

**Otay Ranch Planning Area 12**

**Freeway Commercial North**

# **Non-Renewable Energy Conservation Plan**

**April 2018**



## **A. INTRODUCTION**

The Otay Ranch GDP requires the preparation of a Non-Renewable Energy Conservation Plan to identify feasible methods to reduce the consumption of non-renewable energy sources, including but not limited to, transportation, building design and use, lighting, recycling, alternative energy sources and land use.

Fossil fuels provide the majority of non-renewable energy sources in the San Diego region. These fuels are directly consumed in the form of gasoline, diesel fuel and natural gas, and indirectly consumed as electricity generated from these fuels. The goals, objectives and policies of the GDP provide for the long-range increase in conservation and reduction of consumption of non-renewable energy sources.

On November 14, 2000, the City Council adopted the Carbon Dioxide (CO<sub>2</sub>) Reduction Plan, which included implementing measures regarding transportation and energy efficient land use planning and building construction measures for new development. In this Plan, it was recognized that the City's efforts to reduce carbon dioxide emissions from new development are directly related to energy conservation and air quality efforts. Climate Change Working Group Measures Implementation Plan (2008) and Climate Adaptation Strategies Implementation Plan (2011) been adopted with additional measures to strengthen the City's climate action efforts.

Opportunities for energy conservation in new development fall into three categories: the arrangement and intensity of land uses; mass transit and alternative transportation modes; and building siting, design and construction.

The greatest opportunities for significant conservation are transportation related. The planning of Otay Ranch and its villages maximizes these opportunities by concentrating intensity of development around new transit facilities, providing for a regional transit-way and encouraging pedestrian and bicycle travel as an alternative to the automobile. Planning Area 12 has been designed in accordance with these energy conservation principles.

## **B. LAND USE AND COMMUNITY DESIGN**

Land use and community design that encourages energy conservation include:

- **High Density**

PA-12 is a high-density walkable, urban community that encourages walking and biking. It is also in close proximity to shopping, parks, schools and services. In higher density development, the number of car trips and vehicle miles traveled are reduced as people are able to use alternative modes of transportation of drive much shorter distances to buy groceries, to go out to eat, and to pick their children up from school. The density of shops and schools in an area determines the average distance of those trips.

- **Transit Oriented Development**

PA-12 is centered around public transit and a park-and-ride facility. Existing MTS service and future BRT are within a short walk from this mixed use neighborhood. A community like PA-12, which includes residences, shops, and employment centers, is ideal for taking advantage of public transit as it brings together a concentration of population needed in order to make local bus service feasible with an

intermediate level of service. A dense community that can support the level of public transit service increases the transportation choices for the residents, breaking the car dependency.

- **Housing Efficiency**

The residential neighborhoods within PA-12 are high-density multi-family condominiums and apartments. Compared to single-family homes, units in attached buildings consume less energy for heating and cooling.

- **Mixed Use Development**

Increasing density can significantly reduce dependency on cars, but those benefits are even greater when jobs and retail are incorporated with the housing. Such mixed-use neighborhoods make it easier for people to park their car in one place and accomplish several tasks, which not only reduces the number of car trips required but also reduces overall parking needs for the community. In turn, having households within walking distance of the shops builds in a market for the stores and helps retail survive.

- **Street Widths, Pavement and Street Trees**

Narrow streets and a reduction in pavement reduces heat buildup and the demand for air conditioning. Street trees provide shade that further reduces temperatures.

### **C. TRANSIT FACILITIES AND ALTERNATIVE TRANSPORTATION MODES**

Planning Area 12 is designed to accommodate public transportation and alternative travel modes to reduce energy consumption:

- **Public transportation**

Public transportation is an integral part of the Otay Ranch Community. PA-12 is served by MTS bus routes 703, 707, and 709. Additionally, BRT service is planned to start in early 2018.

### **C. BUILDING SITING AND CONSTRUCTION**

Energy conservation features for building siting and construction include the following:

- **Improved Construction Standards**

Construction in the Plan Area will adhere to the Building Energy Efficiency Standards in Title 24 of the California Code of regulations. In addition, the Developer has agreed to participate in the Chula Vista GreenStar Building Efficiency Program.

- **Solar Access**

Passive solar design and building orientation can take advantage of the sun in the winter for heating and reduce heat gain and cooling needs during the summer.

- **Lighting**

Energy efficient lighting will be used to light streets, parks and other public spaces. Builders will be encouraged to use energy efficient lighting in commercial and residential development.