

**DEPARTMENT OF FORESTRY AND FIRE PROTECTION**

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September 9, 2009

California Energy Commission
Attn: Larry Rillera, Special Projects
1516 Ninth Street, MS 23
Sacramento, CA 95814-5512

Re: 2009 Integrated Energy Policy Report (IEPR)

Dear Mr. Rillera:

DOCKET**09-IEP-1N**DATE 9/9/2009RECD. 9/23/2009

I recently attended a public meeting in regards to the 2009 IEPR. I was impressed with the process being utilized, but felt compelled to add to the scope of what was discussed. Specifically, I will relate how I believe urban forestry can fit into the California Energy Commission's (CEC) activities and into the IEPR.

Urban Forestry is defined in the Urban Forestry Act of 1978 (PRC 4799.06 – 4799.12). This landmark piece of legislation was updated just last year (2008) to reflect the State's climate change related goals under AB 32 amongst other goals. I would encourage you to review this legislation as you craft the IEPR. I believe you will find it helpful. It makes numerous specific mentions of how urban forestry is related to energy. I have attached the Urban Forestry Act for your review. I also recommend you review the Natural Resources Agency's Climate Change Adaptation Strategy Draft Report that also specifically mention urban forestry.

There are a number of ways in which urban forests are useful and should be considered in energy policy discussions. I will focus on four of these aspects.

1. The role of urban forests in energy efficiency, energy conservation, and reduced consumption.
2. The need to consider urban forests in land use planning and as part of local infrastructure.
3. Urban forests as a potential source of biomass.
4. Urban forestry co-benefits that can be realized when focusing on energy benefits.

Urban forests can be utilized to improve energy efficiency and energy conservation in two ways. First, by directly shading building, air conditioning units, and other structures, remarkable savings can be realized. According to the USDA Forest Service Center For Urban Forest Research, a tree planted on the west side of a home will reduce electricity costs by 3% after 5 years and 12% after 15 years. Trees on the east side of a building have been shown to provide even greater benefits. Trees shading air conditioning units provide additional benefits at peak demand times. When urban forest benefits are taken in aggregate, over the long term, the energy benefits are massive. If California strategically planted 50,000,000 new trees (roughly 20% of the estimated urban planting sites vacant), it would save up to \$1,000,000,000 over 15 years in energy costs, and would reduce peak load electrical demand by 9%. This savings is equivalent to the need for approximately seven 100 MW power plants. Second, trees also reduce the urban heat island effect. As a whole, an urban forest provides additional energy saving benefits by cooling the local climate. The peak heat of the day and the length of the release of absorbed heat is reduced. A good source of information on how this occurs is at <http://eetd.lbl.gov/heatisland/>, the website of the heat island group at Lawrence Berkeley Labs.

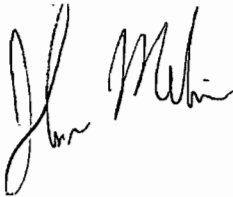
In order to realize energy benefits of urban forests, tree placement, species selection, site design, and other important planning criteria must be considered. Energy benefits are best realized by trees that grow to have large canopies. To have such large canopied shade trees, they must be planned for up front, not after the fact. Both local and regional planning have a role to play in this. Local planning should consider species selection, site design, and tree placement aspect. Regional planning should consider setting canopy cover goals and best management practices. Trees truly should be considered as part of the regional and local infrastructure, and be considered on par with other infrastructure needs, not thrown in as an afterthought.

In places, California has extensive urban forests. The extent of these urban forests could be greatly increased if a concerted effort were made. These urban forests are a sizable source of biomass through routine maintenance of the trees (pruning, etc...) and through tree removals. This biomass can be utilized in many ways, though much of it currently goes underutilized. Wood products could be made from stems. Decorative wood chips and mulch can be made from all such biomass. Urban woody biomass could also be used to produce biofuels in much the same way that any other woody biomass can be. As urban woody biomass goes largely underutilized currently, there is much potential to make better use of this product and to showcase such an effort. This would be of great benefit to reaching the goals of AB 32.

In addition to energy benefits, urban forestry has many other benefits. Air quality benefits are realized, both greenhouse gas emissions and particulates are reduced. Stormwater runoff quantity is reduced and stormwater quality is improved. Property values are increased. Public health benefits are realized. Trees can be a local food source, communities become more walkable/bikeable, skin cancer and asthma rates can be lowered, and mental health improved. Businesses in tree rich areas realize longer shopping trips and increased sales. People are happier with where they live. Cities are beautified. These are some of the co-benefits that urban forests can provide. By utilizing urban forests to realize energy benefits, many multiple benefits can be realized.

As you develop the IEPR, I would recommend that you include a portion on the potential of urban forestry. I, and my staff, can be available to you for technical assistance, information and advocacy to see this content included. I can also assure you that urban forestry advocacy groups would be very willing to participate in this process. I hope we can collaborate to add this important element to your IEPR effort.

Sincerely,

A handwritten signature in black ink, appearing to read "John Melvin". The signature is fluid and cursive, with the first name "John" and last name "Melvin" clearly distinguishable.

JOHN MELVIN
State Urban Forester