Of note, the 2022 CARB Scoping Plan indicates that "natural and working lands will not, on their own, provide enough sequestration and storage to address residual emissions." The 2022 Scoping Plan indicates further that research, development, and deployment of additional methods to capture atmospheric CO_2 (e.g., mechanical sequestration, such as direct carbon capture) will be necessary to achieve net negative emissions.

Carbon sequestration is the process by which carbon dioxide (CO_2) is removed from the atmosphere and stored in a reservoir, also referred to as "carbon pool." NWLs are an example of a terrestrial carbon pool, where vegetation (i.e., trees, crops, grasses) uptakes CO_2 during photosynthesis and stores the processed carbon as biomass and belowground in soils. Carbon sequestration analyses provide an estimate of total sequestered carbon for a given location over a given time period (e.g., annually), based on default carbon sequestration values, expressed as a rate (i.e., MT CO_2/acre/year). As opposed to carbon storage inventories that estimate total carbon for a given location for a particular point in time, sequestration analyses quantify the amount of CO_2 that is being removed from the atmosphere with a given action. Given that the County aims to be carbon negative (i.e., remove more CO_2 than emitting), quantifying the future removal and storage of atmospheric CO_2 with implementation of NWL land management strategies is crucial to estimating the NWL contribution towards achieving the County's climate goals.

To evaluate the County's NWL carbon sequestration potential, the Dudek team in collaboration with the Yolo Resource Conservation District (RCD) and other partners will use recent, regional-scale, spatial data to map and quantify relevant land use types (e.g., cropland, grazing, open space, etc.), vegetation types (e.g., forest, grassland, woodland, etc.), crop types, and soil types within the County. Using this summary of existing NWL land uses within the County, together with information gained from community outreach to the agricultural community (ie. one-on-one interviews, surveys, roundtables, etc.), the Dudek team will assess strategies that are currently in practice that enhance carbon sequestration across the landscape within the defined NWL classes (ie. natural lands, croplands, grazing lands, all working lands, etc.). The Dudek team will then assess opportunities for additional carbon sequestration and identify a suite of potential strategies applicable to the landscape, prioritizing those that demonstrate the greatest opportunity for success given their sequestration potential, general applicability, feasibility, and cost effectiveness among other factors.

In natural lands, example sequestration strategies include habitat restoration that entails restoring native habitat that supports greater sequestration and carbon storage in disturbed or degraded areas characterized by lower carbon vegetation. On working lands, example strategies include use of cover crops, mulches, and range planting, among others. Annual sequestration rates (i.e., MT CO_2/acre/year) have been developed for each of these strategies by authoritative sources, including the U.S. Department of Agriculture, California Department of Food and Agriculture, and in some cases, peer-reviewed journal articles. Using the finalized suite of selected NWL strategies, together with their respective sequestration rates, the Dudek team will work with RCD to quantify total sequestration potential for the County, including the sequestration potential of each strategy and mapping of this potential across the County.

Ultimately, the results of the sequestration potential analysis will inform the development of a guide for landowners to educate and encourage implementation of the suggested strategies. The guide will identify all of the selected sequestration practices with (1) an explanation of the practice, (2) which crop commodity it applies to (e.g., tomatoes, almonds, pasture), (3) explanation of co-benefits (e.g., water quality, air quality, and

climate resilience/adaptation, (4) a discussion of the implementation parameters; and (5) potential cost considerations.

The recommended approach for the NWL sector focuses on carbon sequestration potential of the identified strategies and assumes that developing a current baseline carbon storage inventory for the NWLs is not necessary. While quantifying the County's current NWL carbon storage could provide helpful context, a baseline carbon storage inventory is not recommended as the best use of the County's limited resources at this time, as the data used for baseline carbon inventories is rapidly evolving and often estimated over a very large region (ie. at the state level); this lack of granularity can make it difficult to develop accurate baseline inventory for a specific geographic area (such as Yolo County's unincorporated area). Instead, the NWL effort will focus resources on identifying and implementing feasible carbon sequestration strategies to achieve the County's 2030 carbon negative goal and tracking the net carbon sequestration against the County's total emission reduction goals.

Attachment H - Staff Report on Consumption Based Inventory

STAFF REPORT

DATE: February 27, 2023

TO: Yolo County Climate Action Commission

FROM: Kristen Wraithwall, Sustainability Manager, Dept. of Community Services
Michael Hendrix, Michael Hendrix Consulting
Jennifer Reed, Dudek

RE: Yolo County Climate Action and Adaptation Plan Consumption-based Inventory Work Effort Overview

RECOMMENDED ACTIONS

Receive update and provide input regarding the consumption-based inventory narrative for Yolo County.

REASON FOR RECOMMENDED ACTION

County Staff and the Dudek Team have received a number of questions about the scope and purpose of the consumption-based inventory. County Staff and the Dudek Team aim to provide additional clarity on how the consumption-based inventory will be approached and provide an opportunity for input before moving forward with a given methodology. The recommended action will provide direction from the Commission to County Staff and the Dudek Team on the consumption-based inventory narrative within the forthcoming Climate Action and Adaptation Plan (CAAP).

BACKGROUND

The Request for Proposals (RFP) for the Yolo County Climate Action Plan called for the inclusion of a consumption inventory narrative as part of Task 2, GHG Inventory and Updated Targets. Specifically, the County noted that the CAAP should “include a consumption inventory narrative that broadly represents the characteristics of lifecycle emissions across the community” and that the selected consulting team would “provide a recommended approach to integrating these two analytic methods together with other tasks to maximize community engagement opportunities as well as tracking and reportion of progress on reductions over time.”

A consumption-based inventory focuses on emissions associated with the consumption of materials, goods, and services. This type of inventory includes lifecycle emissions embedded in the materials, goods, and services. Lifecycle emissions embedded in materials includes emissions associated with the mining, refining, and processing of raw materials into the finished products consumed. Lifecycle emissions also include emissions associated with the deposal of materials after consumption. As an example, in determining the emissions associated with on-road transportation within a consumption-based inventory, the analysis would first determine the amount of emissions associated

with the mining, collection, and processing of the raw materials that go into the vehicle, along with the mining and refinement of gasoline or diesel fuel. The analysis would then determine the emissions associated with the maintenance, the total vehicle miles driven, and fuel consumed during the economic life of the vehicle, as well as emissions associated with recycling and deposition of the various components of the vehicle at the end of its economic life. Finally, the analysis would divide the total emissions associated with the lifecycle of the vehicle and fuel consumed by the total number of miles traveled by the vehicle during its economic life. The resulting emissions per mile would then be multiplied by the miles per year to get the consumption-based emissions of on-road transportation on an annual basis. A consumption-based inventory can be scaled up to the community level, but it can also be at an individual or family level. Because of this, a consumption-based inventory provides an opportunity for individuals, families, and small businesses to understand and evaluate means to reduce their own carbon footprint.

The amount of time and effort needed to calculate a consumption-based inventory is considerable. As an example, beginning in 2014 through December 2015 the University of California, Berkely spent thousands of hours of student and faculty time in developing the consumption-based inventory for the Bay Area. Yolo County staff realized the amount of time and effort needed to complete a detailed consumption-based inventory for the unincorporated area would be time- and cost-prohibitive, but wanted the advantages that a consumption-based inventory could provide individuals, families, and businesses in the County to assess and reduce their own carbon footprint. This is why, County staff asked for a “consumption inventory narrative” within the Scope of Work for the forthcoming CAAP. This narrative will focus on how individuals, families, and small businesses could reduce their own emissions profile.

To develop this narrative, the Dudek Team has been provided access to the quantitative consumption-based inventory data developed at a national level and divided into census block groups, which can be used to approximate a consumption-based inventory for Yolo County. In addition, the University of California Davis has provided a quantitative consumption-based inventory for the City of Davis. While there are considerable differences between the City of Davis and rural, unincorporated communities in Yolo County, this analysis can provide some insights into what a consumption-based inventory could look like for the unincorporated area.

To evaluate the County’s consumption-based inventory, we will use the quantitative data already available to develop charts and other graphical representations of the consumption-based inventory for Yolo County and focus the narrative on using accessible language to describe what is within the inventory and how individuals, families, and small businesses can reduce their emission profiles. The charts and graphical representations would be used to enhance the information within the narrative. That narrative may include side-by-side comparisons of particular products (the life cycle emissions of fossil fuel vehicles compared to electric vehicles as one example) to assist individuals, families, and businesses in understanding the emissions impacts of consumer choices. The goal of the consumption-based inventory is to help make the CAAP more accessible and enable community members see how their choices can contribute to emissions reduction in Yolo County.

It is assumed that the quantification of emissions for the consumption-based inventory would be limited to the data that the Dudek Team has on hand (and data that is available through publicly accessible tools) and would be used to enhance the message within the consumption-based inventory narrative through the use of graphics. Quantitative consumption-based inventory tables will not be used in the narrative.

Attachment I – Long Range Calendar

Yolo County Climate Action Commission

Long Range Calendar 2023

UPDATED – February 23, 2023

Month	Topics
January	Update on Yolo County Storm Response and Recovery
February	Discussion on Outreach Materials to Agricultural Community (*Interview Questions and Sequestration Strategies*) Discussion on Carbon Sequestration Methodology Discussion on Consumption-Based Inventory
March	Discussion on Equity Engagement Strategy and Communications Plan Discussion on CAAP Table of Contents Revisit Yolo Agricultural Equipment Retrofit Program Early Action Project
April	Update to Board of Supervisors on CAAP Progress Discussion on Food System and Connection to Consumption-Based Inventory Discussion on Emission Reduction Strategies
May	Yolo Agricultural Equipment Retrofit Program Early Action Project to BOS
June	
July	
August	
September	Discuss Second Round of Early Action Projects
October	
November	
December	