

AGENDA NO. 2

DEVELOPMENT SERVICES DEPARTMENT/ PLANNING DIVISION

MEMORANDUM

DATE: January 15, 2014
TO: Chairperson and Members of the Planning Commission
FROM: Russ Cunningham, Senior Planner
SUBJECT: GREENHOUSE GAS EMISSIONS INVENTORY/CLIMATE ACTION PLAN

Staff requests Planning Commission input on how the City should be responding to consensus within the scientific community that climate change is a human-induced phenomenon that will have increasing impacts on the physical environment. (See Attachment A for more information on climate change and associated climate action.) Specifically, staff asks that the Planning Commission consider the prospect of developing a climate action plan, which would build upon past and present efforts to quantify greenhouse gas (GHG) emissions generated by various sources within the Oceanside community.

Oceanside GHG Inventory

While the City of Oceanside has yet to establish any comprehensive policies on climate change, steps have been taken to measure locally-generated GHG emissions. In 2011, as part of a regional effort funded by the San Diego Foundation and directed by Local Governments for Sustainability (ICLEI), the City prepared a GHG inventory that calculates “baseline” emissions levels from which to measure future progress toward emissions reduction. Utilizing energy consumption and waste disposal data from 2005 – a commonly chosen baseline year among California jurisdictions – the inventory quantifies GHG emissions from both local government operations and private sector activities occurring within the City’s boundary.

The inventory shows that over 50 percent of GHG emissions from local government operations in 2005 derived from electricity use for wastewater treatment, lighting and other electrical devices in City buildings and facilities, lighting and signalization in the public-right-of-way, and potable water transport. Another 25 percent of GHG emissions from municipal operations in 2005 stemmed from fleet vehicle fuel consumption. In the community at-large, private vehicle transportation accounted for 60 percent of GHG emissions in 2005. Electricity and natural gas consumption in residential buildings generated 20 percent of community-wide GHG emissions.

With funding from the San Diego Foundation and technical support from the CivicSpark program, the City has recently initiated an update of its baseline GHG emissions inventory. This updated inventory, commonly referred to as a monitoring inventory, will reveal trends in locally-generated GHG emissions between 2005 and 2013 (the most recent year for which reliable data is available). It is anticipated that the monitoring inventory will show progress in reducing GHG emissions from water utilities operations, which have since instituted methane cogeneration at the San Luis Rey Wastewater Treatment Plant, and from electricity and natural gas consumption in municipal buildings, many of which were retrofitted in 2010 as part of the federal Energy Efficiency and Conservation Block Grant Program. It is possible that GHG emissions from other local sources will be seen to have trended downward during this period, due

to the Great Recession, enhanced fuel efficiency standards, new commuter rail service (i.e., the Sprinter), the expansion of photovoltaic systems, and other factors. However, it is also possible that GHG emissions from many local sources *increased* during this eight-year period, due to such factors as population and housing growth and the expansion of certain economic sectors (including the hospitality industry).

Should the City’s decision-makers ultimately choose to pursue climate action, the baseline and monitoring inventories will assist in identifying opportunities for further emissions reduction, setting reduction targets, and monitoring progress toward established reduction goals.

Next Steps: Setting Reduction Targets, Assessing Vulnerabilities, Coordinating Action

GHG inventories are typically precursors to climate action plans (CAPs), which coordinate jurisdiction-wide climate action through specific goals, policies, and strategies for both reducing GHG emissions and adapting to climate change impacts. In the San Diego region, six localities have adopted CAPs, while seven other localities are currently preparing CAPs for adoption. In most cases, local jurisdictions in the San Diego region have prepared CAPs in conjunction with comprehensive general plan updates. CAPs not only assist localities in assessing the environmental effects of GHG emissions associated with their general plan updates, as required under the California Environmental Quality Act (CEQA), but also allow localities to streamline environmental review of subsequent development projects. With respect to policies and programs designed to reduce local GHG emissions, CAPs typically consider the following issues:

- Achieving energy efficiency in buildings
- Coordinating land use and transportation planning
- Reducing emissions from solid waste generation and disposal
- Identifying renewable energy sources
- Achieving energy efficiency in wastewater treatment and potable water transport
- Preserving/enhancing open space, tree cover, and local food sources

These and other issues are typically addressed in the context of both local government operations and community-wide private sector activity. To reduce emissions from municipal operations, cities can commit to a renewable energy portfolio, energy efficiency upgrades in municipal facilities, fuel efficient fleet vehicles, incentives for employees to commute by transit and other alternative means of transportation, and other efforts that set a positive example for the community at-large. To encourage emissions reduction in community-wide private sector activity, localities can, among other things, adopt Smart Growth land use policies and standards, create incentives for energy efficiency and renewable power in existing buildings, mandate green building practices, develop programs for recycling and waste diversion, and work with transit authorities to improve access to public transportation.

With rising average temperatures, the City of Oceanside is vulnerable to sea level rise, more frequent and more intense wildfires, increased riverine flooding, and reduced water supply due to prolonged drought. Rising temperatures may also impact public health in Oceanside by increasing the prevalence of Dengue fever, West Nile virus, Lyme disease, and other infectious diseases that thrive in warmer environments. In addition to establishing a framework for GHG emissions reduction, a climate action plan would also include a climate change vulnerability assessment and coordinated strategies for averting and/or adapting to the potentially adverse impacts of climate change.

Attachments:

- A) Background Information on Climate Science and Climate Action

Background Information on Climate Science and Climate Action

Climate Science: Empirical Data and Authoritative Opinion

Between 1961 and 2011, the concentration of CO₂ in the earth's atmosphere increased by more than 23 percent. This increase in atmospheric CO₂ roughly coincides with global industrialization, widespread deforestation, modern agricultural practices, and an exponential increase in private vehicle transportation. Since the early 1960s, the average annual global temperature has risen in proportion to increasing concentrations of CO₂ in the earth's atmosphere. Nine of the ten warmest years on record have occurred during the 21st Century, with 2010 being the planet's warmest year since recordkeeping began in the 1850s.

A 2011 survey of 4,014 abstracts on climate change found that more than 97 percent of published and peer-reviewed scientific articles conclude that global warming is the result of human activity. At present, no scientific body of national or international standing maintains a formal opinion dissenting from the view that global warming is a human-induced phenomenon that will continue to escalate unless and until GHG emissions are contained. The Fifth Assessment of the International Panel on Climate Change (IPCC), accepted by 195 member nations in September 2013, states that "warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, sea level has risen, and the concentrations of greenhouse gases have increased." The U.S. Environmental Protection Agency (EPA) projects that by 2100 the average U.S. temperature will increase by 4°F to 11°F, depending on the extent to which GHG emissions can be curtailed between now and then.

Climate Action: A Layered and Interdependent Effort

"Climate action" refers to efforts to identify the sources of human-induced greenhouse gas (GHG) emissions, reduce these emissions, and adapt to the anticipated impacts of climate change occasioned by rising levels of atmospheric carbon dioxide and other GHGs. Spurred by a growing consensus within the scientific community on the relationship between climate change and GHG emissions, climate action is becoming an integral part of government regulation, public investment strategies, business practices, social activity, and consumer choice.

Addressing climate change at the local level involves identifying local GHG emissions sources, assessing and building local capacity to reduce emissions, evaluating local exposure to climate change impacts, and devising strategies to protect vulnerable local resources. Climate action at the local level is typically motivated by research, policies, standards, and programs initiated at the international, national, state, and regional levels. For example, a local urban forestry plan might be inspired by international research on carbon sequestration, guided by policies and protocols developed by the National Urban and Community Forestry Advisory Council, funded through a grant from the California Department of Forestry and Fire Protection (CAL FIRE), and promulgated by SANDAG in its regional plan. While many forms of climate action require material resources and legal authority that local governments generally do not possess (e.g., developing emissions-reduction technologies, regulating industrial and motor vehicle emissions, implementing transit systems), local governments can utilize their "police power" over land use to encourage green building practices and efficient development patterns that reduce energy consumption and associated GHG emissions. Local governments can also use their land use authority to ensure that land uses susceptible to climate change impacts are either sited away from high-risk areas or designed to be resilient to climate change impacts.