

# Windsor

Commitments to meeting  
community greenhouse  
gas reduction goals.



## 5.9 Windsor

This section presents the community greenhouse gas (GHG) emissions profile specific to Windsor and the measures that the Town of Windsor will implement, with the support of the RCPA and other regional entities, as part of the regional approach to reducing GHG emissions.

### 5.9.1 Community Summary

The Town of Windsor is a family-oriented community with a diverse population, a robust economy, and strong ties to the surrounding Sonoma County wine country and nearby Russian River recreation areas. Windsor follows the “Smart Growth” model for development that favors a mix of land uses, walkable neighborhoods, compact building design, transportation choices, distinctive architecture, and a strong sense of community. Visitors to Windsor appreciate its small-town character, comfortable and welcoming pace, downhome atmosphere, and quality shopping, restaurants, summer concerts, special events, and public spaces. Windsor residents enjoy excellent educational, recreational, civic, and cultural facilities and services, including the award-winning Town Green, Keiser Community Park, and Foothill Regional Park. The Town values its cultural diversity and promotes opportunities for all residents to share their unique heritage and engage in the life of the community.

Windsor embraces the concept of sustainability and supports efforts to increase the resilience of its residents and businesses in response to the environmental, social, and economic effects of changing climate conditions. The Town promotes energy efficiency and the use of renewable energy and is recognized as a leader in water conservation and the use of recycled water. The Town consistently follows prudent fiscal policies and practices to ensure sufficient resources in times of economic downturn or other challenges. The location and timing of new development in Windsor is carefully managed in order to maximize community benefits and minimize the impact of development on existing infrastructure, public services, and the Town’s fiscal well-being. The Town’s voter-approved Urban Growth Boundary is intended to retain the Town’s small size, manage new growth and development, and maintain its rural surroundings.

### Demographics

Windsor spans 7.3 square miles and has largely residential and commercial land uses. The Town had a population of 26,801 as of the 2010 census. In 2020 the population is expected to be 28,190, an increase of 5% over 2010. Employment in the area is expected to increase by 15%. Windsor’s demographic composition in 2010 was 74% White, 0.8% African American, 2% Native American, 3% Asian, 0.2% Pacific Islander, 15% from other races, and 5% from two or more races. Persons of Hispanic or Latino origin were 32%. According to the 2010 Census data, the Town of Windsor is majority owner-occupied with only 24% of all housing units occupied by renters. This is the lowest percentage of renters in the county. Windsor’s current average household income is the highest in the county, and in terms of age demographics, its population is the youngest.

As shown in Table 5.8-1, the Town is expected to experience steady growth in population, housing, and jobs in the future.

**Table 5.8-1. Windsor Socioeconomic Data**

	Actual			Projected		
	1990	2010	2015	2020	2040	2050
Population	13,371	26,801	27,295	28,190	32,663	34,167
Housing	4,912	8,970	9,418	9,828	11,435	11,949
Employment	4,898	8,963	9,609	10,283	11,280	11,626

Socioeconomic data were derived from the SCTA travel demand model and incorporate input from the Town based on its internal planning forecasts.

### Energy and Water Use

Compared to households in the county as a whole, Windsor households use more electricity, natural gas, and water. This may be due to larger household sizes and a greater percentage of households with children. However, Windsor households use less electricity, natural gas, and water than households statewide.

**Table 5.8-2. Windsor, County, and State 2010 Average Energy and Water Use (per household, per year)**

	Windsor	County	State
Electricity (kWh)	7,145	7,042	9,320
Natural Gas (Therms)	503	413	512
Water Use (Gallons)	86,862	75,810	107,869

Sources:

Town Data: provided by PG&E (energy) and by the Town of Windsor Urban Water Management Plan.

County Data: provided by PG&E (energy) and the cities or their Urban Water Management Plans (water).

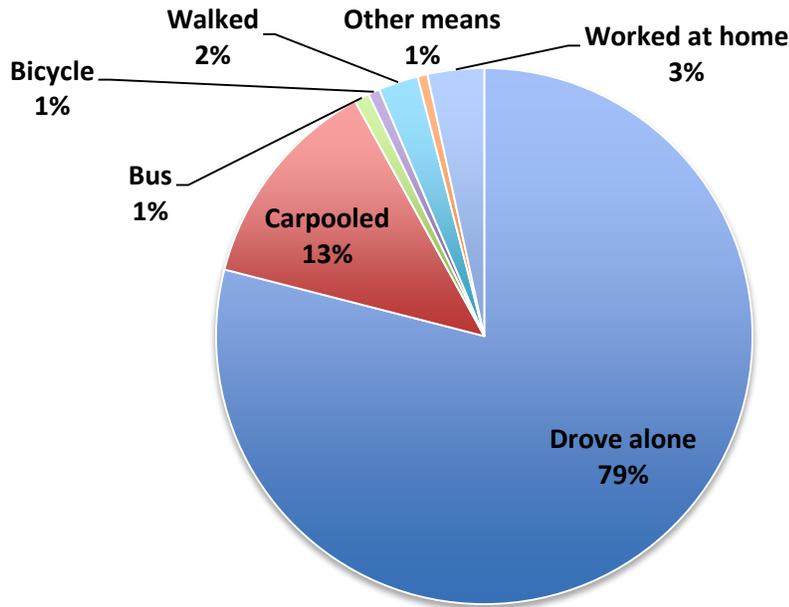
State Data: U.S. Energy Information Administration 2009, U.S. Geological Survey 2014, California Department of Finance 2015.

kWh = kilowatt hours

### Transportation Commute Modes

In inventory year 2010, most Windsor residents (79%) drove alone to work, with 13% carpooling. With the average trip to work for residents of Windsor taking 23.5 minutes and limited bus service, riding a bus is not a viable option for many Windsor residents (U.S. Census Bureau 2014).

**Figure 5.8-1. Modes to Work in Windsor in 2010**



Source: U.S. Census Bureau 2014: American Community Survey 2006–2010

### 5.9.2 Windsor’s Existing Actions to Reduce GHG Emissions

Windsor has already taken a number of steps to reduce energy use, promote renewable energy use, and other actions that have been helping to reduce GHG emissions. The Town has adopted the following ordinances and General Plan policies that also help to reduce GHG emissions and will support the implementation of the formal GHG reduction measures in this CAP.

- Building Energy
  - Residential Retrofits: Energy Upgrade California in Sonoma County – Whole House Upgrade Program.
  - Residential Appliance Upgrades: Windsor Efficiency Pay-As-You-Save (PAYS®) program for water saving retrofit projects and appliances replacement. Also included as an implementation program in the Town’s 2015 General Plan Housing Element.
  - Solar Installations at Residences: Energy Upgrade California in Sonoma County – Whole House Upgrade Program.
  - Energy Conservation Measures – General Plan Policy: Chapter 6 (Energy) - H.1.6. Energy conservation measures such as insulation and weather stripping should be encouraged in existing structures through public education and financial assistance to low- and moderate-income families. General Plan Housing Element Policy 8.3 provides similar encouragement for residential buildings.

- Solar Access – General Plan Policy: Chapter 6 (Energy) – Policy H.1.2. New residential and non-residential development should provide for solar access and encourage the use of solar easements.
- Passive Heating and Cooling – General Plan Policy: Chapter 6 (Energy) – Policy H.1.4. New residential and subdivision developments should be required to consider opportunities for passive heating and cooling.
- CALGreen Building Standards Code: Title VII, Chapter 2, Article 11. Tier 1 measures for residential and non-residential structures adopted as mandatory. General Plan Housing Element Policy 8.1 contains similar policy language and also refers to the Town’s Green Building Ordinance.
- Energy Conservation Promotion – General Plan Policy: Chapter 6 (Air Quality) – Policy G.2.6. Promote energy conservation/efficiency programs.
- Resolution authorizing the Town’s participation in the Sonoma County Energy Independence Program and other PACE financing programs.
- Ordinance No. 2013-279: Authorization of the Implementation of a Community Choice Aggregation Program, Sonoma Clean Power (SCP).
- Land Use and Transportation
  - Bicycle and Pedestrian Master Plan.
  - Urban Growth Boundary – General Plan Policy: Chapter 4 (Community Development Pattern) – Policy B.1. Establish and Urban Growth Boundary with sufficient land to accommodate the Town’s growth for the next 20 years.
  - Transit Oriented Development: The Town adopted the Station Area/Downtown Specific Plan in 2012. The plan increases densities within a 1/4 of the intermodal center.
  - Transit Oriented Development – General Plan Housing Element Policy 8.5. The Town shall encourage residential development in proximity to the Sonoma-Marin Area Rail Transit (SMART) Station, consistent with the Windsor Station/Downtown Specific Plan, to reduce vehicle miles traveled and promote transit ridership.
  - Complete Streets - General Plan: Chapter 4 (Transportation) – Policy D.3.2. The Town shall consider the needs of transit riders, pedestrians, people in wheelchairs, cyclists, and others in long-range planning and street design.
  - Mixed Land Use – General Plan: Chapter 4 (Transportation) - Policy D.5.2. The Town should encourage higher density mixed land uses within walking distances of existing and future transit stops.
  - Land Use and Circulation – General Plan Policy: Chapter 6 (Energy) – Policy H.1.1. The Town should promote land use patterns that reduce operational energy requirements especially for transportation purposes.

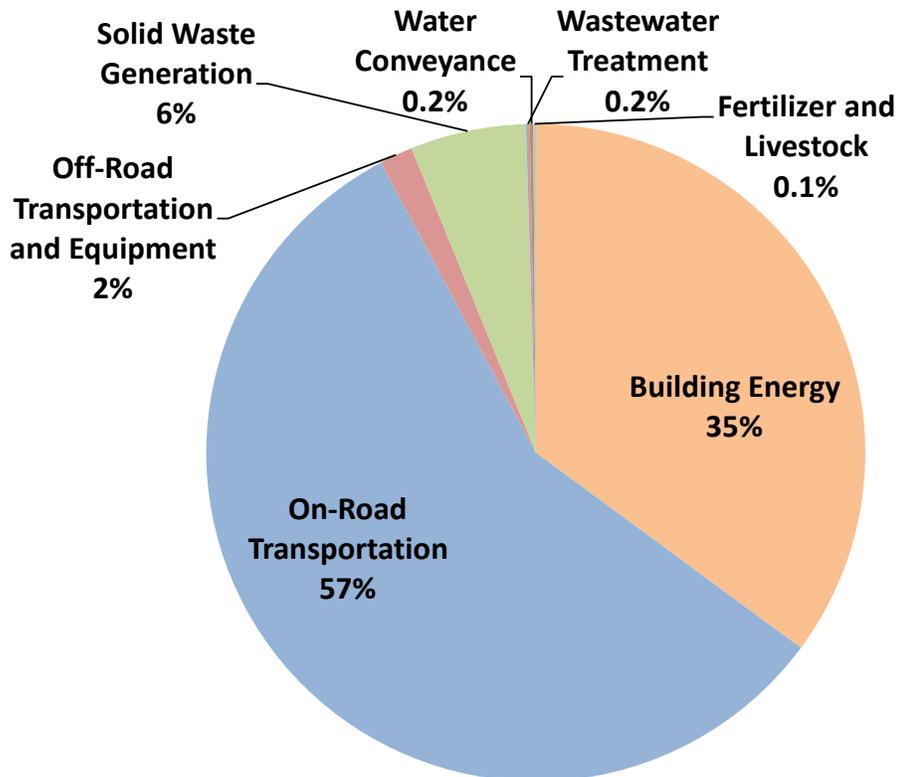
- Housing Element – General Plan Housing Element (Opportunities for Water Conservation) - Policy 8.1. The Town shall establish a development pattern that helps reduce vehicle miles traveled and promotes transit ridership, and pedestrian and bicycle access.
- Increased Transit Infrastructure – General Plan: Chapter 4 (Transportation) - Policy D.5.4. The Town shall require developers to construct, when appropriate, transit facilities including bus turnouts shelters and benches.
- Commitment to Increased Transit Service – General Plan Policy D.5.3. The Town should support expansion of local bus service, and should continue to provide paratransit services to qualified users.
- Carpooling – General Plan Policy: Chapter 6 (Air Quality) – Policy G.2.5. The Town should support and participate in regional carpooling, vanpooling, and other high occupancy vehicle efforts.
- Trip Reduction Ordinance: Municipal Code Title IV – Chapter 4. Employers within the Town with one hundred (100) or more employees at an individual job site shall disseminate trip reduction information regarding transportation alternatives including carpools, vanpools, transit and bicycling and other methods of reducing trips such as telecommuting, compressed work week and flexible work hours annually to each employee and to all new employees as they are hired.
- Energy Conservation Development Incentives – General Plan Program: Chapter 6 (Energy) – Implementation Program H.1. The Town shall consider reducing automobile parking area requirements for new developments in exchange for owner-supplied transit, in-lieu fee payments for public transit, vegetation that shades bike routes and parking lots in the summer, and other amenities.
- Installed public electric vehicle (EV) charging stations.
- Green Purchasing – General Plan Program: Chapter 6 – Implementation Program H.6. The Town should purchase energy-efficient automobiles and other equipment.
- Water and Wastewater Efficiency
  - Wastewater Methane Capture: The Town’s ongoing Modernization Study is evaluating a number of aspects of the treatment plant processes, including solids handling, and a review of potential methane capture may be included as part of the Study.
  - Water Fixture Retrofits (Windsor Pay-As-You-Save Program). On-bill water financing and retrofits.
  - Increase Waste Diversion in Municipal Facilities: The minimum required diversion rate in the Exclusive Franchise agreement is 45%. The minimum diversion rates in the Non-exclusive Franchise agreements (C&D debris) is 60% to 65%, depending on the franchisee.
  - Greywater or Recycled Water: The Town has an extensive system of recycled water use, concentrated in the west side of Windsor.

- Water Conservation Techniques – General Plan Policy: Chapter 6 (Water Resources and Quality) – Policy C.1.2. Encourage water conservation through measures such as low-flow and low-flush toilets and showers, drought resistant landscaping, and greywater.
- Water Efficient Landscape Ordinance: Municipal Code Title XII, Chapter 3, Article 9. Creates provisions for the design, construction, installation and maintenance of the landscape resulting in water conserving climate-appropriate landscapes, improved water quality and the minimization of natural resource inputs.
- Conservation of Water Supply: Municipal Code Title XII, Chapter 3, Article 8. Ordinance relates to the suspension of new connections to the Town’s water system, waste of water prohibited, prohibition of non-essential use of water, and conditional use of sprinklers.
- Water Resources and Quality – General Plan: Chapter 6 (Water Resources and Quality) – Policy C.1. Protect and manage the Town’s surface water and groundwater resources to meet the needs of Windsor.
- Agriculture, Urban Forestry and Natural Areas
  - Open Space Preservation – General Plan Policy: Chapter 6 (Open Space) – Policy A.1. Preserve open space land for commercial agricultural and productive uses, the protection and use of natural resources, the enjoyment of scenic beauty and recreation, and protection from natural hazards.
  - Agricultural Perpetuity – General Plan Policy: Chapter 6 (Agricultural Lands) – Policy B.1.1. The Town shall encourage the County to preserve agricultural activities on state-designated important farmlands and on prime soils outside the Urban Growth Boundary in recognition that prime agricultural land (defined as Class I and II soils by the U.S. Soil Conservation Service) is an irreplaceable natural resource. Town’s Zoning Ordinance (Chapter 27.24: Agricultural Preservation) requires agricultural buffers.
  - Legal Mechanisms for Open Space Protection – General Plan Policy: Chapter 6 (Open Space) – Policy A.1.7. Employ actions such as land acquisition, conservation easements, dedications and property owner/developer exactions, and impact mitigations to protect open space.
  - Resource Preservation – General Plan Policy: Chapter 6 (Open Space) – Policy A.1.2. Encourage the preservation of oak woodlands, productive farmlands, riparian corridors, and visually prominent hillsides and ridgelines.
  - Clustering Development – General Plan: Chapter 6 (Open Space) Policy A.1.2: The Town shall encourage the preservation of sensitive environmental resource areas, such as oak woodlands, productive farmlands, riparian (creekside) corridors, and visually prominent hillsides and ridgelines through measures such as clustering development and conservation easements. Town’s Zoning Ordinance (Section 27.20.040: Creekside Development) requires setbacks and regulates development along creeks.

- Trees – General Plan Program: Chapter 6 (Biological Resources) – Implementation Program D.3. Develop regulations to define and protect oaks and heritage trees to be incorporated into the existing regulations. The Town has adopted Zoning Ordinance Chapter 27.36: Tree Preservation and Protection to implement this policy.

### 5.9.3 Greenhouse Gas Inventory and Forecast

**Figure 5.8-2. Windsor 2010 Community GHG Inventory by Sector**



Windsor’s inventory is similar to other cities in the county and state. The majority of the GHG emissions are from the transportation sector due to fossil fuel combustion in personal and light-duty vehicles. The next largest sector is building energy, which includes emissions related to energy used to heat the homes and business in Windsor. Residential uses account for most (69%) of the building energy emissions in Windsor. Commercial uses account for 31% of building energy emissions. The other categories of emissions are much smaller in comparison to building energy and on-road transportation.

Total GHG emissions generated by community activities in 2010 were 157,830 MTCO<sub>2</sub>e, which is approximately 6% of countywide GHG emissions in the same year. This is a 19% increase from estimated 1990 emissions, which were 133,000 MTCO<sub>2</sub>e. This is due to the socioeconomic growth experienced in the Town. Between 1990 and 2010, the Town experienced substantial growth. Population in the Town doubled, and the number of houses and jobs nearly doubled. Table 5.8-3

shows the 1990 backcast, the 2010 inventory and business-as-usual (BAU) forecasts for 2015, 2020, 2040 and 2050 for the Town of Windsor.

**Table 5.8-3. Windsor Community GHG Backcast, Inventory, and BAU Forecasts**

<b>Sector</b>	<b>1990 Backcast</b>		<b>2010 Inventory</b>		<b>2015 Forecast</b>		<b>2020 Forecast</b>		<b>2040 Forecast</b>		<b>2050 Forecast</b>	
Building Energy	34,600	26%	55,500	35%	61,450	34%	64,640	34%	73,760	35%	76,740	35%
On-Road Transportation	77,700	58%	90,210	57%	103,730	58%	109,250	58%	119,140	56%	119,910	55%
Off-Road Transportation and Equipment	1,400	1%	2,580	2%	3,060	2%	3,660	2%	7,100	3%	7,380	3%
Solid Waste Generation	17,150	13%	8,980	6%	9,330	5%	9,780	5%	11,080	5%	11,520	5%
Wastewater Treatment	150	0%	290	0.2%	300	0%	310	0%	360	0%	370	0%
Water Conveyance	1,990	1%	260	0.2%	440	0%	470	0%	570	0%	590	0%
<b>Total</b>	<b>133,000</b>	<b>100%</b>	<b>157,830</b>	<b>100%</b>	<b>178,300</b>	<b>100%</b>	<b>188,120</b>	<b>100%</b>	<b>212,010</b>	<b>100%</b>	<b>216,520</b>	<b>100%</b>
<b>Per-Capita Emissions</b>	<b>9.9</b>		<b>5.9</b>		<b>6.5</b>		<b>6.7</b>		<b>6.5</b>		<b>6.3</b>	

#### 5.9.4 Greenhouse Gas Reduction Goal and Measures

The Town of Windsor joins the other Sonoma County communities to support the regional GHG emissions reduction target of 25% below 1990 countywide emissions by 2020 through adoption of 24 local GHG reduction measures. The Town’s GHG emissions under 2020 BAU conditions (in absence of state, regional, and local reduction measures) would be approximately 188,120 MTCO<sub>2</sub>e. The Town’s local GHG reduction measures, in combination with state and regional measures, would reduce the Town’s GHG emissions in 2020 to 127,350 MTCO<sub>2</sub>e, which would be a reduction of approximately 32% compared to 2020 BAU conditions. The Town will achieve these reductions through reduction measures that are technologically feasible and cost-effective per AB 32 through a combination of state (66%), regional (26%), and local (9%) efforts. With the reduction measures in CA2020, per-capita emissions in Windsor will be 4.5 MTCO<sub>2</sub>e per person, a 55% reduction in per capita emissions compared to 1990.

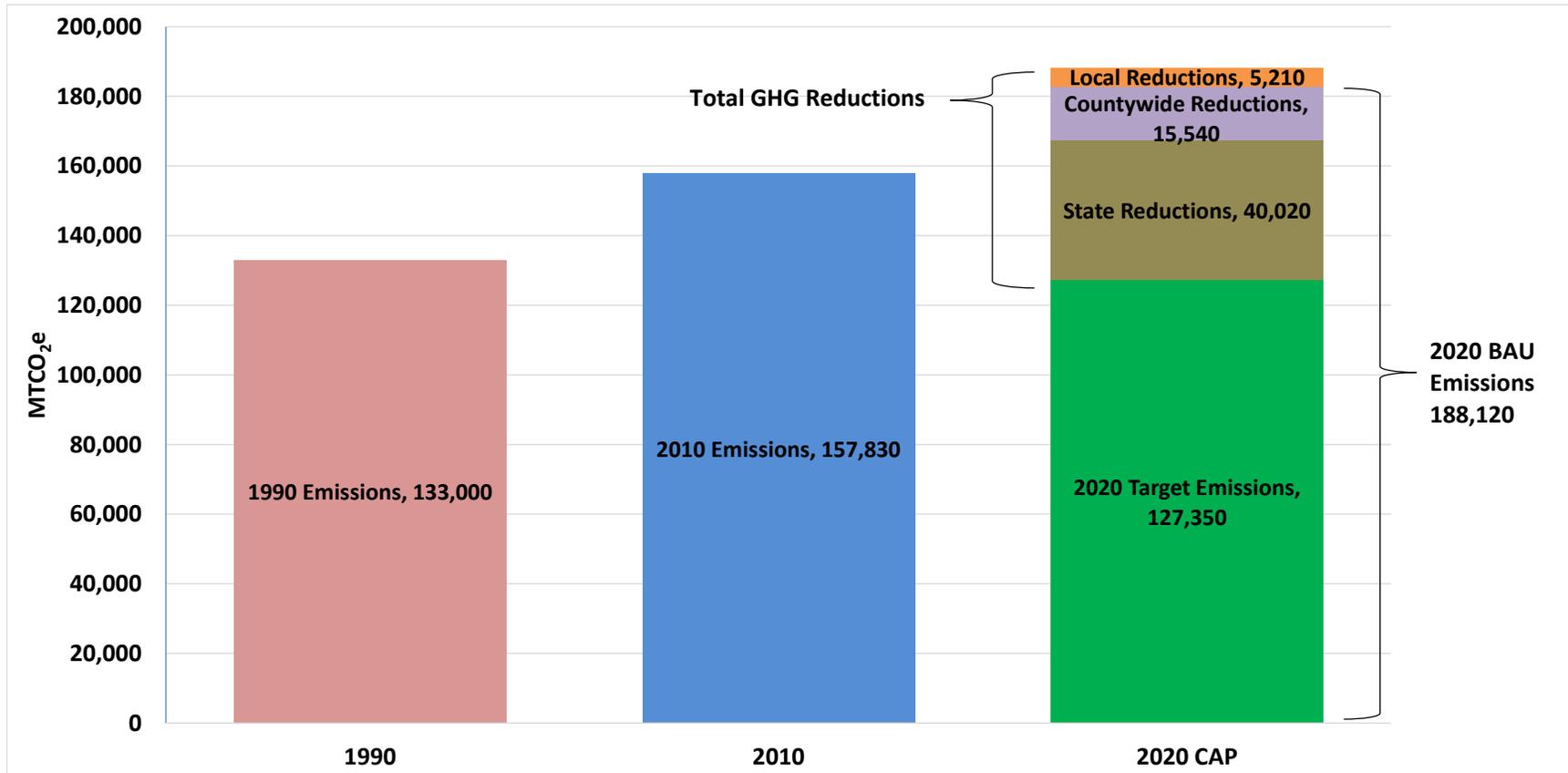
**Table 5.8-4. Windsor 2020 BAU GHG Emissions Reductions by Sector**

Sector	2020 BAU Forecast	Reductions			Total	2020 CAP Emissions	% Reduction from BAU
		State	County-wide	Local			
Building Energy	64,640	14,160	4,340	4,690	23,190	41,450	36%
On-Road Transportation	109,250	25,530	2,950	430	28,910	80,340	26%
Off-Road Transportation and Equipment	3,660	320	-	30	350	3,310	10%
Solid Waste Generation	9,780	-	7,810	-	7,810	1,970	80%
Water Conveyance	470	-	450	-	450	20	96%
Wastewater Treatment	310	-	-	60	60	250	19%
<b>Total Emissions</b>	<b>188,120</b>	<b>40,020</b>	<b>15,540</b>	<b>5,210</b>	<b>60,770</b>	<b>127,350</b>	<b>32%</b>
		<b>66%</b>	<b>26%</b>	<b>9%</b>			

Values may not sum due to rounding.

Figure 5.8-3 shows Windsor’s 1990 and 2010 GHG emissions total, 2020 BAU emissions forecast total, and the total emissions remaining after implementation of the Town’s reduction measures. The contribution of state, regional, and local reductions are overlaid on the 2020 BAU emissions forecast total, representing the total emissions reductions achieved in 2020. Like the other communities, Windsor benefits greatly from the work the state and regional entities are committed to implementing on climate action. See Chapter 3 for more information on state and regional actions.

**Figure 5.8-3. Windsor 1990, 2010, and 2020 GHG Emissions; 2020 State, Regional, and Local Reductions**



## Greenhouse Gas Reduction Measures by Sector

As shown in Table 5.8-5, the Town of Windsor will achieve its reduction goal through a combination of state, regional, and local measures. State reduction measures are implemented through state law, including some that require action by the Town to comply with state mandates (e.g., Title 24 energy efficiency measures). State measure reductions total 40,020 MTCO<sub>2</sub>e, which include the Pavley vehicle fuel efficiency standards, Title 24 building standards, the state's low carbon fuel standard, and the RPS, which will reduce GHG emissions in Windsor's on-road, off-road, and building energy sectors in 2020.

Regional measures will reduce emissions by 15,540 MTCO<sub>2</sub>e and will be implemented by regional entities, including the Regional Climate Protection Authority (RCPA), Sonoma County Water Agency (SCWA), County of Sonoma Energy Independence Office (ESD), Sonoma County Transportation Authority (SCTA), and Sonoma Clean Power (SCP).

An additional reduction of 5,210 MTCO<sub>2</sub>e will be achieved through local measures. The locally adopted measures, although not as high-achieving of GHG reductions as the state and regional measures, are important because they represent the actions that local communities can take directly. The communities have local control over their infrastructure and policies and have selected the local measures that best suit the needs of their community.

The three measures that will have the greatest impact in Windsor are, in order of importance, Measure 2-L4 (Solar in Existing Non-Residential Buildings), Measure 2-L2 (Solar in Existing Residential Buildings), and Measure 11-L1 (Senate Bill SB X7-7 - Water Conservation Act of 2009). These three measures, in addition to reducing GHG emissions, will provide co-benefits that save energy, reduce utility costs, improve air quality and public health in the region, and conserve water and other natural resources. As the county and state continue to experience a historic drought, water conservation will remain an especially important co-benefit.

On the state level, the RPS and the Pavley measures have the greatest potential to reduce emissions in the Town. Of the regional measures, the measures with the greatest impact include the Community Choice Aggregation (CCA) measure, the waste-to-energy measure, and the waste diversion measure.

Table 5.8-5 presents the individual GHG reduction measures that Windsor has selected for the CAP. For more information on the specifics of each measure, see Appendix C.

### Windsor High School Sustainability

Windsor High School has become a model of sustainability, with significant help from the Town. The high school practices aggressive recycling, water conservation, energy efficiency, and uses alternative fuels in school buses. The Town has helped and encouraged the high school to adopt these practices by offering free waste disposal in exchange for the school strongly emphasizing recycling to students, and by providing recycled water at no cost to the school for landscape irrigation and toilet flushing.

**Table 5.8-5. Windsor 2020 GHG Emissions Reductions by Measure**

✓ = Local Measure (otherwise State or Regional)	
<b>Goal 1: Increase Building Energy Efficiency</b>	
Measure 1-S1: Title 24 Standards for Commercial and Residential Buildings	1,086
Measure 1-S2: Lighting Efficiency and Toxics Reduction Act (AB 1109)	1,357
Measure 1-S3: Industrial Boiler Efficiency	NA
Measure 1-R1: Community Energy Efficiency Retrofits for Existing Buildings	347
Measure 1-R2: Expand the Community Energy Efficiency Retrofits Program	909
Measure 1-L1: Expand the Green Building Ordinance Energy Code ✓	80
Measure 1-L2: Outdoor Lighting ✓	68
Measure 1-L3: Shade Tree Planting ✓	5
<b>Goal 2: Increase Renewable Energy Use</b>	<b>17,443</b>
Measure 2-S1: Renewables Portfolio Standard	11,656
Measure 2-S2: Solar Water Heaters	64
Measure 2-R1: Community Choice Aggregation	3,008
Measure 2-L1: Solar in New Residential Development ✓	37
Measure 2-L2: Solar in Existing Residential Building ✓	868
Measure 2-L3: Solar in New Non-Residential Developments ✓	13
Measure 2-L4: Solar in Existing Non-Residential Buildings ✓	1,798
<b>Goal 3: Switch Equipment from Fossil Fuel to Electricity</b>	<b>541</b>
Measure 3-L1: Convert to Electric Water Heating ✓	541
<b>Goal 4: Reduce Travel Demand Through Focused Growth</b>	<b>311</b>
Measure 4-L1: Mixed-Use Development in City Centers and Along Transit Corridors ✓	282
Measure 4-L2: Increase Transit Accessibility ✓	23
Measure 4-L3: Supporting Land Use Measures ✓	NQ
Measure 4-L4: Affordable Housing Linked to Transit ✓	6
<b>Goal 5: Encourage a Shift Toward Low-Carbon Transportation Options</b>	<b>2,242</b>
Measure 5-R1: Improve and Increase Transit Service	19
Measure 5-R2: Supporting Transit Measures	NQ
Measure 5-R3: Sonoma-Marín Area Rail Transit	NQ
Measure 5-R4: Trip Reduction Ordinance	412

✓ = Local Measure (otherwise State or Regional)	2020 GHG Reductions
Measure 5-R5: Supporting Measures for the Transportation Demand Management Program	NQ
Measure 5-R6: Reduced Transit Passes	381
Measure 5-R7: Alternative Travel Marketing & Optimize Online Service	305
Measure 5-R8: Safe Routes to School	1,041
Measure 5-R9: Car-sharing Program	NQ
Measure 5-R10: Bike Sharing Program	NQ
Measure 5-L3: Guaranteed Ride Home ✓	NQ
Measure 5-L4: Supporting Bicycle/Pedestrian Measures ✓	NQ
Measure 5-L5: Traffic Calming ✓	83
Measure 5-L7: Supporting Parking Policy Measures ✓	NQ
<b>Goal 6: Increase Vehicle and Equipment Fuel Efficiency</b>	<b>25,532</b>
Measure 6-S1: Pavley Emissions Standards for Passenger Vehicles and the Low Carbon Fuel Standard	23,793
Measure 6-S2: Advanced Clean Cars	756
Measure 6-S3: Assembly Bill 32 Vehicle Efficiency Measures	982
<b>Goal 7: Encourage a Shift Toward Low-Carbon Fuels in Vehicles and Equipment</b>	<b>1,174</b>
Measure 7-S1: Low Carbon Fuel Standard: Off-Road	324
Measure 7-R1: Shift Sonoma County (Electric Vehicles)	787
Measure 7-L1: Electric Vehicle Charging Station Program ✓	31
Measure 7-L2: Electrify Construction Equipment ✓	32
Measure 7-L3: Reduce Fossil Fuel Use in Equipment through Efficiency or Fuel Switching ✓	NQ
<b>Goal 9: Increase Solid Waste Diversion</b>	<b>2,893</b>
Measure 9-R1: Waste Diversion Goal	2,893
Measure 9-L1: Create Construction and Demolition Reuse and Recycling Ordinance ✓	<1
<b>Goal 10: Increase Capture and Use of Methane from Landfills</b>	<b>4,935</b>
Measure 10-R1: Increase Landfill Methane Capture and Use for Energy	4,935
<b>Goal 11: Reduce Water Consumption</b>	<b>1,341</b>
Measure 11-R1: Countywide Water Conservation Support and Incentives	NQ
Measure 11-L1: Senate Bill SB X7-7 - Water Conservation Act of 2009* ✓	805
Measure 11-L2: Water Conservation for New Construction* ✓	42
Measure 11-L3: Water Conservation for Existing Buildings* ✓	494

✓ = Local Measure (otherwise State or Regional)	2020 GHG Reductions
<b>Goal 12: Increase Recycled Water and Greywater Use</b>	<b>10</b>
Measure 12-R1: Recycled Water*	10
<b>Goal 13: Increase Water and Wastewater Infrastructure Efficiency</b>	<b>59</b>
Measure 13-R1: Infrastructure and Water Supply Improvement	1
Measure 13-R2: Wastewater Treatment Equipment Efficiency*	58
<b>Goal 14: Increase Use of Renewable Energy in Water and Wastewater Systems</b>	<b>438</b>
Measure 14-R1: Sonoma County Water Agency Carbon Free Water by 2015	438
<b>Total State Measures</b>	<b>40,020</b>
<b>Total County Measures</b>	<b>15,540</b>
<b>Total Local Measures</b>	<b>5,210</b>
<b>Grand Total Emissions</b>	<b>60,770</b>

\*Measures reduce emissions in multiple sectors (i.e. water and energy)

NQ = not quantified

### 5.9.5 Municipal Greenhouse Gas Reduction Measures

Like the other cities and the county, Windsor has recognized the need to reduce GHG emissions from municipal operations. The Town of Windsor completed an assessment of GHG emissions for municipal facilities in 2003, thereby establishing a baseline for year 2000. The Town Council demonstrated leadership on this issue by adopting a GHG Emission Reduction Action Plan in 2008, documenting a path to a 26.2% reduction in GHG emissions by 2020. Progress toward the Town goal is reviewed by the Town Council every 2 years. The most recent review, in April 2015, showed that the Town is on track to meet and perhaps even exceed its GHG reduction goal. (Gilleran Energy Management, Inc., 2015)

Over the last decade, the Town has implemented a number of energy reduction projects that will also result in GHG reductions. These include lighting upgrades, street lighting conversions to LED, a PV system atop the municipal gymnasium, cool roofs to reflect sunlight to avoid overheating buildings, water supply pump retrofits, and the purchase of energy-efficient vehicles including hybrids. The Town also purchases diesel fuel with 5% biodiesel, reducing emissions from diesel-fueled vehicles. The Town estimates that the combination of all these actions will result in a projected 35% reduction (below 2,000 levels) of GHG emissions from Town-owned and -operated equipment and facilities by 2020.

Although municipal GHG reduction measures are not part of this countywide plan, the efforts of local communities are important and will continue in the future. Descriptions of potential municipal GHG reduction measures are provided in Appendix E as an informational resource.