Alamo Area

CLIMATE PLAN

Agency Workshop Presentation

Sector-specific Greenhouse Gas Reduction Strategies

Content

- Project Objectives and CPRG Review
- Transportation: Roads, Pedestrian/Biking
- Transportation: Transit, Fleet, and Airports
- Residential Energy
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- Agriculture and Natural Lands
- Solid Waste Management

Key Terms and Definitions

- **GHG:** Greenhouse Gases
- **CPRG:** Climate Pollution Reduction Grant
- **EPA:** Environmental Protection Agency
- **AACP:** Alamo Area Climate Plan
- **PCAP:** Priority Climate Action Plan
- **CCAP:** Comprehensive Climate Action Plan

Project Objectives and CPRG Review

Project Objectives

- US EPA provided $250 million in non-competitive **planning grants** to planning agencies under the Climate Pollution Reduction Grant program
- EPA goals for the program:
  - Reduce harmful climate pollution while supporting the **creation of jobs and lower costs** for people
  - Advance **environmental justice** and empower community-driven solutions in overburdened neighborhoods
  - A focus on **cleaning up air pollution**, a public health threat

The plan is being developed in two phases per EPA grant requirements:

MAR 2024

Priority Climate Action Plan (PCAP)

DEC 2025

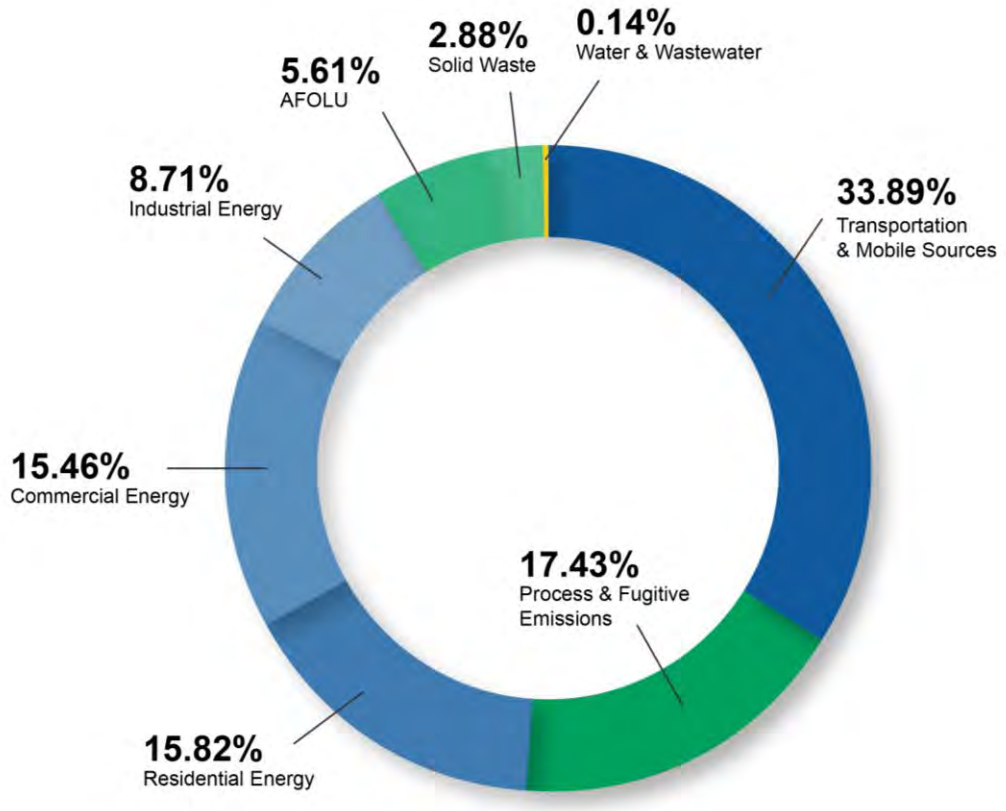
Comprehensive Climate Action Plan (CCAP)

Regional GHG Inventory, 2021 (CCAP)

Largest Emitters by Sector

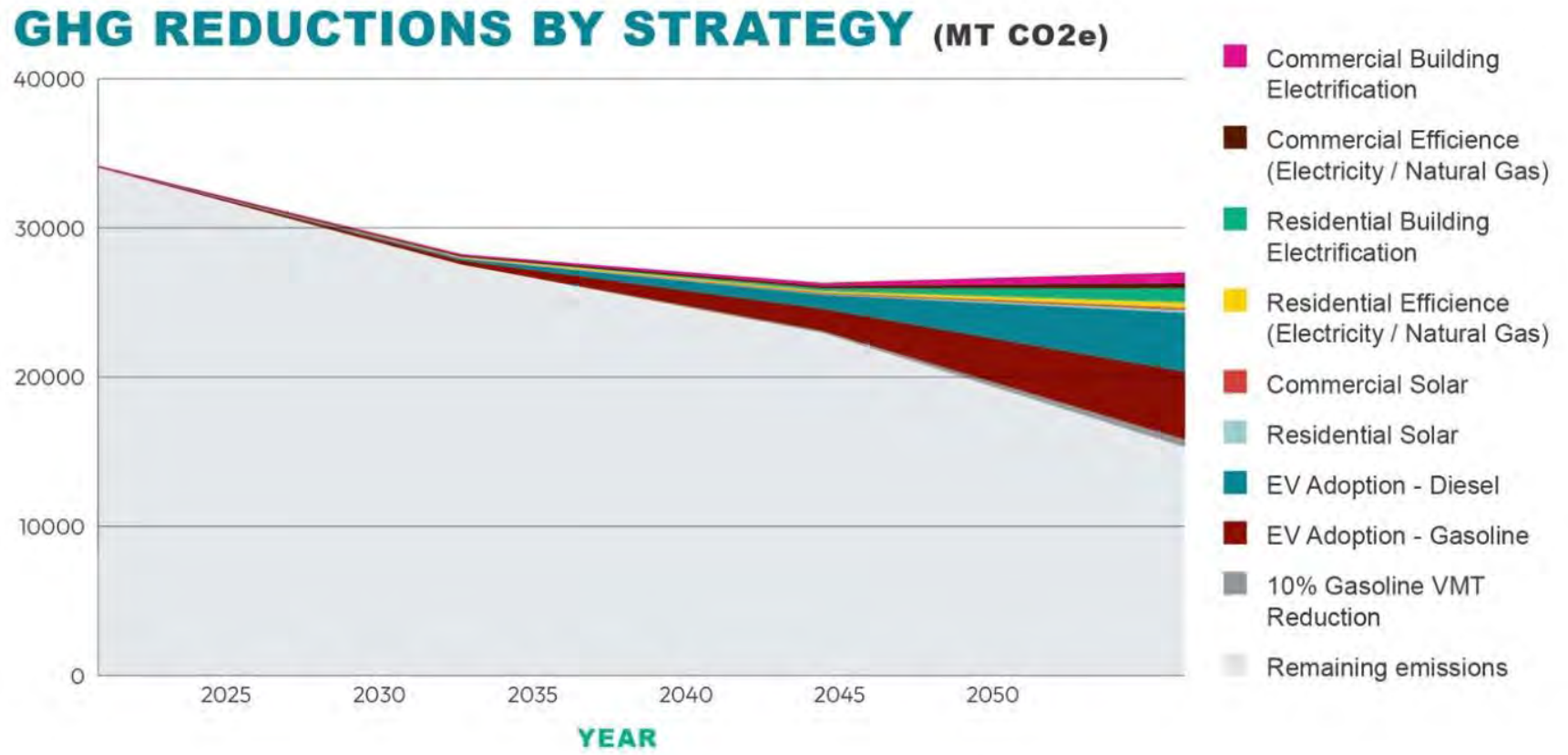
- Transportation & Mobile Sources
- Process & Fugitive
- Residential Energy
- Commercial Energy

Percentage Contribution by Sector



AFOLU: Agriculture, Forestry, and Other Land Use

Forecasted GHG Emissions and Reductions with PCAP Strategies



Alamo Area Climate Plan

Identify measures/ strategies to help meet GHG reduction goals.

1. Identify programs, projects, or policies to reduce GHG emissions
2. Implementation plan with cost, implementation timeline, and authority to implement;
3. Potential funding sources/gaps for each identified short- and long-term strategy.



GHG Reduction Strategies

Transportation: Roads and Pedestrian/Biking

GHG Reduction Strategy

A GHG reduction strategy is an action that reduces GHG emissions in a specific sector. A strategy has a target, implementation timeline, implementation authority, cost, and funding sources/gaps.

We have determined key strategies based on EPA guidance, existing regional plans, and subject matter experts' input.



How can we think about prioritizing strategies?

- Cost-effectiveness
- Co-benefits
- Ease of implementation
- Community acceptance
- Technological readiness
- Scalability
- Regulations
- Funding

Note: Think about personal vs community responsibilities!!



Roadways- Reduction Strategies

1. Reduce Vehicle Miles Travelled (VMT)
2. Vehicle Electrification/Low-emission Vehicles
3. Reduce Congestion
4. Enhance Roadway Canopy
5. Enhance Multi-modal Transport
6. Land-use planning and development

1. Reduce Gasoline Vehicle Miles Travelled (VMT)



Improving first-last mile connections

- Expand micro-mobility options (for example, bike-sharing programs)
- Partner with ride-sharing companies



Increasing transit ridership

- Expand and improve services
- Invest in high-quality transit
- Transit-oriented development



Carpooling and ridesharing

- Support rideshare programs
- Dedicated carpool lanes

2. Increase Vehicle Electrification/ Low-emission Vehicles

- Infrastructure development for electric and low-emission vehicles
- Financial support and incentives
- Awareness and public outreach
- Workforce training programs



3. Reduce Congestion

- Adopt smart traffic management
- Optimizing existing road network
- Promote flexible/ remote work
- Improve public transportation



3. Reduce Congestion

- Carpooling/ ridesharing
- Congestion pricing
- Promote active transportation



4. Enhance Roadway Canopy

- Strategic tree planting
- Green infrastructure incorporation
- Public-private partnerships



4. Enhance Roadway Canopy

- Irrigation and health monitoring
- Education and Advocacy
- Dedicated funding programs



5. Enhance Multi-modal Transport

- Dedicated bike lanes and paths
- Pedestrian-friendly design
- Integrated transit hubs
- Promote transit-oriented development
- Community engagement and awareness programs



6. Land-use planning and development

- Promote mixed-use development
- Increase accessibility to public transport
- Protect key areas from development
- Integrate nature-based solutions



Biking Improvements

- Expand bike lanes
- Dedicated bike lanes
- Bike-sharing programs
- Increase connectivity and accessibility
- Secure bike parking infrastructure
- Safety and education



Pedestrian-friendly Development



Pedestrian-friendly infrastructure development

- Pedestrian-only zones
- Safe and continuous sidewalks
- Crosswalks and pedestrian signals
- Network connectivity
- Lighting and security
- Awareness and promotions



Green-ways and Trails

- Green corridors
- Awareness and promotions
- Community engagement

GHG Reduction Strategies

Transportation: Transit, Fleets, and Airports

Transit- Reduction Strategies

1. Electric/low-emission vehicles
2. Transit-oriented development
3. Renewable energy for transit facilities
4. First/last mile solutions
5. Expand and improve transit services

City/County Fleet-Reduction Strategies

- City/county fleet electrification
- Use of alternative fuels (CNG/bio-diesel/hydrogen)
- K-12 school bus electrification
- Enhance fleet management
- Renewable energy powered facilities



Airports- Reduction Strategies

- Airport accreditation
- Transition ground support equipment (GSE) to electric/hybrid and implement more charging infrastructure to support the transition
- Renewable energy powered airports
- Support drop-in of sustainable fuels
- Access via public transportation



GHG Reduction Strategies

Residential Energy

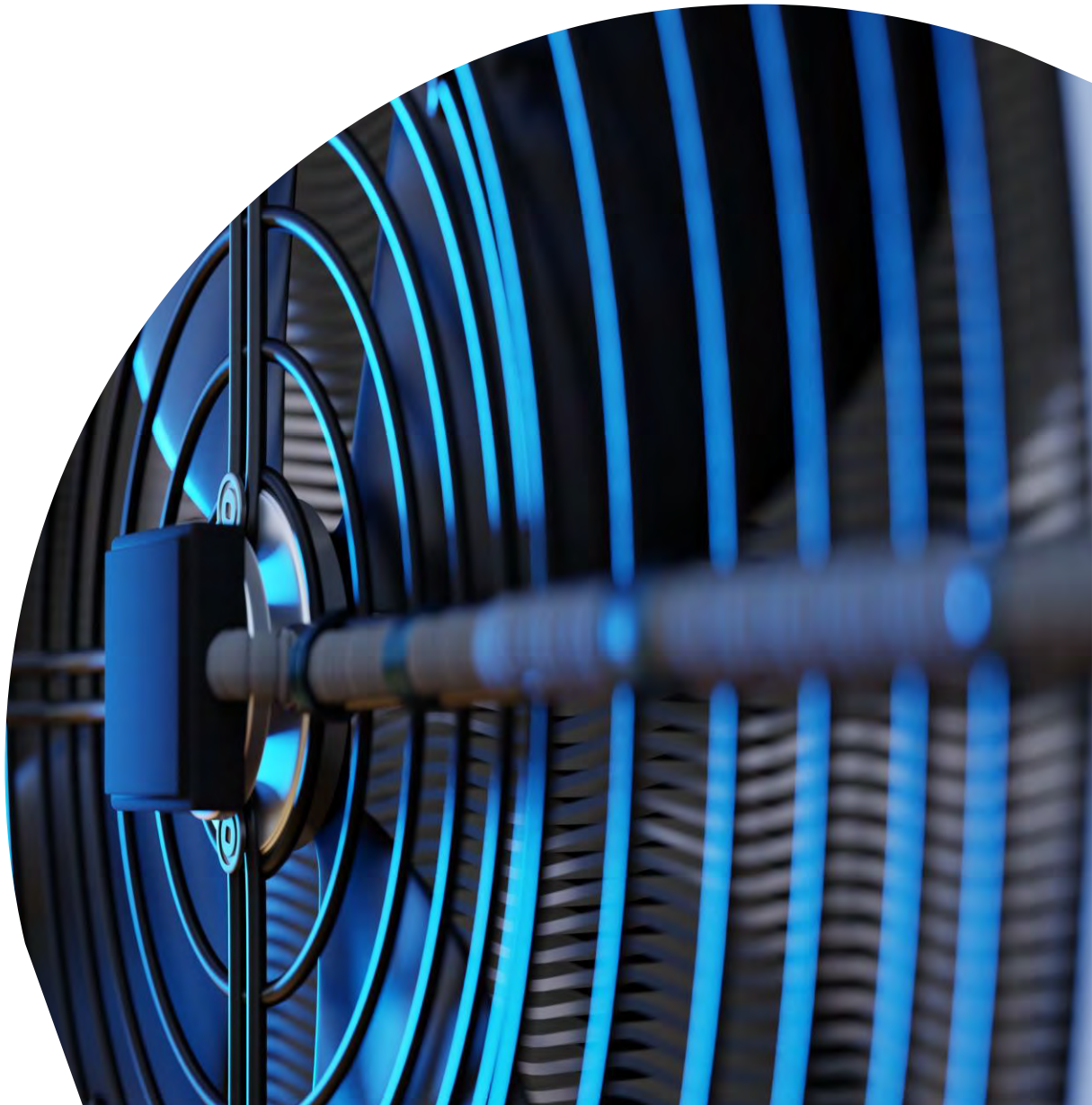
Residential Energy- Strategies

- Residential energy efficiency
- Residential building enclosure upgrades
- Updating building codes for energy-efficient development
- Electrification of natural gas-based HVAC system
- Residential On-site renewable energy



1. Residential Energy Efficiency

- Rebates and tax incentives for energy efficiency initiatives (energy-efficient appliances, upgrade insulation, etc.)
- Update building codes and standards
- Smart thermostats
- Energy-efficient HVAC and heat pumps
- Update appliance and equipment standards
- LED lighting



2. Residential building enclosure upgrades

- Financial incentives
- Updating building standards and codes
- Awareness and education
- Technological development
- Window, door, and skylight replacement



3. Updating building codes for energy-efficient development

- Set higher energy efficiency standards for new buildings
- Enhance insulation and envelope requirements
- Advanced energy efficiency requirements for commercial buildings
- Smart lighting requirements for commercial buildings
- Integrate natural lighting and ventilation
- Mandate high-efficiency water heating systems and heat recovery systems for commercial buildings



4. Electrification of natural gas-based HVAC systems

- Incentives and financial assistance
- Updating building codes
- Awareness and community outreach



5. Residential On-site Renewable Energy

- Financial incentives
- Simplified permitting
- Partnerships with utilities
- Smart-grid technology adoption
- Encourage community projects
- Update building codes and standards



GHG Reduction Strategies

Agency-owned Building/ Facilities

Reduction Strategies for Agency-owned Facilities

- On-site renewable energy
- Energy efficiency
- Building enclosure upgrades
- Electrification of natural gas-based HVAC system



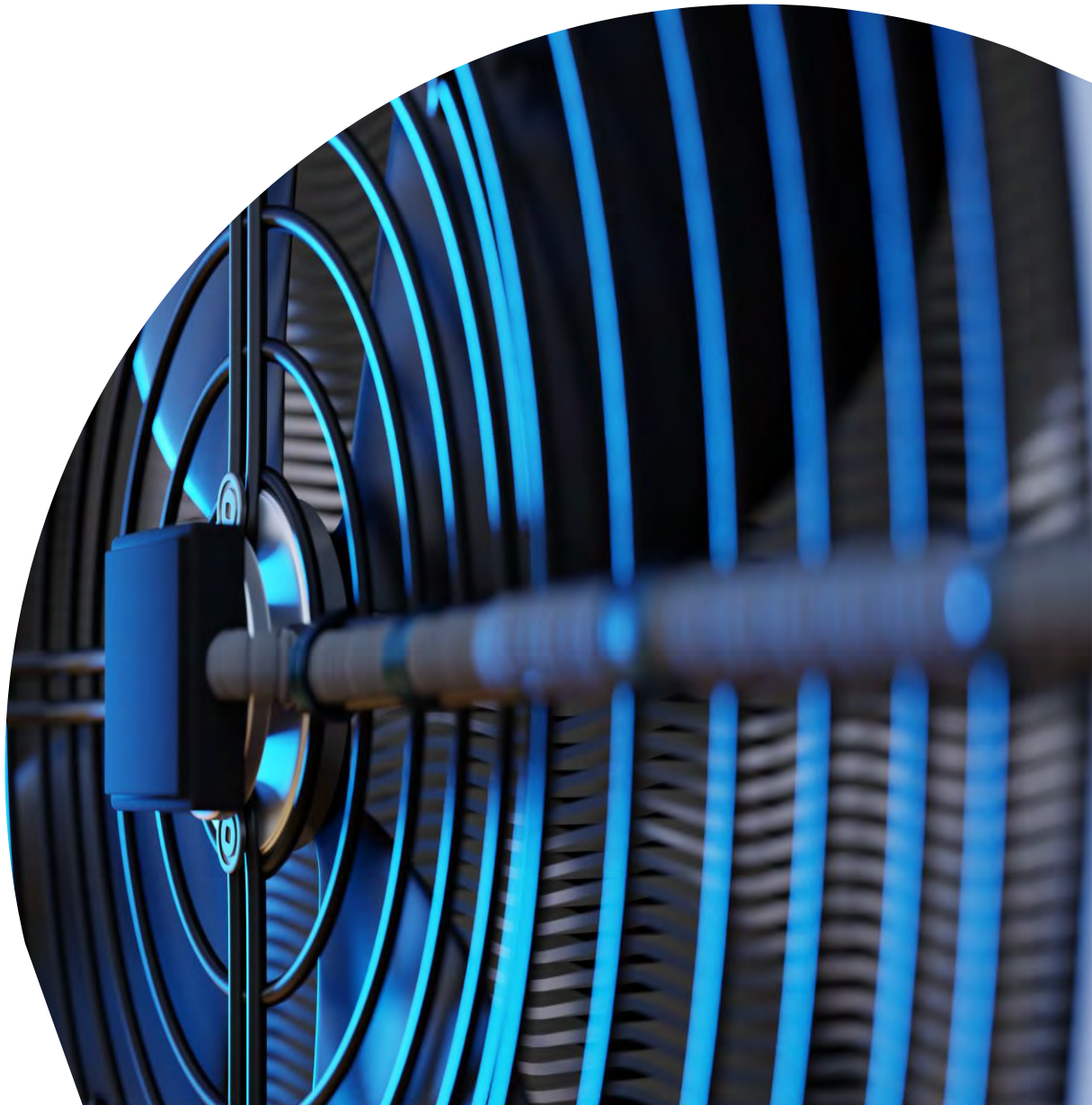
1. Renewable Energy

- Solar PV on agency-owned buildings
- Partnerships with utilities
- Smart-grid technology adoption
- Public-private partnerships



2. Energy Efficiency

- Pursue energy-efficiency certification programs
- High-efficiency AC retrofits
- Smart thermostats
- LED lighting
- Update procurement requirements for energy-efficient equipment



3. Building Enclosure Upgrades

- Pursue energy-efficiency certification programs
- Update procurement processes
- Conduct energy audits to identify and reduce hotspots
- Retrofit existing buildings with energy-efficient enclosures
- Enhance natural lighting and ventilation (building pressurization)



4. Electrification of natural gas-based HVAC systems

- Updating facility building codes
- Updating procurement requirements
- Partnering with suppliers/ manufacturers to develop systems for local consumers
- Building regionwide commitments and partnerships



GHG Reduction Strategies

Agriculture and Natural Lands

Reduction Strategies for Natural Lands

1. Forest conservation
2. Increasing parks and recreational areas



1. Forest conservation

- Protect existing forests
- Reforestation and afforestation
- Sustainable harvesting
- Promote agroforestry
- Wetland/grassland preservation and restoration



2. Increasing parks and recreational areas

- Expansion and creation of green spaces
- Natural landscaping and permeable pavements
- Integrated urban planning
- Land-use planning and development
- Community engagement and education



What do you think is the most effective sub-strategy for increasing parks and recreational areas?

a) An expansion and creation of green spaces

b) Natural landscaping and permeable pavements

c) Integrated urban planning

d) Land-use planning and development

Reduction Strategies for Agriculture



Reducing agricultural inputs and waste

- Improving resource efficiency (Precision Agriculture)
- Improved storage and transportation to reduce waste
- Organic waste management (Composting and Anaerobic Digestion)



Increasing soil carbon storage

- Agroforestry practices
- Land restoration projects
- Biochar

Reduction Strategies for Agriculture

Methane reduction from poultry and livestock production systems

- Optimizing feed
- Manure management

Changing consumption habits to reduce per capita footprint

- Encourage plant-based diets
- Increase local food consumption

GHG Reduction Strategies

Solid Waste Management

Solid Waste - Reduction Strategies

- Waste Minimization
- Organics Management
- Construction & Demolition Debris
- Reuse, Recycle, Compost
- Processing Infrastructure



1. Waste Minimization

Sustainable Products and Packaging

- Reduce amount of single-use foodware and to-go containers

Extended Producer Responsibility (EPR)

- Require producer take-back programs

Environmentally Preferred Procurement Programs (EPPP)

- Policies for local government purchasing



2. Organics Management

Food waste prevention

- Education and outreach to schools and businesses

Promote edible food recovery programs

- Support food recovery organizations
- Supported with grant funding

Mandatory organics collection

- Curbside collection of food scraps and compostable paper

Expand organics processing operations

- Composting and/or anaerobic digestion operations



3. Construction & Demolition Debris

New ordinances

- Set minimum diversion standards in construction
- Require waste management plans for new commercial construction
- Deconstruction

Green building

- Promote salvage organizations
- Reduce surplus construction materials
- 3D printing

High-Performance Recovery Facilities

- Set minimum recovery requirements



4. Processing Infrastructure

Expand Materials Recovery

- Organics management
- Collection of Hard-To-Recycle (HTR) materials

High-performance recovery facilities

- Material Recycling Facilities (MRF)
- C&D Recovery Facilities

Backend Processing Technology

- Produce energy to operate facility/sell to grid
- Produce biogas to fuel hauler/vehicle fleets

Recycling Market Development

- Feedstock procurement grants for product manufacturers



5. Reuse, Recycle, Compost

Promote Reuse

- Repair workshops/fix-it-clinics

Event Greening

- Require waste management plans for live events and festivals

Reduce disposal of compostable materials in landfills

- Backyard composting workshops



Do you have existing programs/projects?

Next Steps

- **Upload relevant documents** on existing plans for GHG reduction to the link that will be shared in the post-workshop email
- Think about GHG **reduction target**s for your relevant sector/sub-sectors
- We will develop reduction strategies/measures based on the input you provide
- The **second workshop** to discuss the reduction strategies will be conducted in the Spring 2025
- Submit AACP to EPA before Dec 2025

Thank You!

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