Town of Windsor
CALIFORNIA

Greenhouse Gas Emissions
Environmental Resources Element

Greenhouse gas emissions contribute to climate change, which can have a local and global effect on weather, air quality, and food production, leading to potentially significant impacts. While other communities in the region generate a greater volume of greenhouse gas emissions and air pollutants, Windsor has a role to play in reducing regional greenhouse gas emissions and air pollutants. The largest source of greenhouse gas emissions in the Town is from transportation, specifically the use of passenger cars and light-duty trucks. Daily vehicle emissions come from traffic on U.S. Highway 101 and the large majority of Windsor residents who commute outside the town for work. The remainder of greenhouse gas emissions is primarily from building energy, which includes emissions related to the energy used to operate, heat, and cool homes and businesses.

The Town of Windsor has demonstrated a commitment to reducing GHG emissions. This General Plan contains GHG reduction targets that align with Assembly Bill 32 (AB 32) and Senate Bill 32 (SB 32), which call for communities in California to reduce emission levels compared to 1990 levels ~~by 2020 (AB 32) and 40 percent below 1990 levels by 2030 (SB 32)~~. In alignment with the Town's goals, which surpassed the minimum reduction target set by AB 32, the Town successfully reduced GHG emissions by 25 percent below 1990 levels by 2020. The Town also continues to encourage smart growth development practices in accordance with Senate Bill 375 (SB 375) to reduce the vehicle miles traveled (VMT) to and from new development, while enhancing the connectivity with alternative modes of travel. The purpose of this section is to provide policies that support local, regional, and State efforts to reduce GHG emissions. Policies in the Public Health and Safety Element address the potential impacts caused by climate change and adaptation policies to encourage resiliency.

- **Goal ER-5:** Greenhouse Gas Emissions. Improve the sustainability and resiliency of Windsor through compliance with local, State, and Federal policies and standards that aim to reduce greenhouse gas (GHG) emissions in the community.

- ER-5.1 Community Greenhouse Gas Reduction. The Town shall strive to reduce emissions by ~~25 percent below the 1990 community emissions level by 2020, and further reduce community emissions by~~:

    - 40 percent below the 1990 level by 2030;
    - 60 percent below the 1990 level by 2040; and
    - 80 percent below the 1990 level by 2050 (New Policy, Town Staff and Consultants)

Progress toward 2030, 2040, and 2050 goals shall be assessed at least every five years through RCPA community inventories or equivalent local GHG emissions tracking.

- ER-5.2 Municipal Services Greenhouse Gas Reduction. The Town shall strive to reduce municipal emissions by ~~26.2 percent below the 2000 municipal emissions level by 2020, and further reduce municipal emissions by~~:

    - 40 percent below the 1990 level by 2030
    - 60 percent below the 1990 level by 2040
    - 80 percent below the 1990 level by 2050 (New Policy, Town Staff and Consultants)

  Progress toward 2030, 2040, and 2050 goals shall be assessed at least every five years through Town municipal GHG emissions inventory reporting.

- ER-5.3 Greenhouse Gas ~~Efficiency~~ Target. The Town shall ensure that all new development projects and Public Works Improvement projects comply with all applicable measures set forth in the Town's CEQA GHG Consistency Checklist, including consistency with the Bay Area Air Quality Management District (BAAQMD) thresholds and project design elements. ~~would result in less than (*) metric tons CO2e per capita (including residents and employees) per year in order to ensure that the emissions targets for the years 2030 and 2050 in ER-5.1 and ER-5.2 would be achieved. *Note: Policy ER-5.3 is a placeholder "emissions threshold" policy that will be used to satisfy 5.1 and 5.2. The actual target will be set once the land use diagram has been confirmed and the associated impacts analyzed.~~

- ER-5.4 Encourage Development Patterns that Reduce Greenhouse Gas Emissions. The Town shall strive to reduce greenhouse gas emissions by encouraging compact, mixed-use, pedestrian/bicycle friendly, transit-oriented development that reduces vehicle miles traveled (VMT); promoting energy efficient building enhancements, construction practices, design, and site planning; improving the job-to-housing ratio; and other methods of reducing greenhouse gas emissions while maintaining a balance of housing types.

- ER-5.5 ~~AB 32 and SB 32~~ Greenhouse Gas Assessment and Monitoring. The Town shall continue to assess and monitor performance of greenhouse gas emissions (GHG) reduction efforts ~~beyond the AB 32 designated 2020 goal~~, including progress towards meeting long-term GHG emissions reduction goals for 2030 (consistent with SB 32) and 2050, as well as the effects of climate change and associated levels of risk, in order to plan a community that is resilient and can adapt to changing climate conditions and its negative impacts.

- ER-5.6 Coordinate with BAAQMD and NSCAPCD. The Town shall coordinate with the Bay Area Air Quality Management District (BAAQMD) and Northern Sonoma County Air Pollution Control District (NSCAPCD) to ensure projects incorporate feasible mitigation measures to reduce GHG emissions and air pollution, if not already provided for through project design.

- ER-5.7 Reduce~~d~~ Mobile Source and Idling Emissions ~~for Town Operations~~. The Town shall promote the reduction of mobile-source and idling emissions throughout the community. For

municipal operations, the Town shall implement programs to support reduced idling, trip reduction, routing for efficiency, carpooling, walking/biking and electric vehicle use ~~for its transportation needs for Town operations.~~ Community-wide idling reduction shall be supported through education and outreach, including public awareness campaigns and coordination with schools to reduce idling in pickup and drop-off areas and/or Town ordinance updates that support the reduction of idling. The Town shall also pursue transportation system efficiency improvements, such as signal timing optimization, adaptive or coordinated signal systems, and other traffic flow enhancements that reduce stop-and-go conditions, vehicle delay, and unnecessary idling.

- ER-5.8 Energy Conservation and Efficiency Programs. The Town shall promote energy conservation/energy efficiency improvement programs for residential and commercial properties such as those offered by Sonoma County Energy Independence Program (SCEIP) and Property Assessed Clean Energy (PACE), that reduce energy demand which contribute to background levels of regional air emissions and GHG emissions.

- ER-5.9 Energy Conservation through Land Use. The Town shall promote the creation of a land use pattern that reduces operational energy requirements, especially for transportation purposes, by:

    a. Avoiding land use configurations and siting decisions that result in single-purpose automobile trips and instead encouraging patterns that result in multi-purpose trips.

    b. Promoting land use patterns that may be easily served by local transit and linked with regional transit.

    c. Promoting land use patterns that provide employment opportunities for Windsor residents.

- ER-5.10 Energy Performance Standards. The Town shall require new construction to meet targeted energy performance standards to advance Town greenhouse gas reduction and other sustainability goals and policies identified in the General Plan. The Town will allow new development to select from a range of options to achieve a minimum energy performance standard, including but not limited to the measures listed below, as well as emerging technologies as they become available:

    - cool roofs;

    - installation of energy efficient appliances and fixtures; ~~and~~

    - installation of EV charging stations in homes and in commercial development to increase the ability for the public to use zero-emission vehicles;

    - passive heating and cooling building design;

    - smart appliances (electric devices that include timers and/or smart meters to support reduced energy consumption);

- solar easements to guarantee access to increased renewable energy generation;
- solar roof and carport panels; and
- wind or water turbine-powered generation~~;~~.
- ~~other emerging technologies as they become available.~~

The Town shall work with affordable housing developers to assist in meeting the energy performance standards.

- ER-5.11 Zero Net Energy Goals. The Town shall strive to implement the State goal of zero net energy (ZNE) in all new residential construction by 2020 and ZNE in all new commercial construction by 2030.

- ER-5.12 Retrofitting Existing Buildings. The Town shall actively encourage the retrofitting of existing buildings throughout Windsor in order to align those buildings more closely with the Town's energy performance standards. As part of this initiative, the Town shall develop a volunteer program to showcase residential retrofit success stories and lessons learned.

- ER-5.13 Update Energy Policies and Programs. At least every five years, ~~T~~the ~~t~~Town shall ~~regularly~~ update and strengthen Town energy-related policies and programs for new and existing construction to reflect advances in technologies and practices.

- ER-5.14 Compliance with Energy Regulations. The Town shall continue to enforce State energy regulations governing energy consumption and use of solar and other renewable energy resources in existing and new development.

- ER-5.15 Title 24 Application. The Town shall require energy conservation standards for new residential construction, commercial construction, and within Town facilities, as contained in Title 24 of the California Code of Regulations, to be periodically reviewed to identify opportunities for adopting standards that more closely respond to local conditions, especially in the area of passive design, to reduce cooling loads.

- ER-5.16 Address Heat Island Effect in Parking Lots. The Town shall require shade mitigation measures, such as the planting of shade trees, using native or climate-forward trees when feasible, and solar shade structures, when applicable, in all new and expanded parking lots to reduce the heat island effect. Climate-forward trees refer to drought-tolerant and heat-adapted species. In addition, the Town shall encourage or require the use of cool pavement materials, such as light-colored paving materials with permeable surfaces that reduce heat and manage rainwater. The Town shall consider updates to the zoning code to enforce this measure.

- ER-5.17 ~~Urban Shade Tree~~ Support Urban Forestry. The Town should expand urban shade tree planting ~~by 500 trees~~ to provide shade in both the public rights-of-way and as part of development proposals, using native or climate-forward trees where feasible. The Town shall pursue outreach, education, and seek grant funding to develop and implement an Urban Forestry Plan.

- ER-5.18 Preservation of Trees. The Town shall require the preservation and/or replacement of trees in parking lots and in the public rights-of-way per development standards.

- ER-5.19 Energy Conservation Measures and Education. The Town shall encourage energy conservation measures, such as insulation and weather-stripping, duct replacement, air sealing, high-efficiency windows and doors, cool roofs, and more, in existing structures through public education; ~~and~~ share financial resource opportunities with Town property owners; and consider establishing financial assistance programs ~~to~~ for low-and moderate-income families.

- ER-5.20 Windsor Serving as the Energy Conservation Model. The Town government shall be in the forefront of energy conservation efforts locally and regionally by undertaking and publicizing energy efficiency and renewable energy resource programs such as Sonoma County Energy Independence Program (SCEIP) and Property Assessed Clean Energy (PACE) and requiring all new Town buildings to be demonstration buildings and models of emerging energy and water technologies.

- ER-5.21 Windsor Municipal Climate Action Plan. The Town shall implement the objectives in the most current version of the Municipal Climate Action Plan.

- ER-5.22 Enhance Biological Carbon Sequestration. The Town shall promote landscape practices that maximize long-term carbon sequestration. When trees must be removed, the Town shall encourage replacement with plant species and landscape designs that offer equal or greater carbon-sequestration potential. Priority shall be given to long-lived, climate-appropriate tree species; native and drought-tolerant species; deep-rooted shrubs, grasses, and groundcovers; and soil restoration efforts.

- ER-5.23 Water Conservation and Recycled Water Use. In an effort to reduce greenhouse gas emissions associated with water conveyance and treatment, the Town shall support and promote reduced potable water use across municipal operations and the community. The Town shall encourage the incorporation of grey water systems and other on-site water reuse strategies in new development and, where feasible, in existing development. The Town shall support the expansion of recycled water availability and use, including storage, distribution, and infrastructure improvements, and promote the beneficial reuse of recycled water for appropriate non-potable uses such as landscape irrigation, street cleaning, and other municipal or commercial applications.

Implementation Program ER-5.

Energy Conservation Performance Standards. The Town shall establish a program of mandatory energy conservation performance standards for all new development to increase energy efficiency and use of renewable resources. The program will include a rating system for determining compliance with the performance standards. The program shall provide a menu of options available for meeting and overall minimum performance for a building or development project. This program shall be updated ~~annually~~ every five years at a minimum.

Implements Policy: ER-5.10, ER-5.11

Responsible Department: Public Works, Community Development Department

Implementation Program ER-6.

Review of Town GHG Emissions Inventory. The Town shall review and update the Town's GHG emissions inventory for communitywide GHG emissions every five years at a minimum.

Implements Policy: ER-5.1

Responsible Department: Town Manager's Office, Public Works, and Community Development Department