



AGENDA

Handout

Air Quality, Climate Change, and Energy Workgroup Meeting

6.3

Meeting Date/Time: February 27, 2020 / 8:30 – 10:30 am

Date March 5, 2020

Meeting Location: GoToWebinar Meeting (Link delivered via e-mail)

Dial-in: 605-472-5814 and Passcode 840 541 702#

COMMENCEMENT

ITEM	LEAD
Welcome/Roll Call	Jackie Zipkin (Chair), Greg Kester and Sarah Deslauriers (CASA)
Review/Approval of Agenda	All

LEGISLATIVE UPDATE

	ITEM	LEAD	STATUS
1.	2020 Bill Cycle	Jessica/Jared	Summarize bills introduced in 2020 (including PSPS bills)
2.	Governor's Budget	Jessica/Jared	Summarize allocations (including to Water Resilience Portfolio)

PRIORITY ISSUES/ACTION ITEMS

	ITEM	LEAD	NOTES
1.	PFAS	Greg	SWRCB PFAS , CASA and National Coalition fact sheets
2.	AB 617: Community Air Protection Program & AB 2588 Toxics Program	Sarah/David	Local air district and CAPCOA activities, potential approach for member consideration -
3.	CA Adaptation efforts: <ul style="list-style-type: none"> • SWRCB • California Coastal Commission • Ocean Protection Council 	Sarah/Greg	SWRCB Vulnerability Survey Update! CCC Critical Infrastructure Guidance doc being drafted and negotiating 'managed retreat' of coastal WWTPs 2020-2025 Plan to Protect CA's Coast and the Ocean
4.	SB 100 Joint Agency Report & Scoping Workshops	Sarah	Renewable energy/zero-carbon resources to supply 100% of electric retail sales by 2045, Feb 24th Workshop
5.	SB 1383: Organic Waste Reduction Regs	Greg	SB 1383 , adoption anticipated in Q1 2020
6.	Biogas Accidental Release Prevention & Risk Management impacts	Greg	CalOSHA Process Safety Management Standards update, OSHA contact established
7.	Regional Hot Topic: BAAQMD Climate Pollutants (CH4 & N2O)	Sarah	Regulation 13 development , 13-1 tabled, revised draft 13-2 , 13-4 needs author, modified schedule
8.	Methane Hotspots Survey & Source Finder	Sarah/David	NASA JPL fly-overs and reporting

DISCUSSION/INFORMATIONAL ITEMS

	ITEM	LEAD	NOTES
1.	SWRCB Co-digestion Capacity Analysis	Sarah	To be published March 2020, CWEA/RBC presentations
2.	2019 IPCC Guideline Refinements	Sarah/Greg	Summary of updates, use in TCR's Water-Energy GHG (WEG) Guidance Initiative & Water-Energy Nexus Registry
3.	Biogas/Biomethane Management: <ul style="list-style-type: none"> • EPA Renewable Fuel Standard RINs • CPUC Pipeline Biomethane • LCFS 	Greg/Sarah	RIN values low, next steps following D.C. Policy Forum CPUC commissioner meeting end of January CARB working on realistic CI for co-digestion projects
4.	Flare Rules: SCAQMD Rule 1118.1 & SJVAPCD Rule 4311 Updates	David/Ray	SCAQMD: Meetings, status of mandated research SJVAPCD: Resuming rule-making (no update)
5.	Offset Protocol Development – CA/U.S.	Sarah/Greg	CARB Task Force ; American Carbon Registry efforts, WEF – Climate Finance Task Force, Climate Action Reserve efforts
6.	Role of Land Management in Meeting 2050 Target	Sarah	Links between CARB's Natural & Working Lands Climate Change Implementation Plan , Healthy Soils Initiative & Forest Carbon Plan
7.	Biosolids & Fire Reclamation Efforts	Greg	Project at Las Virgenes/Calabasas, Phase 1
8.	USFS Wood Innovation Grant	Greg	2-year project testing use of biochar for odor control at WWTPs

UPCOMING CONFERENCES/EVENTS

NAME	DATE/LOCATION
2020 D.C. Policy Forum	February 24 – 26, Washington, D.C.
Biocycle Connect West 2020	March 30 – April 1, Sacramento
CWEA Annual Conference	March 31 – April 3, Reno
WEF Residuals & Biosolids Conference	March 31 – April 3, Minneapolis
AWWA Sustainable Water Management Conference	March 29 – April 1, Minneapolis

NEXT MEETING: March 26th, 8:30 to 10:30 am (Conference Call/Webinar)



AGENDA

Air Quality, Climate Change, and Energy Workgroup Meeting

Additional topics we review periodically for progress or changes:

State

- CARB Natural & Working Lands
- CARB Mandatory GHG Reporting Regulation
- CARB 2030 Target Scoping Plan
- CEQA Guidance on GHG Emissions
- CNRA Climate Change Assessment
- CNRA Online CA Sea Level Rise Database
- CNRA Safeguarding CA: Implementation Action Plans
- CEC Climate Change Research Plan
- OEHHA CalEnvironScreen Tool
- California's Climate Future report (by Governor Brown)
- Funding opportunities

National

- NEPA Guidance on GHG Emissions
- EPA EJScreen Tool
- WERF Phase II Project (lab scale based model) - N₂O Emissions from Wastewater Treatment Processes
- WERF High Quality Biosolids from Wastewater Project
- EPA Mandatory GHG Reporting Regulation Updates
- EPA Clean Power Plan (on stay)
- EPA Existing Source Performance Standards
- EPA Biogenic Emissions Accounting Framework
- White House Budget for DOE Energy Efficiency and Renewable Energy Programs
- NACWA Energy Workgroup
- NACWA Climate & Resilience Workgroup
- Funding opportunities

International

- Global GAP (Good Agricultural Practices) & Biosolids
- IWA Nitrous Oxide Modeling

Air Quality, Climate Change, & Energy (ACE) Workgroup Meeting

February 27, 2020 (8:30 to 10:30 am)

Conference Call

Dial-In: 605-472-5814

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Please avoid using "HOLD" – Thank You! ☺



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Legislative Update



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2020 Assembly Bills for Review by ACE

- AB 296 (Climate Innovation Grant)
- AB 352 (Wildfire Prevention, SDW, Drought Preparation, & Flood Protection Bond)
- AB 815 (Dual Stream Recycling)
- AB 1298 (Climate Resiliency, Fire, Recycling, GW/DWS, Clean Beaches, & Jobs Infrastructure Bond)
- AB 1567 (Organic Waste Scoping Plan)
- AB 1941 (RPS: Hydro & Nuclear)
- AB 2371 (Climate Change: Adaptation – Establish a science advisory team)
- AB 2441 (Climate Change: Safeguarding California Plan update)
- AB 2547 (RPS Program: Unbundled Renewable Energy Credits)
- AB 2612 (GHG Reduction Fund: Organic Waste Recycling \$100M annual allocation)
- AB 2619 (Coastal Resources: Coastal Resilience, Adaptation, & Access)
- AB 2680 (Solid Waste: Green Material, Land Application)
- AB 2720 (CEQA: ND/MND, GW recharge projects)
- AB 2737 (Community Emissions Reduction Programs: Toxic Air Contaminants)
- AB 2866 (Vehicle Air Pollution: Clean Fleet Program)
- AB 2940 (Energy: Hydrogen)
- AB 2959 (Solid Waste: Byproducts from processing of food & beverages)
- AB 3100 (Self-Generation Incentive Program, fire threatened districts)
- AB 3128 (Electricity: deenergization events, fuel cells)
- AB 3163 (Biogas, revise definition)

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2020 Senate Bills for Review by ACE

- SB 45 (Wildfire Prevention, SDW, Drought Preparation, & Flood Protection Bond of \$5.5B)
- SB 210 (Heavy-Duty Vehicle Inspection & Maintenance Program, alternative fuels)
- SB 457 (Biomethane: Gas Corporations)
- SB 667 (GHGs: Recycling Infrastructure & Facilities – financial incentives, innovation)
- SB 1044 (Firefighting Equipment & Foam: PFAS chemicals, notification to consumers)
- SB 1052 (Water Quality: Municipal WW, SW and dry weather runoff management)
- SB 1056 (DW: PFAS, testing methodologies)
- SB 1100 (Coastal Resources: Sea Level Rise, CCC guidelines, assessment, and mitigation via local coastal program)
- SB 1215 (Electricity: Microgrids Grant to establish Deenergization Event Resiliency Fund)
- SB 1258 (CA Climate Technology and Infrastructure Financing Act, catalyst project fund)
- SB 1293 (Coastal Resources: Sea Level Rise, establish revolving loan fund to allow local governments to purchase threatened coastal properties for leasing)
- SB 1314 (Community Energy Resilience Act, grant program for energy resilience plans)
- SB 1320 (Climate Change: CA Assessment to be every 2 years & establish sector impacts)
- SB 1352 (Gas Corporations: Biomethane Procurement, 20% procurement req't by 1/1/30)

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2020 Bills for Review by ACE – PSPS related

Assembly Bills

- AB 1915 (Electrical Corporations: Deenergization events)
- AB 1916 (Deenergization: notification)
- AB 1936 (Price Gouging: PSPS)
- AB 2033 (Deenergization: Spoilage)
- AB 2178 (Emergency Services)
- AB 2182 (Emergency Backup Generators: Water & WW), **ACWA**
- AB 2356 (Electrical corporations: safety compliance)
- AB 2568 (Disaster Preparedness: Local Government, animal shelter)
- AB 2705 (Deenergization events)
- AB 3100 (SGIP)
- AB 3128 (Electricity: Deeng, fuel cells)

Senate Bills

- SB 378 (Electric orporation: Deenergization Events)
- SB (Emergency Services: Telecommunications)
- SB 802 (Emergency Backup Generators: Health Facilities)
- SB 862 (Planned Power Outage: Public Safety)
- SB 884 (Education Force: PSPS)
- SB 952 (Sales and Use Taxes: Exemption)
- SB 1069 (Telecommunications: Emergencies/Natural Disasters)
- SB 1099 (Emergency Backup Gens), **CMUA**
- SB 1185 (NG Powered Generators)
- SB 1233 (Electricity: PSPS)

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Governor's FY 2021 Budget: Climate

- \$12 billion over the next five years
- Three key areas of the climate budget are:
 - Climate resilience bond
 - Cap-and-trade expenditures to continue the transition to a carbon-neutral economy
 - Climate Catalyst Fund to promote deployment of new technologies, especially by small businesses and emerging industries.
 - Administered by Infrastructure and Economic Development Bank
 - Finance investments in low-carbon transportation
 - Sustainable agriculture and waste diversion through low-interest loans
 - Budget proposes to capitalize the Fund with \$1 billion General Fund over the next four years
- The (GHG) Fund will have a revolving loan structure to leverage private capital and will support projects into the future

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Water Resilience Portfolio

- Seven principles upon which the portfolio was built (to further Governor Brown's 2016 Water Action Plan):
 - Prioritize multi-benefit approaches that meet several needs at once
 - Utilize natural infrastructure such as forests and floodplains
 - Embrace innovation and new technologies
 - Encourage regional approaches among water users sharing watersheds
 - Incorporate successful approaches from other parts of the world
 - Integrate investments, policies, and programs across state government
 - Strengthen partnerships with local, federal and tribal governments, water agencies and irrigation districts, and other stakeholders.



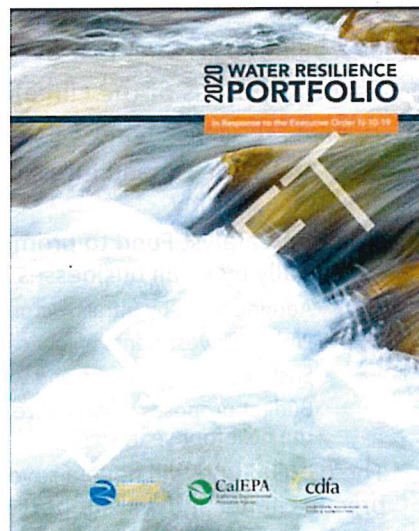
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Water Resilience Portfolio – Objectives

- Over 100 actions “...to improve California’s capacity to prepare for disruptions, withstand and recover from climate-related shocks, and adapt into the future.”
 - Maintain and diversify water supplies
 - Protect/enhance natural ecosystems
 - Build connections – share water
 - Be prepared – for changing conditions

Region by region basis

- CASA Comments Submitted



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Priority Issues/ Action Items

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1. Per and Poly-fluoroalkyl Substances (PFAS)

- Quick facts:
 - Background levels are in the ppb range, notification triggers are in ppt
 - No federally approved method for analyzing biosolids, wastewater
 - Bans on land application of biosolids
- Notification levels for PFOS/PFOA remain at 6.5/5.1 ppt
- Response levels for PFOS/PFOA lowered to 40/10 ppt (from 70 ppt)
- SWRCB phased investigation of PFAS
 - Phase 3 – will include WWTPs (notified via letter in May 2020) & land application sites



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2. AB 617 (CAP & TAC Reporting Regulation - CTR) and AB 2588 (Toxics Program)

- CARB harmonizing community air monitoring, reporting, & local emissions reduction programs for CAPs and TACs
 - Assess community exposure
 - Establish criteria for air monitoring
 - Identify source contributions
 - Establish emission reduction targets, schedule, & enforcement programs

- Some local air districts are moving fast!
 - San Diego APCD
 - Carmel?



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2. AB 617 (CAP & TAC Reporting Regulation - CTR) and AB 2588 Updates (Toxics Program)

- CTR Regulation to go to board end of 2020 and AB 2588 updates in parallel – OEHHA workshop Feb 27th:
 - Expanded compound list to be adopted
 - We do not know the additional compounds and associated testing methods, toxicity

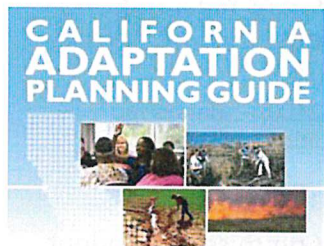
- Wastewater Sector approach in process:
 - Developing a short list of toxics compounds for WW sector – that we know of and from the expanded list
 - Consider performing an updated pooled emissions estimating effort (e.g., under a joint agreement) to update outdated emission factors for those compounds we already know of and new compounds relevant to the sector

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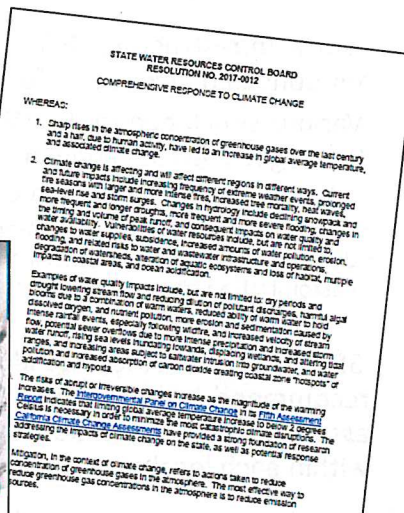


3. State actions to adapt California's water to impacts of climate change...

- State Water Board
- California Coastal Commission



Critical Coastal Infrastructure at Risk



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3. SWRCB Climate Change Resolution

- State Water Board seeks feedback on:
 - Permit modifications and other regulatory requirements to reduce vulnerability to flooding, storm surge, and sea level rise.
 - Use of U.S. EPA's Climate Resilience Evaluation and Awareness Tool (CREAT) or a comparable approach to identify vulnerabilities to climate change impacts at water and wastewater utilities.

- State Water Board to distribute revised survey...
 - Within the next month!!
 - Planning a webinar to answer questions regarding the survey

Item	Date of completion			
	1/24/20	2/10/20	2/17/20	2/24/20
Reviewed draft				
Reviewed comments and incorporated				
Reviewed final draft				
Reviewed final draft for signature				

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3. Coastal Commission: Critical Coastal Infrastructure & Climate Change

- Critical Infrastructure Guidance document no longer announced on website – following up with staff
- Various smaller coastal WWTPs in discussions regarding “managed retreat” and permit negotiations
 - Morro Bay and four others (CCC to confirm details)
 - Based on sea level rise projections (10 feet by 2100) – “details for determining setback distances and trigger conditions will need customization to local conditions”
- SB 1100 (if adopted) would require the Commission to adopt, recommend and develop guidelines for the identification, assessment, minimization, and mitigation of sea level rise within each local coastal program



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3. Ocean Protection Council: Strategic Plan to Protect CA’s Coast and the Ocean

- CASA Comments submitted:
 - Work with partners to achieve a goal of 80-90% coastal wastewater recycling that can be *viably* put to beneficial use by 2040
 - To the extent reliable science identifies a clear link between POTW discharge and ocean acidification, it could be addressed either through treatment or reductions in discharge
 - Based on the best available science, establish interim goals as needed for significantly reducing nutrient loading and/or phasing out coastal sewage discharge into the ocean



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4. SB 100 Joint Agency Report & Scoping Workshops

- SB 100: Requires renewable energy and zero-carbon resources supply 100% of electric retail sales to end-use customers by 2045
- Requires CEC, CPUC, and CARB to complete joint agency report to Legislature by January 1, 2021 (every 4 years thereafter):
 - Review 100% zero-carbon policy.
 - Evaluate potential benefits and impacts on system and local reliability associated with achieving the policy.
 - Evaluate the nature of any anticipated financial costs and benefits to electric, gas, and water utilities, including customer rate impacts and benefits.
 - Identify barriers to, and benefits of, achieving the policy.
 - Alternative scenarios in which the policy can be achieved and estimated costs and benefits of each scenario.

*Pathways have been developed –
Comments due March 9th*

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5. SB 1383 (SLCP Reduction Implementation): Organic Waste Reduction Regulations

- 40% methane reduction by 2030
(relative to 2013 levels)
- Organic waste diversion from landfills
(includes biosolids, digestate, and sludges)
 - 50% by 2020 (relative to 2014 levels)
 - 75% by 2025 (relative to 2014 levels)
- CEC/CPUC to incentivize biogas production/use



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5. SB 1383 (SLCP Reduction Implementation): Organic Waste Reduction Regulations

- **Highlights:**
 - Limit/prohibit local ordinances preventing biosolids land application
 - Credit biogas generated by diverted organic waste
 - Consider disposition of organic waste to processes other than anaerobic digestion or composting as “landfill disposal”

- **Next Steps**
 - Adoption by Q1 2020
 - State to start enforcement on jurisdictions January 1, 2022
 - Local jurisdictions to start enforcement January 1, 2024
 - Compliance by January 1, 2025



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6. Biogas Accidental Release Prevention & Risk Management Impacts

- **CA Accidental Release Prevention (Cal-ARP) Program**
 - Regulates owner/operator of a stationary source
 - Prevent release of extremely hazardous or flammable substance
 - Exceed threshold? Must prepare Risk Management Plan (RMP)
...three program levels, most stringent → OSHA PSM
- **OSHA’s Process Safety Management (PSM) Standard**
 - California Code of Regulations, Title 8, Section 5189
 - Triggered by >10,000 lbs of biogas

- **Met with OSHA Contact!**



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7. Regional Hot Topic: BAAQMD Climate Pollutants

Rules and Regulations	GHGs	Odors	VOCs	Toxics
Regulation 13: Climate Pollutants				
Rule 13-1: Significant Methane Releases	CH ₄	Yes	Yes	Yes
Rule 13-2: Organic Material Handling	CH ₄	Yes	Yes	Yes
Rule 13-3: Composting Operations	CH ₄	Yes	Yes	Yes
<i>Rule 13-4: Wastewater Operations*</i>	CH ₄ , N ₂ O	Yes	Yes	Yes
<i>Rule 13-5: Hydrogen Plants</i>	CH ₄	Yes	Yes	Yes
<i>Rule 8-34: Solids Waste Disposal Sites*</i>				

* Future rule development efforts.

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7. Regional Hot Topic: BAAQMD Climate Pollutants

Rule	Next Workshop	Board Presentation	Notes
13-1: Significant Methane Releases	TBD	TBD	Tabled indefinitely, focus on source-specific rules first
13-2: Organic Waste Handling	None	Q2 2020	Focus on organic material handling: Material Recovery Facilities, Transfer Facilities, Chip & Grind Facilities.
13-3: Composting Operations	Q2 2020	Q4 2020	Draft language in development.
13-4: Sewage Treatment & Anaerobic Digestion	Q2 2020	Q4 2020 (likely 2021)	BACWA requested involvement to provide input on draft language and workshop report. Draft rule to consider biogas produced/collected, minimizing other pollutants, flare requirements, record keeping, reporting requirements, etc.
13-5: Hydrogen Plants	Q1 2019	Q3 2020	Focus on hydrogen production at petroleum refineries.
8-34: Solid Waste Disposal (Landfills)	Q2 2020	Q4 2020	Focus on methane from landfills – BAAQMD to align with state and federal requirements.

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7. Comments on Revised Draft Rule 13-2

- Biosolids definition
- Misting systems to reduce odors, methane, and VOCs at existing transfer stations and MRFs
- % reduction of methane and VOCs through control device
- Source testing annually or every 15 months
- Daily pressure readings in new or modified transfer stations and MRFs
- Daily temperature readings in stockpiled material without specifying a standard

Comments due Tomorrow - February 28th



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8. Methane Hotspots Research & Source Finder



- AB 1496 (2015) – methane hot spots legislation to identify, measure and monitor areas of high methane concentrations
- Tiered observation system was used to perform measurements: satellite- and aircraft-based remote sensing, ground verification, and regional inventories
- Super-emitters = small fraction (<10%) of sources in a category responsible for majority (>50%) of emissions (landfills, refineries)
- CARB/CEC teamed with NASA/JPL to perform aerial methane survey to identify “super-emitters” (wastewater ~2%, flare and digester leakage – **encourage preventive maintenance**)
- NASA results to be presented at recent conference



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Discussion/ Informational Items

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1. SWRCB Co-Digestion Capacity Analysis

- **Submitted final chapters per task July 31**

1. Estimate organics generation in 2025 and 2030
2. Assess existing capacity (without rehab/modifications)
3. Assess future capacity in 2025 and 2030 (without & with rehab/ modifications)
4. Assess methane emissions
5. Additional Topics:
 - Investigate opportunities and barriers at small- to medium-sized facilities
 - Examine pilot/demonstration facilities that have already operated



- **Release of report to public still expected March 2020**

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2. IPCC 2019 Guideline Refinements (to estimating WWTP process emissions)

- Methane and Nitrous Oxide emission factors are updated to reflect additional measurement data and approaches for:
 - Septic systems & centralized WWTPs
 - Effluent discharged to aquatic environments - addressing removal of organics (with respect to methane) and removal of nitrogen (with respect to nitrous oxide) that occurs during treatment

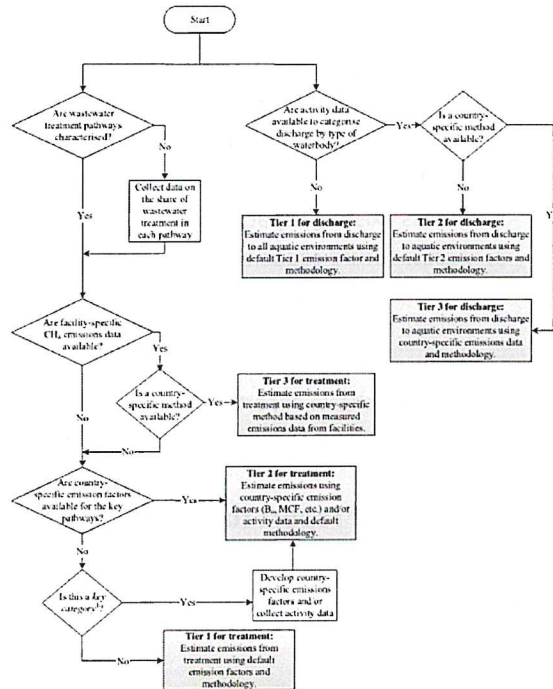
- New methane emission factors are introduced for:
 - Effluent discharged to reservoirs, lakes, and estuaries
 - NEXT ITERATION, FUTURE UPDATES: Non-biogenic fossil CO₂ emissions from wastewater treatment and discharge (petroleum-based products)



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2. IPCC 2019 Guideline Refinements – Methane Emissions

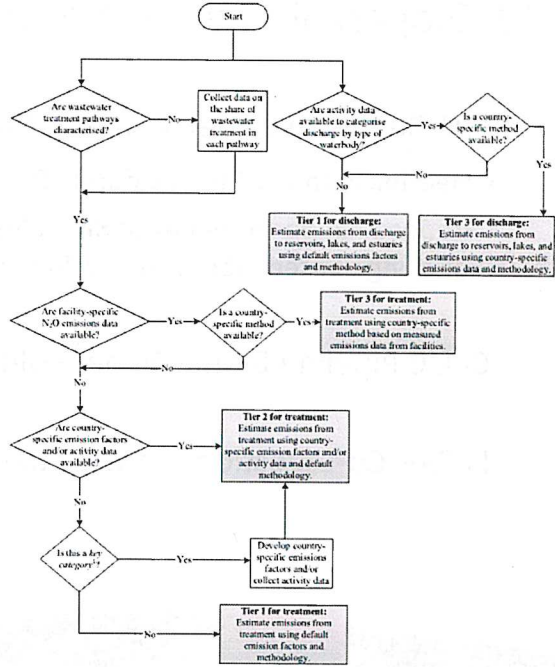
Figure 6.2 (Updated) Decision tree for CH₄ emissions from domestic wastewater



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2. IPCC 2019 Guideline Refinements – Nitrous Oxide Emissions

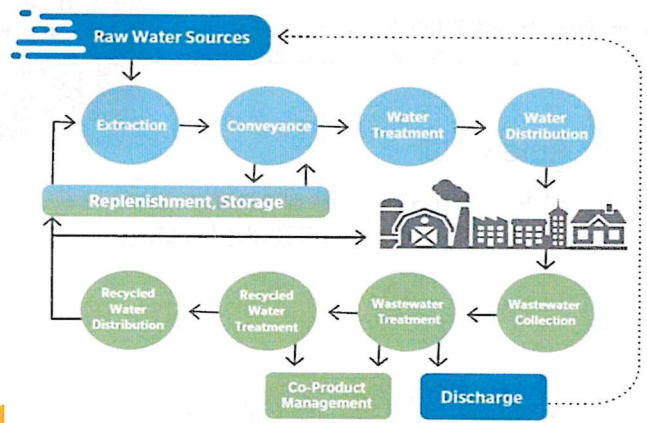
Figure 6.4 (New) Decision tree for N₂O emissions from domestic wastewater



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2. TCR Water-Energy GHG Guidance 2.0 & Voluntary Water-Energy Nexus (WEN) Registry

- Goal: Develop methodology and protocols to quantify, compare, report, track, and analyze GHG emissions embedded in delivered water and treated wastewater and recycle water
- 2019 IPCC Guidance Refinements to be incorporated in the TCR protocols



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3. Biogas/Biomethane Management

- EPA Renewable Fuel Standard RIN
 - Meeting with Madison Le during Policy Forum
 - Proposed apportionment of RIN values for sludge based biogas (D3) vs food waste based biogas (D5)
- CPUC Pipeline Biomethane – Met with Commissioners
- LCFS – Co-Digestion pathway development



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4. Flare Rules: SCAQMD Rule 1118.1 & SJVAPCD Rule 4311

- SCAQMD
 - Examining impacts of SB 1383
 - Food Waste Diversion
 - Beneficial Use Technology Assessment – considering more funds for meaningful study
- SJVAPCD – Rule 4311
 - Resuming amendments to limit use and proposing a lower NOx limit (0.018 lbs/MMBtu)



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5. Offset Protocol Development – ARB mandated efforts under AB 398

- Compliance Offsets Protocol Task Force – establish new protocols for use in post-2020 Cap-and-Trade Program
- Goal: Develop report (draft by July 2020) providing guidance to CARB in establishing new offset protocols for post-2020 Cap-and-Trade
- Program with direct environmental benefits in the state while prioritizing disadvantaged communities, Native American or tribal lands, and rural and agricultural regions
- First Meeting was January 23rd to approve membership
- Next Meeting (to be public and webcast): March 2nd



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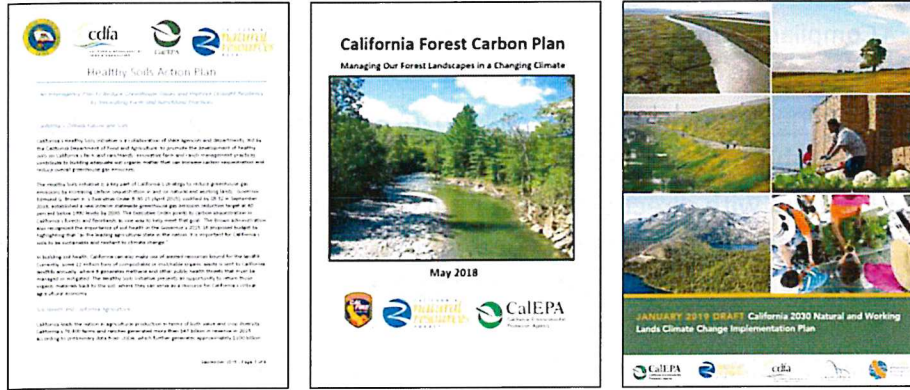
5. Offset Protocol Development – ACR and CAR are resources to ARB

- American Carbon Registry (ACR)
 - ACR building excel-based tool to estimate emissions of municipal wastewater
- Climate Action Reserve (CAR)
 - CAR launching development of the Soil Enrichment Project Protocol
 - Provide guidance on how to quantify, monitor, report, and verify agricultural practices that enhance carbon storage in soils
 - Soil Organic Carbon Potential Paper
 - Draft protocol to be released in April
 - Public Comment period April – May
 - Protocol to Board
- Next Steps:
 - Reach out to CAR to provide input on the Soil Enrichment Project Protocol upon release of Draft protocol
 - WEF Residuals & Biosolids GHG Subcommittee Climate Finance Task Force



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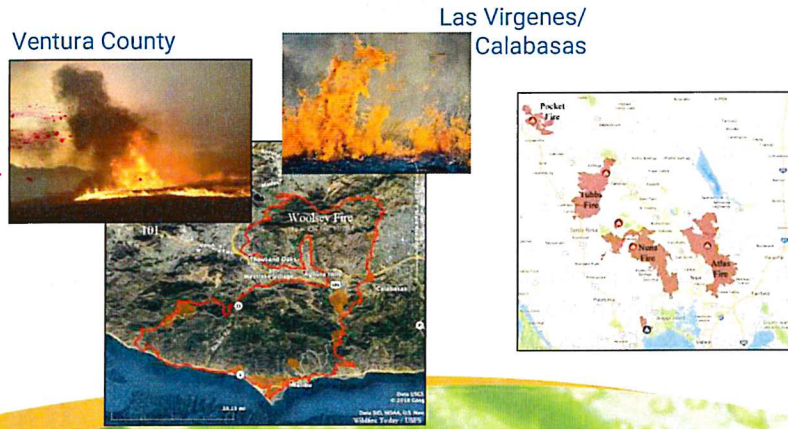
6. Role of Land Management in achieving the 2050 Target for GHG Reductions



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7. Biosolids and Fire Reclamation Efforts

- Received \$82,500 from agency contributions
- Working to get funding from legislature - \$200k
- Site secured in Las Virgenes/Calabasas (Phase 1) for Class B, Class A compost, & Class A dried pellets for land application
- Looking for a site in Bay Area (Phase 2) and back to Colorado (Phase 3)



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8. U.S. Forest Services Wood Innovation Grant



- CASA applied for grant at request of Sierra-NV Conservancy & Governor's Office of Planning & Research
- Two-year grant with U-CO and UC-Merced/Phoenix Energy
- Investigate viability of replacing GAC with biochar (from gasification of dead trees) for pre- and post-treatment odor control
 - Year 1: Perfect activation of biochar (bench to full scale)
 - Year 2: Five agencies to test (SOCWA, VVWRA, Delta Diablo, LACSD & South Tahoe)
- To be complete June 30, 2020

Early results from Delta Diablo:

- Biochar too fine and moist
- H₂S, Siloxanes not removed well



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Upcoming Conferences/Events

- **2020 D.C. Policy Forum**
February 24-26, Washington, D.C.
- **WEF/AWWA Utility Management Conference**
February 25-28, Anaheim
- **Biocycle Connect West 2020**
March 30 – April 1, Sacramento
- **CWEA Annual Conference**
March 31 – April 3, Reno
- **WEF Residuals & Biosolids Conference**
March 31 – April 3, Minneapolis
- **AWWA Sustainable Water Management Conference**
March 29 – April 1, Minneapolis



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Upcoming Meetings

- March 26th
- April 23rd (In-Person)
- May 28th
- June 25th
- July 23rd (In-Person)
- August 27th
- September 24th
- October 22nd
- November 12th (In-Person)
- December 17th

Thanks for Joining!

