



AIR QUALITY TEAM EXECUTIVE SUMMARY

*The following executive summary is for the Sacramento Metro Chamber,
Cap-to-Cap Air Quality Team*

POLICY PRIORITIES SUMMARY

Public-private partners in California's Capitol Region have collaborated for over three decades, taking bold action and making significant strides toward cleaner air. The region, however, does not meet state and federal health-based air quality standards, adversely impacting health and economic growth. The need for critical progress remains. Federal investments in voluntary incentive programs; forest resilience; biomass; and continuing EPA grants for state and local air agencies can drive progress for cleaner air, job creation, and economic growth in the region.

FEDERAL INCENTIVE PROGRAMS: A KEY ELEMENT IN AIR QUALITY ATTAINMENT

The Sacramento region does not meet state and federal health-based air quality standards; voluntary incentives that address wood smoke and diesel emissions are cost effective ways to reduce harmful air pollution without additional regulatory action. Every \$1 invested in reduction of diesel emissions returns \$13 in health benefits.

Requested Action:

- Approve and help fund innovative voluntary measures that are proven to reduce ground-level ozone and particulate matter.
- In the FY 2018 Budget, EPA funding for Diesel Emissions Reduction Grants (DERA) should be maintained, but not at the expense of funding for categorical grants for state and local air quality management.
- We also support incentive programs to help states and local agencies encourage early replacement of wood-burning devices with cleaner technology.
- Continue support for incentive-based funding solutions to aid regional transportation-related emission reductions and consider a concurrence role for air districts in use of CMAQ funding.

FEDERAL FUNDING AND GRANT PROGRAMS: SUSTAINING AIR QUALITY PROGRESS

The Sacramento region does not meet state and federal health-based air quality standards; federal funding enables local air quality management agencies to maintain our clean air progress. Grant programs provide critical funding to carry out this important work and help avoid increased fees on local businesses that inhibit local job creation and economic growth.

Requested Action:

- In the FY 2018 Budget, maintain EPA budget sufficient to carrying out the agency's core statutory responsibilities, including funding for EPA categorical grants for state and local air quality management equal to the FY 2016 budget of \$228 million.
- EPA funding for Diesel Emissions Reduction Grants (DERA) should not come at the expense of funding for categorical grants for state and local air quality management.

RESILIENCY: A KEY TO SUSTAINING REGIONAL VITALITY AND COMMUNITY HEALTH

Protecting the health of our forests, watersheds, and natural resources is vital to community and economic resilience. Proactive forest management activities (such as clearing brush, thinning forests and conducting prescribed burns) save up to three times the cost of future fires, reduce high-severity fire by up to 75 percent, increase water availability by up to 6 percent, and bring many additional benefits for air quality and economic opportunity, including much needed job creation in rural areas.

Requested Action:

- Allocate funding in the FY 2018 Budget to support investments in infrastructure and energy resources that strengthen community and economic resilience.
- Decouple the USDA Forest Service budget from the cost of fighting catastrophic wildfire; preserve funding intended for preventative forest management activities that proactively reduce the risk of catastrophic wildfire.
- Implement policies to treat the outbreak of catastrophic wildfire similar to other natural disasters; allocate funding from FEMA for firefighting efforts upon emergency declaration.

BIOMASS: A SOURCE OF ALTERNATIVE ENERGY AND ECONOMIC VITALITY

Innovative use of agricultural and forest biomass provides important solutions for air quality, landfill diversion, and renewable energy. Supportive policies, including investment in new small scale biomass facilities and existing biomass infrastructure, will generate much needed jobs and economic opportunity in rural areas.

Requested Action:

- Support policies that position biomass as a value-added energy resource and that provide a level playing field for biomass with other forms of renewable energy (wind and solar).
- Support markets for value-driven end uses for biomass material such as biomass-to-energy projects, as well as a range of bio-based products (e.g., synthetic gas, biochar, wood products including lumber, composites, and compost).



AIR QUALITY TEAM

FEDERAL INCENTIVE PROGRAMS: A KEY ELEMENT IN AIR QUALITY ATTAINMENT

The Sacramento region does not meet state and federal health-based air quality standards; voluntary incentives that address wood smoke and diesel emissions are evidence-based and cost effective ways to reduce harmful air pollution without additional regulatory burden. Every \$1 invested in reduction of diesel emissions returns \$13 in health benefits.

Requested Action:

- Approve and help fund innovative voluntary measures that are proven to reduce ground-level ozone and particulate matter.
- In the FY 2018 Budget, EPA funding for Diesel Emissions Reduction Grants (DERA) should be maintained, but not at the expense of funding for categorical grants for state and local air quality management.
- We also support incentive programs to help states and local agencies encourage early replacement of wood-burning devices with cleaner technology.
- Continue support for incentive-based funding solutions to aid regional transportation-related emission reductions and consider a concurrence role for air districts in use of CMAQ funding.

Background:

The Sacramento region is currently designated a non-attainment area and does not meet federal air standards for ground-level ozone. The region recently attained the standard for particulate matter (PM 2.5) and is designated as a maintenance area for this pollutant; wildfire and wood smoke put the region at risk of slipping out of attainment. Better air quality helps improve public health and our region's overall quality of life, which is important to the business community's focus on improved workforce productivity, and the attraction and retention of new business and a highly skilled workforce. Clean air policies and air quality improvement programs help protect the health of our families, communities and economy.

Mobile sources contribute 89% of the NO_x pollution contributing to ozone formation. For the Sacramento region, addressing pollution from mobile sources is important and serves as a more cost-effective local clean air strategy than adding financial burdens to already heavily regulated stationary sources (businesses such as power plants, gas stations and heavy industry). Because the federal government (EPA) and California (Air Resources

Board) set the regulatory framework for mobile sources (emission limits for engines and fuel specifications), most states and local agencies rely on incentive programs as emission reduction strategies.

Wood smoke - while the region has a range of pollution sources for PM 2.5, the largest source on exceedance days is burning of wood in residential fireplaces, inserts and freestanding stoves. Critical days are typically cold winter days with little air movement. Given the high percentage of wood smoke in the emissions inventory during winter months in the Sacramento Region, controlling these emissions has been a primary target for regional air districts.

Air district **efforts** to reduce burning on days when air quality is projected to exceed standards range from voluntary measures in some districts, to a mandatory episodic control program in Sacramento County, where most of the regional exceedances occur. In addition, all regional air districts have implemented effective incentive programs to help residents replace old wood stoves with cleaner devices but finances severely limit the scope of these programs. We appreciate the Final New Source Performance Standards (NSPS) for Residential Wood Heaters strengthened in 2015, as it will directly support our voluntary and episodic control programs already in place. The standards make new heaters significantly cleaner and improve air quality in communities where people burn wood for heat. Wood heat is frequently relied upon in rural areas as a lower-cost alternative when propane is the only available source of gas heat.

Incentive-based policies and approaches are both economical and effective and have been a cornerstone of our many regional air quality successes over the past two decades. The Fixing Americas Surface Transportation (FAST) Act provides funding for the Congestion Mitigation and Air Quality Improvement (CMAQ) program of \$12.4 billion over 5-years, through 2020. Funding should continue for longer-term support of incentive-based solutions to aid regional transportation-related emission reductions. Air districts should play an essential role in validating that CMAQ-funded projects will realize air quality benefits and use of CMAQ funding should emphasize both congestion mitigation and air quality benefits. CMAQ funding has been leveraged with local and state funds to achieve important air quality improvements in our region. These funds have supported both incentive and public outreach programs.

Diesel Emissions - the FY 2016 federal budget includes \$50 million in Diesel Emissions Reduction Grant (DERA) funding. This funding, modeled after successful California programs, provides an important additional funding stream for states and local agencies that helps accelerate market adoption of advanced low- and zero-emissions engines and fuel. These funds are especially important for financing early introduction of emerging technologies. Since 2008, the Sacramento region has been able to access nearly \$3.5 million in incentive funding from the DERA program that have been invested in programs that are delivering substantial air quality benefits.

Such a beneficial program should be continued, however, funding for DERA should not come at the expense of funding for categorical grants for state and local air quality management.



AIR QUALITY TEAM

FEDERAL FUNDING AND GRANT PROGRAMS: ESSENTIAL FOR AIR QUALITY ATTAINMENT

The Sacramento region does not meet state and federal health-based air quality standards; federal funding enables local air quality management agencies to maintain our clean air progress. Grant programs provide critical funding to carry out this important work and help avoid increased fees on local businesses that inhibit job creation and economic growth.

Requested Action:

- In the FY 2018 Budget, maintain EPA budget sufficient to carrying out the agency's core statutory responsibilities, including funding for EPA categorical grants for state and local air quality management equal to the FY 2016 budget of \$228 million.
- EPA funding for Diesel Emissions Reduction Grants (DERA) should not come at the expense of funding for categorical grants for state and local air quality management.

Background:

State and local air agencies play a primary role in protecting the public from the harmful effects of air pollution and rely on EPA grants to pay a portion of the costs of carrying out federally directed activities under the Federal Clean Air Act. Without federal financial support, the full cost of these essential programs must be financed with locally generated funds. Local funds are generated through mechanisms such as fee increases to local businesses, which negatively impact business health and job growth. The proposed reduction of 31% in EPA's budget for categorical grants for state and local air quality management in FY2018 significantly increases the likelihood that local air districts will either need to raise fees on local businesses or reduce essential services to businesses and residents in order to offset this lost revenue. Federally directed programs funded through this revenue source include air monitoring; developing required plans to meet federal air quality standards; and conducting public education and outreach activities. Currently, the Sacramento region receives nearly \$1.5 million annually in federal funding to support these critical activities.

Bipartisan efforts to tackle increasing levels of smog and unhealthy air resulted in the passage of the Federal Clean Air Act in 1970. To aid local air districts in carrying out the necessary requirements of the Act, a legislative expectation was for the federal government to fund fifty percent of the costs of meeting federal standards. For many years there has been a

growing disparity between the cost of required federal actions and the funding provided to local districts to carry out the work. The National Association of Clean Air Agencies estimated in 2009 that this disparity had grown nationally to over \$500 million and this disparity has continued to grow with each federal budget. In the Sacramento Region some local air pollution control agencies receive no federal funding, rendering the task at hand all the more challenging.

Grant funding comes directly to state and local air agencies through the EPA Regions. As a group representing regulatory, business and community interests, we ask that you help keep these funds in the budget through the appropriations process. Funding should remain in section 103 and not be shifted to section 105 where matching funding would be required, as state and local budgets would be further burdened in meeting federal air quality standards. Continued funding for state and local grants is essential in light of the recent adoption of strengthened standards to protect the public from harmful air pollution. This funding will also help EPA Region 9 provide permanent funding to support federal programs in districts which currently receive little or no funding, including the Yolo-Solano Air Quality Management District, the Feather River Air Quality Management District, the El Dorado County Air Quality Management District and the Placer County Air Pollution Control District.



AIR QUALITY TEAM

RESILIENCY: A KEY TO SUSTAINING REGIONAL VITALITY AND COMMUNITY HEALTH

Protecting the health of our forests, watersheds, and natural resources is vital to community and economic resilience. Proactive forest management activities (such as clearing brush, thinning forests and conducting prescribed burns) can save up to three times the cost of future fires, reduce high-severity fire by up to 75 percent, increase water availability by up to 6 percent, and bring many additional benefits for air quality and economic opportunity, including much needed job creation in rural areas.

Requested Action:

- Allocate funding in the FY 2018 Budget to support investments in infrastructure and energy resources that strengthen community and economic resilience.
- Decouple the USDA Forest Service budget from the cost of fighting catastrophic wildfire; preserve funding intended for preventative forest management activities that proactively reduce the risk of catastrophic wildfire.
- Implement policies to treat the outbreak of catastrophic wildfire similar to other natural disasters; allocate funding from FEMA for firefighting efforts upon emergency declaration.

Background:

"Resilience is the ability of people, communities and institutions to prepare for, withstand, and bounce back more rapidly from acute shocks and chronic stresses."

-- Judith Rodin, President, The Rockefeller Foundation

Natural disasters and events such as catastrophic wildfire and drought are increasing in frequency and severity. Coupled with the high flooding risk in the Sacramento region and the impact on agriculture of changing climate patterns, we must seek the best options to prepare our economy, infrastructure, and emergency response resources. Proactive investments to reduce the risk of wildfire and boost pre-disaster readiness are critical solutions to enhancing the resilience and health of communities and local businesses in the face of a wide range of stressors.

Especially critical is responding to the increasing occurrence of catastrophic wildfire that is consuming portions of the U.S. Forest Service budget intended for forest management practices that would help prevent such wildfires. In 2015, more than half of the U.S. Forest Service budget was consumed in fire-fighting activities—an historically large proportion. The Forest Service estimates that within a decade, more than two-thirds of its budget will be needed to battle ever-increasing fires, while mission-critical fire prevention programs such as forest restoration and watershed

and landscape management will continue to suffer.ⁱ Proactive forest management activities (such as clearing brush, thinning forests and conducting prescribed burns) can save up to three times the cost of future fires, reduce high-severity fire by up to 75 percent, and bring added benefits for people, water, and wildlife.ⁱⁱ

Work shows that forest treatment activities can sequester significantly more carbon than untreated forests by: (1) reducing the size, severity and intensity of forest fires when they occur, (2) accelerate tree growth through freeing up water, light, and nutrients, (3) providing wood products, renewable energy and biochar that displace fossil fuels and sequester carbon; and (4) reducing forest type-conversion.^{iii, iv, v} The Placer County Air Pollution Control District is developing an accounting and modeling GHG offset protocol to comprehensively quantify the full life cycle GHG benefits of these forest fuel treatment projects.^{vi}

Healthy forests can improve water quality and availability for urban and agricultural users. For example, forest thinning in key Sierra Nevada watersheds can increase average annual streamflow up to 6 percent. The great increase can be found in the Feather River watershed, where forest thinning can increase streamflow by 97,000-285,000 acre-feet annually. The economic value of water supply benefits to downstream hydropower, agricultural, and urban users are sufficient to cover between one-third and the full cost of thinning.^{vii}

The outbreak of catastrophic wildfire should be treated similarly to other natural disasters and be eligible for FEMA funding upon emergency declaration. The U.S. Forest Service budget is better spent on preventative activities to help reduce the risk of wildfire. The resilience of local communities and their economies will benefit from in improving forest health, restoring meadows and wetlands, reusing thinned biomass, and piloting green infrastructure projects.

California's multi-year drought has left over 100 million trees dead or dying across the Sierra Nevada. Weakened by the drought and heat, trees are much more vulnerable to outbreaks of insects. This ongoing crisis will result in substantially increased risk of high-severity fires, deterioration of capacity to sequester carbon and store water, an increase in criteria air pollutants, and loss of forest jobs and recreation opportunities.

Wildfires have a severe and immediate impact on regional air quality, with dangerous air pollutants increasing 5 to 15 times from normal levels, with local impacts reaching as high as 20 times federal health based standards. This disrupts the daily life of residents (e.g., kids playing outside), the local rural economies (as people stay home), and the tourism and recreation-based economy.

There is significant opportunity to boost rural economies through fire-risk reduction and forest restoration efforts. National forests in the West support 200,000 jobs and contribute over \$13 billion to local economies every year. Wildfires and forest deterioration due to heat and drought will hurt local economies that rely on timber, recreation, and tourism, as well as natural habitat and water storage capacity critical to downstream economies.

Fire prevention activities can in and of themselves benefit the local economy through reusing biomass, from forest thinning or trees killed by beetles, for electricity generation and other purposes. Increased funding through USDA can help expand local opportunities to develop energy and other wood products from biomass removed to prevent wildfires.



AIR QUALITY TEAM

BIOMASS: A SOURCE OF ALTERNATIVE ENERGY AND ECONOMIC VITALITY

Innovative use of agricultural and forest biomass provides important solutions for air quality, landfill diversion, and renewable energy. Supportive policies, including investment in new small scale biomass facilities and existing biomass infrastructure, will generate much needed jobs and economic opportunity in rural areas.

Requested Action:

- Support policies that position biomass as a value-added energy resource and that provide a level playing field for biomass with other forms of renewable energy (wind and solar).
- Support markets for value-driven end uses for biomass material such as biomass-to-energy projects, as well as a range of bio-based products (e.g., synthetic gas, biochar, wood products including lumber, composites, and compost).

Background:

Biomass provides important solutions for air quality, landfill diversion, and renewable energy. Policies are critically needed that support markets for biomass utilization and that enable a level playing field for biomass as a carbon-neutral, value-added alternative source of renewable energy, as compared to wind and solar. Supportive policies, including investment in new small scale biomass and existing biomass, will generate much needed jobs and economic opportunity in rural areas.

Biomass supports air quality goals by providing a way to dispose of materials that would otherwise be burned in open piles or wildfire. Although many areas in California are not in compliance with air-quality standards, open burning of agricultural and forestry residues is a common occurrence.

- Agricultural residues, such as prunings and whole tree removals from orchards, have to be disposed of in order to allow agricultural operations to proceed. Piling these residues and burning them is the cheapest disposal alternative, but the resulting air pollution is one of the greatest obstacles to the achievement of air-quality standards in many of California's major agricultural regions.
- Forestry operations -- including commercial lumber harvesting and fuel hazard reduction thinning and defensible space treatments to reduce fire hazard -- also produce residues that need to be disposed of. Leaving forestry residues on the ground in the woods presents an unacceptable fire risk. Residues must be collected and either removed, for example for use offsite as a power plant fuel, or pile-burned. In addition to the adverse impacts of

pile burning on local air quality, the smoke from wildfires often mixes with atmospheric conditions downwind to create regional ground level ozone.

Although bioenergy facilities release emissions that impact air quality, those emissions are dramatically lower than the emissions produced by open burning and wildfires. Open burning to dispose of crop residues and forest thinnings produces 3 to 100 times more emissions of air pollutants than controlled combustion in a biomass power plant

Forest biomass projects can help California deal with tree mortality issues in northern and central California, improve forest health and make our forests fire-resilient. Forest biomass energy would be more cost competitive by incorporating a valuation of the ecosystem services, including the co-benefits of avoided emissions; avoided costs of degraded upland water supply (timing, quality, and quantity); enhanced ability of forests to sequester carbon; protection of wildlife habitat; avoided wildfire fighting suppression costs; and the costs of avoided use of fossil fuels. Investments that support forest biomass infrastructure are needed to unleash its many co-benefits.

Biomass project developers face many obstacles including:

- Securing supply of feedstock over long term to justify and secure financing at a feasible cost;
- The costs of transporting feedstock to biomass facilities;
- The costs of complying with state and federal clean air act standards;
- The cost of technology itself (purchase upgrade boilers, transformers)
- The cost of transmitting power and interconnection with utility networks.

Potential solutions include creating certainty for financing with low cost federal loans to pay for new facility development or upgrades over 30-year period (vs. 10-year period). Improved access to long-term financing could be partially accomplished by encouraging federal and state cooperation and coordination of layered funding across multiple sources. Providing a federal tax program for investment in biomass facilities (similar to federal tax credit program for affordable housing) would also help. New facility development at a small scale within local rural communities will significantly reduce transportation costs and bring jobs to rural communities that desperately need them. In addition to providing an alternative use for agriculture and forest waste, biomass provides an opportunity to divert food waste and other wastes from landfills that can be converted to a local source of energy.

Biomass also provides renewable base-load power, complementing other renewables such as wind and solar that provide power on an intermittent basis.

-
- ⁱ U.S. Department of Agriculture Forest Service. (2105). The Rising Cost of Wildfire Operations: Effects on the Forest Service’s Non-Fire Work. Retrieved 2/11/17 from <https://www.fs.fed.us/about-agency/budget-performance/cost-fire-operations>.
- ⁱⁱ Buckley, M., N. Beck, P. Bowden, M. E. Miller, B. Hill, C. Luce, W. J. Elliot, N. Enstice, K. Podolak, E. Winford, S. L. Smith, M. Bokach, M. Reichert, D. Edelson, and J. Gaither. 2014. “Mokelumne watershed avoided cost analysis: Why Sierra fuel treatments make economic sense.” A report prepared for the Sierra Nevada Conservancy, The Nature Conservancy, and U.S. Department of Agriculture, Forest Service. Sierra Nevada Conservancy. Auburn, California.
Online:<http://www.sierranevadaconservancy.ca.gov/mokelumne>
- ⁱⁱⁱ Loudermilk EL, RM Scheller, PJ Weisberg, A Kretchem. Bending the carbon curve: fire management for carbon resilience under climate change. *Landscape Ecology*. October 2016.
- ^{iv} Dore S, D Fry, B Collins, R Vargas, R York, S Stephens. Management impacts on carbon dynamics in a Sierra Nevada mixed conifer forest. *PLOS One*. Vol 11 Number 2. February 26, 2016.
- ^v Stewart W, B Sharma. Carbon calculator tracks the climate benefits of managed private forests. *California Agriculture*. Pages 117-121. Jan-Feb 2015.
- ^{vi} Saah D, T Robarts, T Moody, et al. Developing an Analytical Framework for Quantifying Greenhouse Gas Emission Reductions from Forest Fuel Treatment Projects in Placer County, California. August 31, 2012. <http://www.placerair.org/biomass>.
- ^{vii} The Nature Conservancy. 2015. Estimating the Water Supply Benefits from Forest Restoration in the Northern Sierra Nevada. Retrieved 2/16/17 from <https://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/california/forest-restoration-northern-sierras.pdf>