

New Study Issue

Council Study Issue
Full-Cost Analysis in City Operations

Lead Department(s) – Environmental Services and Finance

History 1 year ago 2 years ago

1. What are the key elements of the issue? What precipitated it?

In the evaluation of various options for choices made in city operations, the true cost of the alternatives does not monetize the environmental impacts. For instance in evaluating various vehicles purchases, the lifecycle cost used does not monetize environmental impacts, rather they are treated separately and somewhat optionally as quality measures.

Clearly, as the climate changes, we are recognizing that there are economic impacts associated with the choices we make, but we have not been relating those costs directly back to the actions.

Recently, James Hanson (former NASA director) suggested that measures of CO₂e can be used as one of these criteria. He recommended that today a cost \$20/Metric Ton be used and that the cost be increased year by year at a rate greater than inflation until it reaches \$100/MT at current currency rates. His recommendation was that for now, 6% increase per year would be sustainable and appropriate until that \$100 figure is achieved. (At \$100/MT CO₂e, if applied to gasoline, one gasoline would cost roughly \$1.00 more over current prices.)

Barbara Boxer (Climate Protection Act S. 322) and Steven Chu, both of California, have agreed that monetizing decisions is the single most effective way to rationalize environmental controls.

This study is to evaluate how the City of Sunnyvale could incorporate into its everyday determinations mechanisms for including, in monetary terms, the relative impacts of the choices given to staff and council.

As part of this study the staff would determine:

- For what operational activities would monetization be required
- The basic methods and techniques to be used; in particular as regards to associating costs to GHG emissions.
- If good examples of recent decisions might be used as learning experiences by providing a contrasting analysis to one that has already been submitted
- Existing carbon trading regulations might impact city operation in the future

Council Study Issue
Tree Cover Preservation

Lead Department : Public Works

History **1 year ago** **2 years ago**

1. What are the key elements of the issue? What precipitated it?

Existing parcels of land within the city have a certain amount of tree cover which:

- a. Captures CO2
- b. Provides shade for streets and parking lots thus lowering the heat island effect of this infrastructure
- c. Provides shade to buildings which reduces their AC needs thus lowering their GHG production
- d. Provides air cleaning value to the immediate property and the city and citizens as a whole by filtering and absorbing air pollutants
- e. Absorb and retain storm water
- f. Provide habitat
- g. Adds financial value to the property
- h. Adds aesthetic value to the property and the city and citizens/workers as a whole;

When new or additional or replacement building occurs, trees are often removed and cannot be replaced on the same parcel or in the same quantity or quality (as measured by canopy size, co2 capture potential, financial value, etc.) as those that were removed. Sometimes the trees that are removed are city or street trees, not trees on the property owners' property. There is no current provision for an "in lieu fee" for this lost value to the citizens and the city.

There are other places in the city where trees that offer the same net quality and quantity as those removed could be planted, however some of these locations may not have been thought of as a resource. Such places include: the area of residential property that is used by the homeowner but actually in the city's right of way; the areas of existing parks that are not covered with trees but are also not used as ball fields of any type and are already watered and tended; portions of the city's right of way that are currently residential streets that are wider than necessary for safe travel and are approved for a road diet. Planting trees on the south or west side of these streets could provide shade to the street thus lowering their heat island effect without increasing their albedo; private property where the property owner agrees to water and care for a tree that is provided and planted by a non-profit entity funded by in lieu fees (such as Our Urban Forrest).

This study would examine options for preserving Sunnyvale's urban forest as properties are developed or re-developed. It would research appropriate methods for establishing the value of existing and replacement trees, identify specific areas of the city available for replacement trees of various sizes and characters, recommend incentives/subsidies for tree planting that could be funded with the proceeds from this in lieu fee, and set goals for the net increase of tree cover with target dates, and propose metrics to monitor progress toward the goals.

2. How does this relate to the General Plan or existing City Policy?

The proposed LUTE and CAP address maintaining and expanding tree cover as a CO2 and heat island mitigation measure.

In order to capture information relating to the CAP, determine measurements to be taken of the value of the trees pre-building or re-building.

3. Origin of issue

Sustainability Commission

4. Staff effort required to conduct study

Moderate – existing tree cover locations have already been mapped.

5. Multiple Year Project? Planned Completion Year

6. Expected participation involved in the study issue process?

*Does Council need to approve a work plan? **yes***

*Does this issue require review by a Board/Commission? **yes***

*If so, which? **Sustainability***

*Is a Council Study Session anticipated? **no***

7. Briefly explain if a budget modification will be required to study this issue

Amount of budget modification required

Explanation

There would be a cost of the study- determine the metrics which could be used to value the trees, make recommendations about the best metrics to use, determining the potential city and private land available on which to plant the replacement trees. The amount of privately held land could be estimated but not specifically identified. I believe that Our Urban Forrest has already done some of this.

8. Briefly explain potential costs of implementing study results, note estimated capital and operating costs, as well as estimated revenue/savings, include dollar amounts

Are there costs of implementation? *yes*

- 1) increased staff time to determine the value of the trees
- 2) increased costs for the long term maintenance of the trees that were eventually planted on city land (in parks and along streets).

However the cost to fund the tree planting should be revenue neutral if an in lieu fee is established. Or the study might find that planting trees in alternative locations might be funded with the already established park dedication in lieu fees.

And there would not be ongoing maintenance costs for the trees planted on private land. Those costs would be borne by the property owner in exchange for the free trees and planting.

Council Study Issue
Commercial PACE

Lead Department : Environmental Services
History **1 year ago** **2 years ago**

1. What are the key elements of the issue? What precipitated it?

Property Assisted Clean Energy Program in Sunnyvale

According to the U.S. Environmental Protection Agency, on average, about 30% of the energy used in commercial buildings is wasted, resulting in higher costs to businesses for energy than necessary. Unemployment remains above historical levels, even locally. Sunnyvale's Community GHG inventory, completed as part of the Horizon 2035 process, indicated that our commercial and industrial sector accounts for 39% of our city's total GHG emissions, the largest contribution from any source.

Many jurisdictions throughout the country and in California have implemented commercial Property Assisted Clean Energy (PACE) Programs, helping their businesses reduce energy costs (San Francisco, Sacramento, Los Angeles, Western Riverside, Placer and Sonoma Counties). Such voluntary PACE programs provide financing for energy efficiency, renewable energy and water efficiency projects at no up-front cost to the building owner and without using monies from the City's general fund. These "loans" which are not counted toward debt-load because they are repaid over periods as long as a 20 years through an assessment on the property tax bill, regardless of who owns the property. PACE programs can be expected to result in immediate cash-flow benefits.

The lack of such a program could place Sunnyvale's businesses at a disadvantage, when compared to businesses in jurisdictions like who have PACE programs. The absence of a PACE program may also may be depriving our city of additional jobs that could be expected from an increased number of commercial building retrofits (engineers, commissioning agents, energy managers, building operators, and installers).

This proposed study would research the feasibility of implementing a PACE program in Sunnyvale--advantages, disadvantages, risks. It would include evaluation of organizations such as Ygrene that provide "turnkey Property Assisted Clean Energy (PACE) financing." (Ygrene claims to be "the only company in the United States that offers a fully-funded clean energy district - and the only company that can make the promise of local green jobs, energy savings, a cleaner environment, and millions invested in local businesses a reality for your community.") If staff finds that a PACE program in Sunnyvale has merit, the study would include a recommended pathway toward setting one up, including any costs.

<http://www1.eere.energy.gov/buildings/commercial/about.html>

<http://pacenow.org/about-pace/commercial-pace-programs/>

<http://pacenow.org/resources/all-programs/#California>

<https://ygrene.us/>