SANTA ROSA FORWARD

Plan Our Future Together

SANTA ROSA GENERAL PLAN 2050 | GHG REDUCTION STRATEGY

Climate Action Subcommittee

November 1, 2023

Agenda

- Santa Rosa General Plan 2050 and GHG Reduction Strategy Overview
- 2019 GHG Emissions Inventory and Forecasts Results
- State and City GHG Emission Reduction Targets
- GHG Reduction Strategy Format and Proposed Sustainability Measures
- Need for Additional Analysis
- Updated Timeline and Next Steps
- Discussion

Santa Rosa General Plan 2050

- Provides an opportunity to rethink planning policies and programs to achieve the community's vision for the future
- Plans for growth that minimizes adverse impacts of **climate change and increases community resilience** with a **qualified GHG Reduction Strategy**

What is a GHG Reduction Strategy?

- A strategic plan to reduce Santa Rosa's greenhouse gas (GHG) emissions. Includes:
  - Inventory and forecast of GHG emissions in city boundary and planning area
  - Targets for future GHG emissions
  - Strategies to reduce GHG emissions
  - An implementation plan

- GHG Reduction Strategy updates and replaces City's 2012 Community-Wide Climate Action Plan
- Expands on goals and policies in the General Plan

GHG Inventory and Forecasts

What is a GHG Inventory?

- A GHG inventory identifies and estimates the community's annual GHG emissions from community-wide sources and activities, such as energy use, vehicles, water use, and solid waste
- GHG inventories provide insights into major activities and sources of emissions in a community as well as an understanding of how they change over time
- The GHG Reduction Strategy includes an updated inventory for 2007 and a new inventory for 2019 (to avoid impacts from COVID)

Inventory Sectors

Transportation
On-road vehicles and SMART train

Off-road equipment
Non-transportation equipment

Agriculture
Fertilizer use

Energy
Residential and nonresidential electricity and natural gas

Solid waste
Garbage from residents and businesses

Water and wastewater
Processing and distribution of water and wastewater

Land use and sequestration
Land development and carbon storage in plants and soils

- Informational sources include stationary sources and wildfires/controlled burns

2019 GHG Inventory Results (City Boundary)

Sector	2019	2019 Proportion of total
Transportation	507,560	58%
Nonresidential energy	153,140	18%
Residential energy	148,190	17%
Off-road equipment	37,870	4%
Solid waste	32,480	4%
Water and wastewater	5,030	Less than 1%
Agriculture	200	Less than 1%
Land use and sequestration	-11,850	-1%
Total Annual $MTCO_2e$	**872,620**	**100%**

2019 GHG Inventory Results (City Boundary)

- Total emissions fell 27% from 2007 to 2019 for community-wide emissions
- On track to meet 2020 target included in 2012 CCAP
- Significant decreases in emissions from energy due to cleaner energy and increased energy efficiency
- Increased fuel efficiency lowers transportation-related emissions
- Decreases in other sectors likely a result of methodological changes

2019 GHG Inventory Results (Entire Planning Area)

Sector	2019	2019 Proportion of Total
Transportation	540,880	58%
Nonresidential energy	162,330	18%
Residential energy	158,240	17%
Off-road equipment	40,500	4%
Solid waste	34,610	4%
Water and wastewater	5,360	Less than 1%
Agriculture	280	Less than 1%
Land use and sequestration	-13,060	-1%
Total Annual $MTCO_2e$	**928,870**	**100%**

GHG Emissions Business as Usual Forecast (City Limits)

- Overall 20% decline from 2007 levels by 2050
- Emissions declined from 2007 to 2019
- Emissions will rise in future years while remaining below 2007 levels

GHG Emissions Business as Usual Forecast (Planning Area)

- Overall 14% decline from 2007 levels by 2050
- Emissions declined from 2007 to 2019
- Emissions will rise in future years while remaining below 2007 levels

GHG Reduction Targets

State GHG Emissions-Reduction Targets

- Senate Bill (SB) 32, adopted in 2016
  - Reduce statewide GHG emissions to 40 percent below 1990 levels by 2030
- Executive Order B-55-18, adopted in 2018
  - Goal to achieve net carbon neutrality by 2045
- Assembly Bill (AB) 1279, adopted in 2022
  - Codified this goal into law, directing statewide achievement of net zero GHG emissions no later than 2045

City GHG Emissions-Reduction Targets

- The City's Community-Wide Climate Action Plan establishes a target of reducing emissions to 20 percent below 1990 levels by 2020
  - ✓Total emissions fell 27% from 2007 to 2019 for community-wide emissions within City limits
  - ✓On track to meet 2020 target in 2012 CCAP
- City of Santa Rosa Climate Emergency Resolution includes a goal to reach carbon neutrality by 2030

What is Carbon Neutrality?

- Net carbon neutrality refers to the idea of achieving net-zero carbon emissions by balancing those emissions so that they are equal to or less than emissions that are removed from the atmosphere through sequestration or related efforts
- Achieving carbon neutrality requires both significantly reducing community GHG emissions and supporting the ecosystems that sequester carbon

GHG Reduction Strategy

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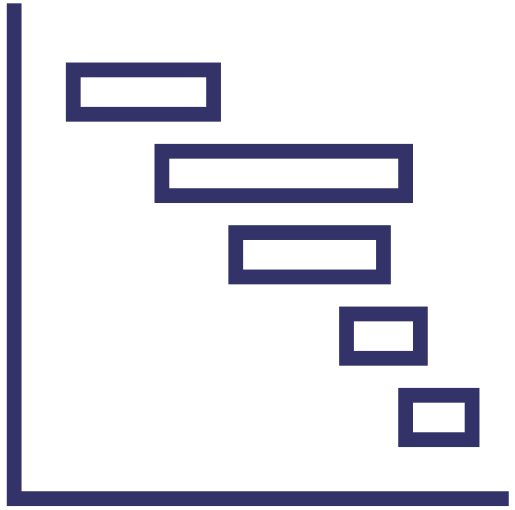
Overall GHG Reduction Strategy Format:

- Objectives
- Sustainability Measures
- GHG Emissions Savings ($MTCO_2e$)
- Implementing Programs
- Performance Indicators
- Implementation Details
  - ✓ **Applicability**
  - ✓ **Type**
  - ✓ **Timeframe of Implementation:**
    - ➢ Short-term
    - ➢ Medium-term
    - ➢ Long-term
  - ✓ **Responsible and Supporting City Departments and Supporting Community Partners**
  - ✓ **Potential Funding Sources**



Proposed Sustainability Measures

- **Developed:**
  - ✓ Using industry best practices
  - ✓ Considering lessons learned through 2012 CCAP implementation
  - ✓ With input and feedback from residents and key stakeholders

- **Designed to:**
  - ✓ Decrease community-wide vehicle miles traveled (VMT) and increase the use of zero-emission vehicles and equipment
  - ✓ Reduce community-wide energy use and transition to carbon-free energy sources
  - ✓ Achieve a zero-waste future for Santa Rosa
  - ✓ Use water efficiently and enhance drought resilience
  - ✓ Enhance sustainable and carbon-free practices community-wide

Proposed Sustainability Measures

- **Measure 1:** Locate and design development to minimize vehicle dependence
- **Measure 2:** Improve the frequency, coverage, and effectiveness of local and regional transit and rail networks
- **Measure 3:** Develop and expand transportation demand management (TDM) programs to reduce VMT and dependence on single-occupancy vehicle trips
- **Measure 4:** Enhance active transportation and micro-mobility systems
- **Measure 5:** Accelerate the adoption of zero-emission light-duty and heavy-duty vehicles

Proposed Sustainability Measures

- **Measure 6:** Transition to zero emission motorized equipment, including construction and landscaping
- **Measure 7:** Reduce community-wide energy use and increase energy efficiency in new and existing buildings, including municipal buildings
- **Measure 8:** Transition to all-electric building energy uses
- **Measure 9:** Increase local renewable energy generation and the use of renewable, carbon free, and distributed energy systems, including energy storage, throughout the City
- **Measure 10**: Reduce the amount of recyclable and compostable material sent to landfills

Proposed Sustainability Measures

- **Measure 11:** Reduce total waste generation
- **Measure 12**: Improve indoor and outdoor water-use efficiency
- **Measure 13**: Expand water catchment and reuse opportunities
- **Measure 14:** Increase local natural carbon sequestration opportunities
- **Measure 15:** Reduce embedded carbon in goods and services used by the City and community members
- **Measure 16:** Maximize opportunities for local food production
- **Measure 17**: Integrate climate action across all City departments and programs

Draft Implementing Programs – Potential Unintended Consequences

Example: Eliminate the use of fossil fuels as an energy source in all new building construction.

Potential issue: Potentially added development costs.

Example: Reduce the use of fossil fuels as an energy source in the existing building stock at the time of building alteration through requirements for all-electric appliances.

***Potential issue*:** Barrier to the rehabilitation of affordable housing and/or construction of attached ADUs?

Draft Implementing Programs – Potential Unintended Consequences

Example: Update the Zoning Code to require new developments in Areas of Change to include on-site and proximal access to goods and services that support daily life, including but not limited to fresh-food stores, recreation, community gathering, and infrastructure that supports active transportation and transit.

Potential issue: Potentially added development costs.

Draft Performance Indicators – Achievable?

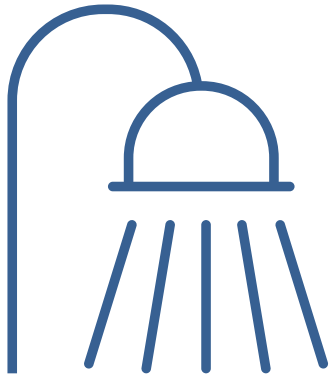
Example: Businesses enrolled in Transportation Demand Management (TDM) programs (there currently aren't any):

- 1,420 by 2030 (~203 per year)
- 2,430 by 2045
- 2,590 by 2050

Example: Some proposed transit-related Performance Indicators are not specific enough and utilize a method of measurement that does not allow for accurate planning and tracking.

Draft Performance Indicators – Achievable?

Example: Convert 10,675 residential water heaters to electric by 2030 = 1,775 per year or five per day. Convert 60,380 residential water heaters to electric by 2045 = 2,875 per year or eight per day.



Example: Generate new recycled water (gallons) 150,000 by 2030 and 250,000 by 2045. The City already recycles 100% of our wastewater and may not see increased wastewater from growth due to water efficiency improvements over time.

Example: 11,860 residential units with graywater systems by 2030 and 31,840 residential units with graywater systems by 2045. Seven added since 2019.

Updated Timeline and Next Steps

- **January 2024** – General Plan 2050 and administrative draft GHG Reduction Strategy comments provided to consultant
- **March 2024** – Revised draft General Plan 2050 and public review GHG Reduction Strategy
- **Spring 2024** –Climate Action Subcommittee review of revised draft General Plan 2050 and GHG Reduction Strategy
- **August 2024** – Public Review Draft EIR
- **August/September 2024** – Planning Commission Review of Draft EIR and GHG Reduction Strategy
- **January 2025** – Receive Final General Plan 2050, EIR and Mitigation, Monitoring, and Reporting Program and Findings of Overriding Consideration
- Adoption hearings – early 2025

Thank you!

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