

17-3-8
Graham Noyes



March 22, 2017

The Honorable Mary Nichols, Chair
California Air Resources Board
1001 I Street
Sacramento, CA 95814

RE: ACC Midterm 2017; Advanced Clean Car Rule- Greenhouse Gas Standards

Dear Chair Nichols,

The Low Carbon Fuels Coalition ("LCFC") appreciates the opportunity to provide comments regarding California's Advanced Clean Cars Midterm Review (Midterm Review). This comment relates to the greenhouse gas reduction programs (GHG Programs) discussed in the Midterm Review. Due to recent federal regulatory action and the mandates of AB 197, we recommend that the Governing Board direct Air Resources Board (ARB) staff to revisit some of the Midterm Review's conclusions. In particular, we recommend that staff be directed to assess whether California could better and more cost-effectively achieve transportation sector GHG reductions in disadvantaged communities through the integration of mid and high blend ethanol strategies as components of the Advanced Clean Cars Program (ACC Program).

The LCFC represents a range of fuels and technologies including producers and developers of biodiesel, ethanol, renewable natural gas, waste-derived fuels, and other low carbon fuel industry participants. The LCFC tracks regulations and legislation, advocates for policies that benefit the entire low carbon fuels industry, and facilitates industry success through consensus and coalition building.

Staff Review of GHG Programs

ARB staff participated in the joint agency midterm evaluation of federal passenger vehicle GHG standards and corporate average fuel economy (CAFE) standards with the U.S. Environmental Protection Agency (EPA) and the National Highway and Transportation Safety Association (NHTSA). The Midterm Review reflects the staff

recommendations that the ACC Program be maintained in its present form, and that California continue to participate in the national program through the deemed to comply provision. However the report states,

*"These findings on the benefits to California are based on an analysis assuming the existing national GHG standards. If the stringency of the national GHG standards were substantially changed, (...) these findings would likely be different. In that event, California could revisit whether it would have to conduct a new analysis to determine whether compliance with a new National Program would be an appropriate approach under California's LEV III program to address California's unique air quality challenges and its mandates to achieve aggressive GHG reductions to protect public health and the environment."*¹

Recent Federal Policy Developments

On March 13th, EPA and NHTSA issued a Notice of Intention to Reconsider the Final Determination of the Mid-Term Evaluation of Greenhouse Gas Emissions Standards for Model Year 2022-2025 Light Duty Vehicles. While it was appropriate for the Midterm Review not to forecast this development, EPA and NHTSA have now formally announced the reopening of these federal GHG policies. It is therefore prudent for ARB to recognize the existence of a dynamic federal regulatory landscape, and to revisit California's strategies accordingly. The Midterm Review provides the Governing Board and ARB with an immediate opportunity to begin designing California's GHG programs to be more self-reliant, and to begin considering other potential modifications in the event of federal GHG policy shifts.

Ethanol is a Proven Method to Reduce GHG's from Mobile Sources

Low blend ethanol has supplied most of the GHG gases achieved by California's Low Carbon Fuel Standard to date. Low blend ethanol has also generated most of the renewable identification numbers (RINs) under the federal Renewable Fuel Standard

¹ See "California's Advanced Clean Cars Midterm Review," page ES-4.

² Michael Wang, Robert McCormick, Teresa Alleman et al., Oak Ridge National Laboratory, National Renewable Energy Laboratory, and Argonne National Laboratory, "Summary of High-Octane Mid-Level Ethanol Blends Study," at p. 1, <http://info.ornl.gov/sites/publications/files/Pub61169.pdf> (last viewed 2

(RFS). There are substantial additional GHG reductions that mid and high-blend ethanol can deliver to the state.

Flex fuel vehicles (“FFV’s”) are capable of utilizing high blend ethanol, with the typical fuel blend in California being 83% ethanol with 17% gasoline (“E85”). Previously, FFV’s were a consistent component of both the CAFE and federal passenger vehicle GHG standards. FFV’s received credit for improving fuel economy and reducing GHG emissions based on the calculations of vehicle mileage performance with E85. However, the level of actual E85 fuel usage in FFV’s previously caused NHTSA and EPA to phase down the credit value of FFV’s within the CAFE and GHG Standards. This lack of federal credit has since caused the automakers to begin reducing the number of available FFV models. In 2013, there were 157 models of FFV’s. In 2017, that number has declined to 52. Paradoxically, the decline in federal policy support for FFV’s corresponded with a strong increase in demand for E85, as well as a new pressing policy need for FFV’s and E85 stations to facilitate the introduction of mid level ethanol blends (MLEB’s) for next generation vehicles that require high octane fuel.

This policy imperative is well-expressed in a recent study authored by the National Renewable Energy Laboratory and Argonne National Laboratory:

“Original equipment manufacturers (OEMs) of light-duty vehicles are pursuing a broad portfolio of technologies to reduce CO₂ emissions and improve fuel economy. Central to this effort is higher efficiency spark ignition (SI) engines, including technologies reliant on higher compression ratios and fuels with improved anti-knock properties, such as gasoline with significantly increased octane numbers. Ethanol has an inherently high octane number and would be an ideal octane booster for lower-octane petroleum blendstocks. (...) Thus the legacy FFV fleet can serve as a bridge by providing a market for the new fuel immediately, so that future vehicles will have improved efficiency as the new fuel becomes widespread. In this way, (High Octane Fuel) can simultaneously help improve fuel economy while expanding the ethanol market in the United States via a growing market for an ethanol blend higher than E10.”²

² Michael Wang, Robert McCormick, Teresa Alleman et al., Oak Ridge National Laboratory, National Renewable Energy Laboratory, and Argonne National Laboratory, “Summary of High-Octane Mid-Level

In California, E85 Saves Consumers Money and
Is Favored by Low Income Residents

While it is a high-octane fuel, ethanol is less energy-dense than petroleum gasoline. Due to this factor, FFV's that run on E85 typically display reduced fuel economy on a volumetric basis. However, over the past five years, E85 sold at US independent retail stations has typically been offered at a price discount to gasoline. As a result, after adjusting for fuel economy, E85 customers have typically saved by utilizing the fuel in their FFV's.

In California, the savings benefits that E85 offers customers have been enhanced by the Low Carbon Fuel Standard (LCFS). The LCFS mandates that petroleum refiners and importers meet declining carbon intensity (CI) standards on an annual basis. Between 2011 and 2020, the LCFS mandates a 10% CI reduction for transportation fuels in California. Regulated parties comply with the LCFS either by purchasing low carbon fuels such as ethanol, or by purchasing credits generated by the sale of low carbon fuels. The demand for LCFS credits creates a premium value for low carbon fuels in California, and provides an incentive for low carbon fuel producers to further reduce the CI of the fuels they supply. As a result of the LCFS, the average CI of ethanol in California has been reduced about 8% since 2011, with the volume-weighted average for 2015 at approximately 81 gCO₂e/MJ.³

The amount of value that the LCFS will provide to a gallon of E85 will typically be shared by market participants but still ultimately provides significant cost savings opportunities to consumers. The average LCFS credit price for February 2017, was \$93/MT.⁴ Utilizing an average ethanol CI score of 80 gCO₂e/MJ, and an LCFS credit price of \$90/MT, a gallon of ethanol sold into the California market would generate a

Ethanol Blends Study," at p. 1, <http://info.ornl.gov/sites/publications/files/Pub61169.pdf> (last viewed March 15, 2017).

³ It should be noted that the estimated CI reduction of 8% for ethanol is not a precise calculation but is derived from the publicly available ARB data. See Yeh, Sonia, Julie Witcover and Jeff Kessler. *Status Review of California's Low Carbon Fuel Standard Spring 2013*. Institute of Transportation Studies, University of California, Davis 2013, at p. 4 (noting CI decline of gasoline substitutes from 87.7 to 83.2 gCO₂e/MJ between 2011 and 2012). See also LCFS Dashboard, Tab 5, displaying volume weighted average CI of ethanol, at approximately 81 gCO₂e/MJ for 2015 <https://www.arb.ca.gov/fuels/lcfs/dashboard/dashboard.htm> (last viewed March 21, 2017).

⁴ See https://www.arb.ca.gov/fuels/lcfs/credit/20170314_febcreditreport.pdf

total value of seventeen cents (\$0.17).⁵ Since only 83% of an E85 gallon is ethanol, this results in a total value of fourteen and half cents (\$0.14) per gallon of E85. As a result of this incentive, E85 in California typically sells at a discount to conventional gasoline, after adjusting for the fuel mileage discount.

California has invested Millions to Build E85 Stations

Due to ethanol's proven track record in reducing GHG emissions and dependence on petroleum, California has invested millions to build a network of E85 stations across the state with many of these stations located in disadvantaged communities. According to the California Energy Commission, California has awarded \$13.7 million for 158 E85 fueling stations in the state through the use of AB 118 program funds.⁶ To the extent that California utilizes this network of stations to deliver GHG reductions, this will be money well spent. However, to the extent that California abandons its prior support for E85 use and FFV's are phased out by the automakers, these stations will become underutilized GHG-reducing assets.

AB 197 Mandates GHG Reductions in Disadvantaged Communities

In 2016, California's Legislature passed and Governor Brown signed AB 197, a bill to ensure that California's most impacted and disadvantaged communities be specifically considered and protected in the adoption of GHG rules and regulations. Health and Safety Code §38562.5 provides that:

When adopting rules and regulations pursuant to this division to achieve emissions reductions beyond the statewide greenhouse gas emissions limit and to protect the state's most impacted and disadvantaged communities, the state board shall follow the requirements in subdivision (b) of Section 38562, consider the social costs of the emissions of greenhouse gases, and prioritize both of the following:

(a) Emission reduction rules and regulations that result in direct emission reductions at large stationary sources of greenhouse gas emissions sources and direct emission reductions from mobile sources.

⁵ See Credit Value Calculator, Tab 7, <https://www.arb.ca.gov/fuels/lcfs/dashboard/dashboard.htm> (last viewed March 21, 2017).

⁶ California Energy Commission, "2016-2017 Investment Plan Update for the Alternative and Renewable Fuel and Vehicle Technology Program," at Table ES-1, <http://www.energy.ca.gov/2015publications/CEC-600-2015-014/CEC-600-2015-014-CMF.pdf> (last viewed March 21, 2017).

(b) Emission reduction rules and regulations that result in direct emission reductions from sources other than those specified in subdivision (a).

Section 38562.5 cross-references §38562(b) which provides that:

(b) In adopting regulations pursuant to this section and Part 5 (commencing with Section 38570), to the extent feasible and in furtherance of achieving the statewide greenhouse gas emissions limit, the state board shall do all of the following:

(1) Design the regulations, including distribution of emissions allowances where appropriate, in a manner that is equitable, seeks to minimize costs and maximize the total benefits to California, and encourages early action to reduce greenhouse gas emissions.

(2) Ensure that activities undertaken to comply with the regulations do not disproportionately impact low-income communities.

(3) Ensure that entities that have voluntarily reduced their greenhouse gas emissions prior to the implementation of this section receive appropriate credit for early voluntary reductions.

(4) Ensure that activities undertaken pursuant to the regulations complement, and do not interfere with, efforts to achieve and maintain federal and state ambient air quality standards and to reduce toxic air contaminant emissions.

(5) Consider cost-effectiveness of these regulations.

(6) Consider overall societal benefits, including reductions in other air pollutants, diversification of energy sources, and other benefits to the economy, environment, and public health.

(7) Minimize the administrative burden of implementing and complying with these regulations.

(8) Minimize leakage.

(9) Consider the significance of the contribution of each source or category of sources to statewide emissions of greenhouse gases.

FFV's and E85 Fulfill AB 197 Mandates

Because E85 can be utilized in existing FFV's and saves consumers money at the pump,

this GHG reduction strategy conforms with the requirements of Health and Safety Code §38562, and §38562.5. In particular, FFV's utilizing E85 provide the following specific benefits:

1. Direct emissions reductions from mobile sources (**tailpipe GHG reductions**),
2. Minimize costs and maximize the total benefits to all Californians (**reduced fuel costs**),
3. Are cost-effective (**utilization of existing vehicles and vehicle technologies**),
4. Provide overall societal benefits, including reductions in other air pollutants, diversification of energy sources, and other benefits to the economy, environment, and public health (**reduce petroleum dependence, expand demand for agricultural products, provide additional emission reductions**), and,
5. Minimize the administrative burden of implementing and complying with regulations (**FFV's and E85 are proven and simple GHG reducing policy tools**).

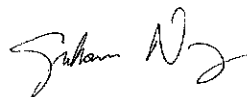
Integrating FFV's into the ACC Program and extending California's policy support for E85 provides the most cost-effective and environmentally impactful way to serve consumers and residents in disadvantaged communities. An FFV running on low-carbon ethanol fuel offers a reasonable, immediate, local, and cost-effective GHG solution.

Conclusion

We look forward to engagement with ARB to further evaluate how mid and high level ethanol blends can best be integrated into the ACC Program to yield the highest possible dividends in terms of GHG reduction, other air quality benefits, petroleum reduction, benefits to disadvantaged communities, and the expansion of California's clean economy.

Thank you for your consideration of this comment.

Sincerely,



Graham Noyes
Executive Director



March 22, 2017

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Pearson Fuels supports the greenhouse gas ("GHG") reductions required by the California Global Warming Solutions Act of 2006 ("SB 32"), and the Air Resources Board's portfolio of programs in the transportation sector to achieve these reductions. Pearson Fuels participates actively in these programs, and is a leading retail supplier of E85 and other low carbon fuels in California.

Pearson Fuels

Specializing in bringing alternative fuels to the public, Pearson Fuels opened the nation's first alternative fuel retail station in 2003. The station was the first E85 station in California, the first biodiesel station in San Diego, and includes a large propane vehicle fuel station, and the county's first dual pressure natural gas station. With funding from ARB, the California Energy Commission (CEC), and the US Department of Energy, Pearson Fuels has developed two major biodiesel blending facilities as well as worked tirelessly to expand California's E85 retail network to become the largest distributor of E85 in the State. Today Pearson Fuels supplies

E85, biodiesel and renewable diesel. Pearson Fuels has also developed a hydrogen fueling station in San Juan Capistrano and is considering additional alternative fuel expansions.

Staff Review of GHG Programs

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*"These findings on the benefits to California are based on an analysis assuming the existing national GHG standards. If the stringency of the national GHG standards were substantially changed, (...) these findings would likely be different. In that event, California could revisit whether it would have to conduct a new analysis to determine whether compliance with a new National Program would be an appropriate approach under California's LEV III program to address California's unique air quality challenges and its mandates to achieve aggressive GHG reductions to protect public health and the environment."*¹

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within the CAFE and GHG Standards. This declining federal credit caused the automakers to begin to phase down the number of available FFV models. In 2013, there were 157 models of FFV's. In 2017, that number has declined to 52. Paradoxically, the decline in federal policy support for FFV's corresponded with a strong increase in demand for E85, as well as a new pressing policy need for FFV's and E85 stations to facilitate the introduction of mid level ethanol blends (MLEB's) for next generation vehicles that require high octane fuel.

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In California, E85 Saves Consumers Money and
Is Favored by Low Income Residents

While it is a high-octane fuel, ethanol is less energy-dense than petroleum gasoline. Due to this factor, FFV's that run on E85 typically display reduced fuel economy on a volumetric basis in the range of 15%-27%.³ However, over the past five years, E85 sold at US independent retail stations has typically been offered at a price discount to gasoline. As a result, after adjusting for fuel economy, E85 customers oftent save on fuel purchases by utilizing E85 in their FFV's.

In California, the savings benefits that E85 offers customers have been enhanced by the Low Carbon Fuel Standard (LCFS). The LCFS mandates that petroleum refiners and importers meet declining carbon intensity (CI) standards on an annual basis. Between 2011 and 2020, the LCFS mandates a 10% CI reduction for transportation fuels in California. Regulated parties comply with the LCFS either by purchasing low carbon fuels such as ethanol, or by purchasing credits generated by the sale of low carbon fuels. The demand for LCFS credits creates a premium value for low carbon fuels in California, and provides an incentive for low carbon fuel producers to further reduce the CI of the fuels they supply. As a result of the LCFS, the average CI of ethanol itself in California has been reduced about 8% since 2011, with the volume-weighted average of ethanol for 2015 at approximately 81 gCO₂e/MJ.⁴

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³ See U.S. Department of Energy, Fuel Economy Site, at <https://www.fueleconomy.gov/feg/flextech.shtml>

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The amount of credit value that the LCFS provides per gallon of E85 is shared by market participants but still ultimately provides significant cost savings opportunities to consumers. The average LCFS credit price for February 2017, was \$93/MT.⁵ Utilizing an average ethanol CI score of 80 gCO₂e/MJ, and an LCFS credit price of \$90/MT, a gallon of ethanol sold into the California market would generate a total value of seventeen cents (\$0.17).⁶ Since only 83% of an E85 gallon is ethanol, this results in a total value of fourteen cents (\$0.14) per gallon of E85. As a result of this incentive, E85 in California usually sells at a discount to conventional gasoline, after adjusting for the fuel mileage discount.

California has invested Millions to Build E85 Stations

Due to ethanol's proven track record in reducing GHG emissions and dependence on petroleum, California has invested millions to build a network of E85 stations across the state with many of these stations located in disadvantaged communities. According to the California Energy Commission, California has awarded \$13.7 million for 158 E85 fueling stations in the state through the use of AB 118 program funds.⁷ To the extent that California utilizes this network of stations to deliver GHG reductions, this will be money well spent. However, to the extent that California abandons its prior support for E85 use and FFV's are phased out by the automakers, these stations are in danger of becoming underutilized GHG-reducing assets.

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In 2016, California's Legislature passed and Governor Brown signed AB 197, a bill to ensure that California's most impacted and disadvantaged communities be specifically considered and protected in the adoption of GHG rules and regulations. Health and Safety Code §38562.5 provides that:

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- (a) Emission reduction rules and regulations that result in direct emission reductions at large stationary sources of greenhouse gas emissions sources and direct emission reductions from mobile sources.*
- (b) Emission reduction rules and regulations that result in direct emission reductions from sources other than those specified in subdivision (a).*

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(2) Ensure that activities undertaken to comply with the regulations do not disproportionately impact low-income communities.

(3) Ensure that entities that have voluntarily reduced their greenhouse gas emissions prior to the implementation of this section receive appropriate credit for early voluntary reductions.

(4) Ensure that activities undertaken pursuant to the regulations complement, and do not interfere with, efforts to achieve and maintain federal and state ambient air quality standards and to reduce toxic air contaminant emissions.

(5) Consider cost-effectiveness of these regulations.

(6) Consider overall societal benefits, including reductions in other air pollutants, diversification of energy sources, and other benefits to the economy, environment, and public health.

(7) Minimize the administrative burden of implementing and complying with these regulations.

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(9) Consider the significance of the contribution of each source or category of sources to statewide emissions of greenhouse gases.

FFV's and E85 Fulfill AB 197 Mandates

Because E85 can be utilized in existing FFV's and saves consumers money at the pump, this GHG reduction strategy conforms with the requirements of Health and Safety Code §38562, and §38562.5. In particular, FFV's utilizing E85 provide the following specific benefits:

1. Direct emissions reductions from mobile sources (**tailpipe GHG reductions on California's highways**),
2. Minimize costs and maximize the total benefits to all Californians (neutral or **reduced fuel costs**),
3. Are cost-effective (**utilization of existing vehicles and vehicle technologies**),
4. Provide overall societal benefits, including reductions in other air pollutants, diversification of energy sources, and other benefits to the economy, environment, and public health (**reduce petroleum dependence, expand demand for agricultural products, provide additional criteria emission reductions**), and,

5. Minimize the administrative burden of implementing and complying with regulations (FFV's and E85 are proven and simple GHG reducing policy tools).

Integrating FFV's into the ACC Program and extending California's policy support for E85 provides the most cost-effective and environmentally impactful way to serve consumers and residents in disadvantaged communities. An FFV running on low-carbon ethanol fuel offers a reasonable, immediate, local, and cost-effective GHG solution.

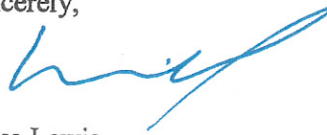
The success of E85 in disadvantaged communities is established by the high rates of E85 adoption by communities with high EnviroScreen 3.0 scores. The location of Pearson Fuel's E85 stations in these communities is illustrated by Exhibit A, showing the location of E85 stations in the Los Angeles, Bay Area, and San Diego metropolitan areas. By providing individuals with reasonable and cost-effective means to proactively contribute towards GHG emission reduction goals, the state can achieve immediate and tangible benefits while also attracting and sustaining the interest and participation of thousands of Californians.

Conclusion

We look forward to engagement with ARB to further evaluate how mid and high level ethanol blends can best be integrated into the ACC program to yield the highest possible dividends in terms of GHG reduction, other air quality benefits, petroleum reduction, benefits to disadvantaged communities, and the expansion of California's clean economy.

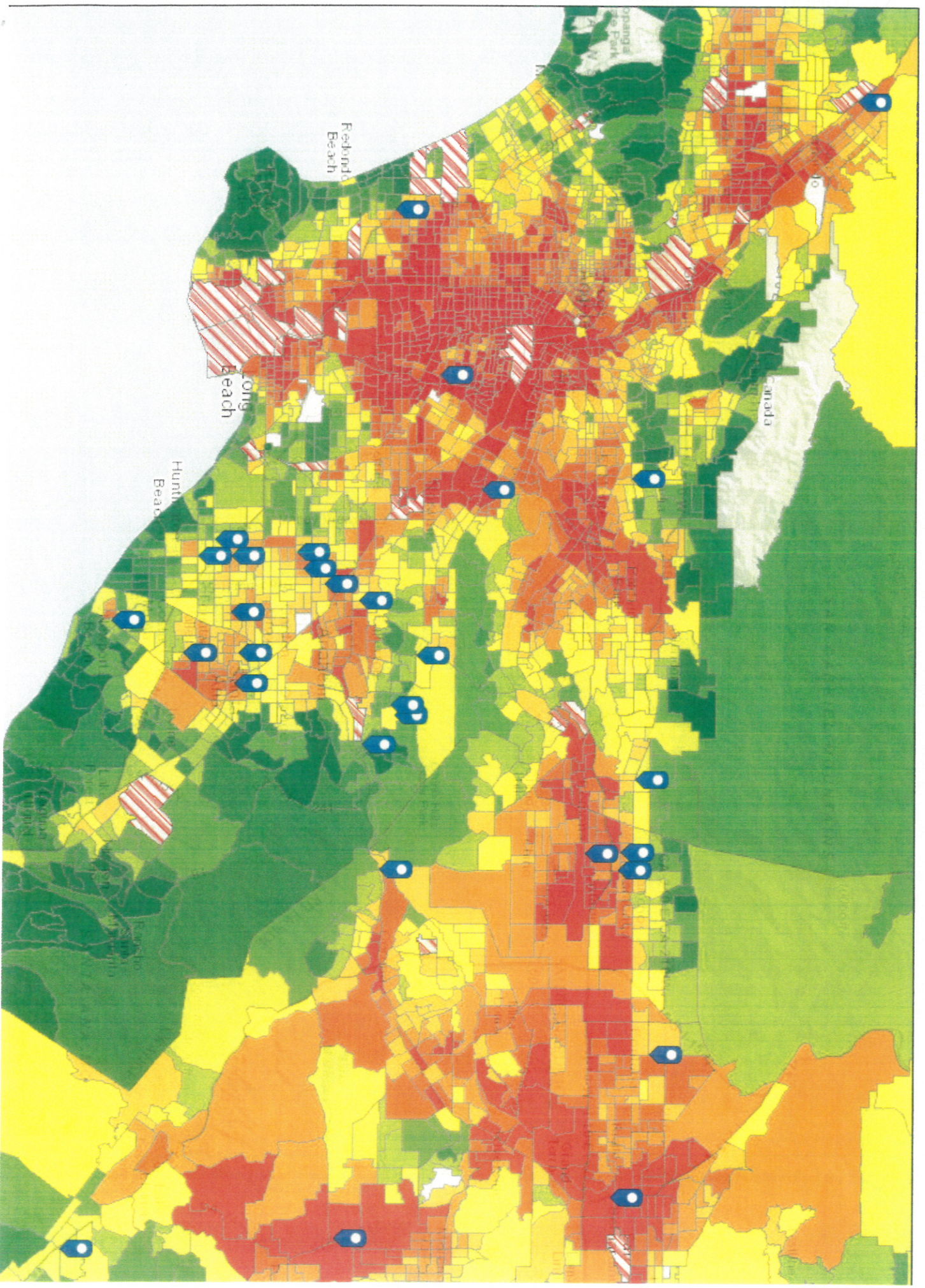
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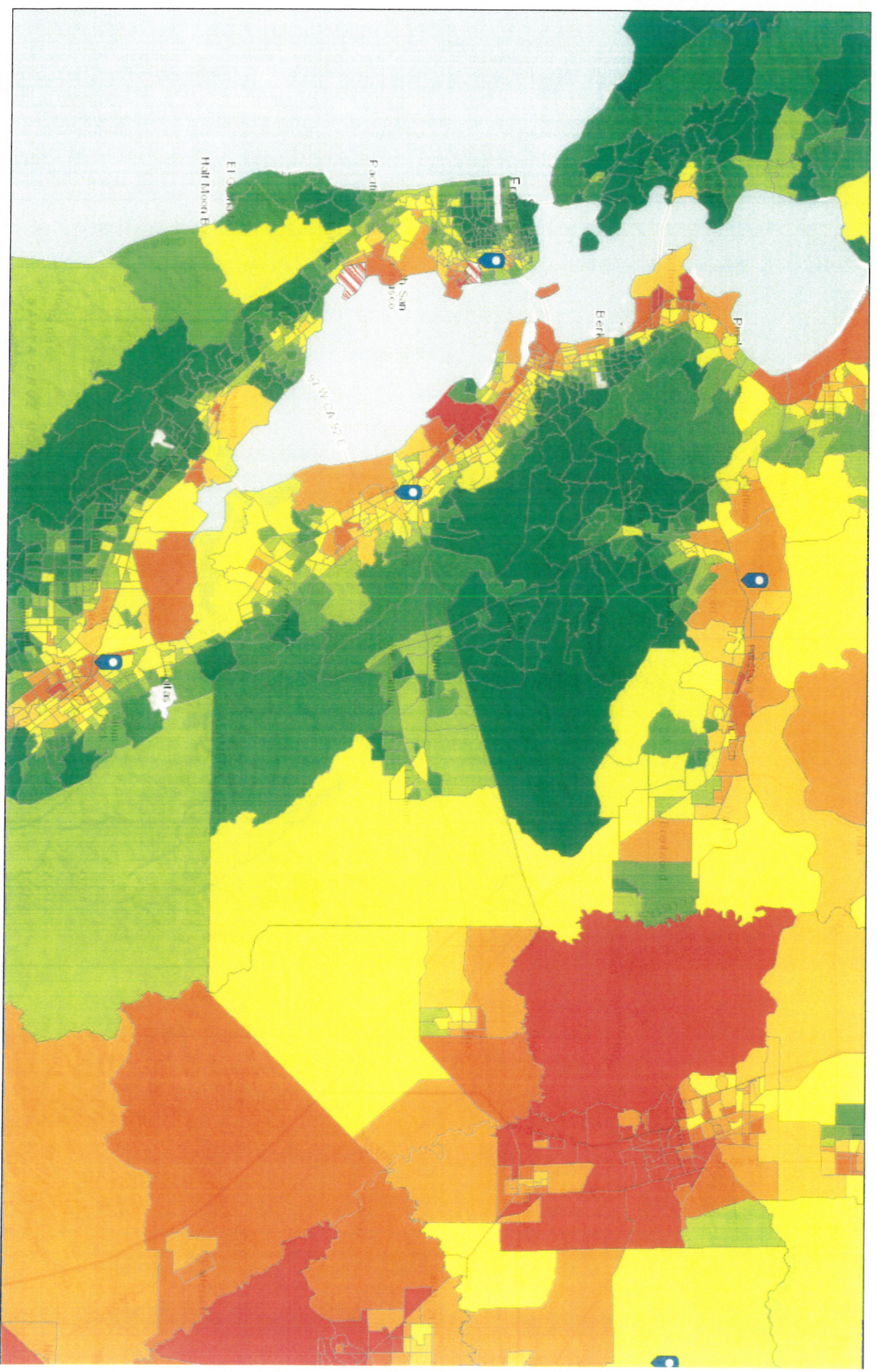


Mike Lewis
Co-founder, Pearson Fuels

CalEnviroScreen 3.0 Results



CalEnviroScreen 3.0 Results



March 21, 2017

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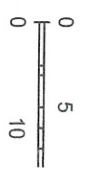
1 - 10% (Lowest Scores)

11 - 20%

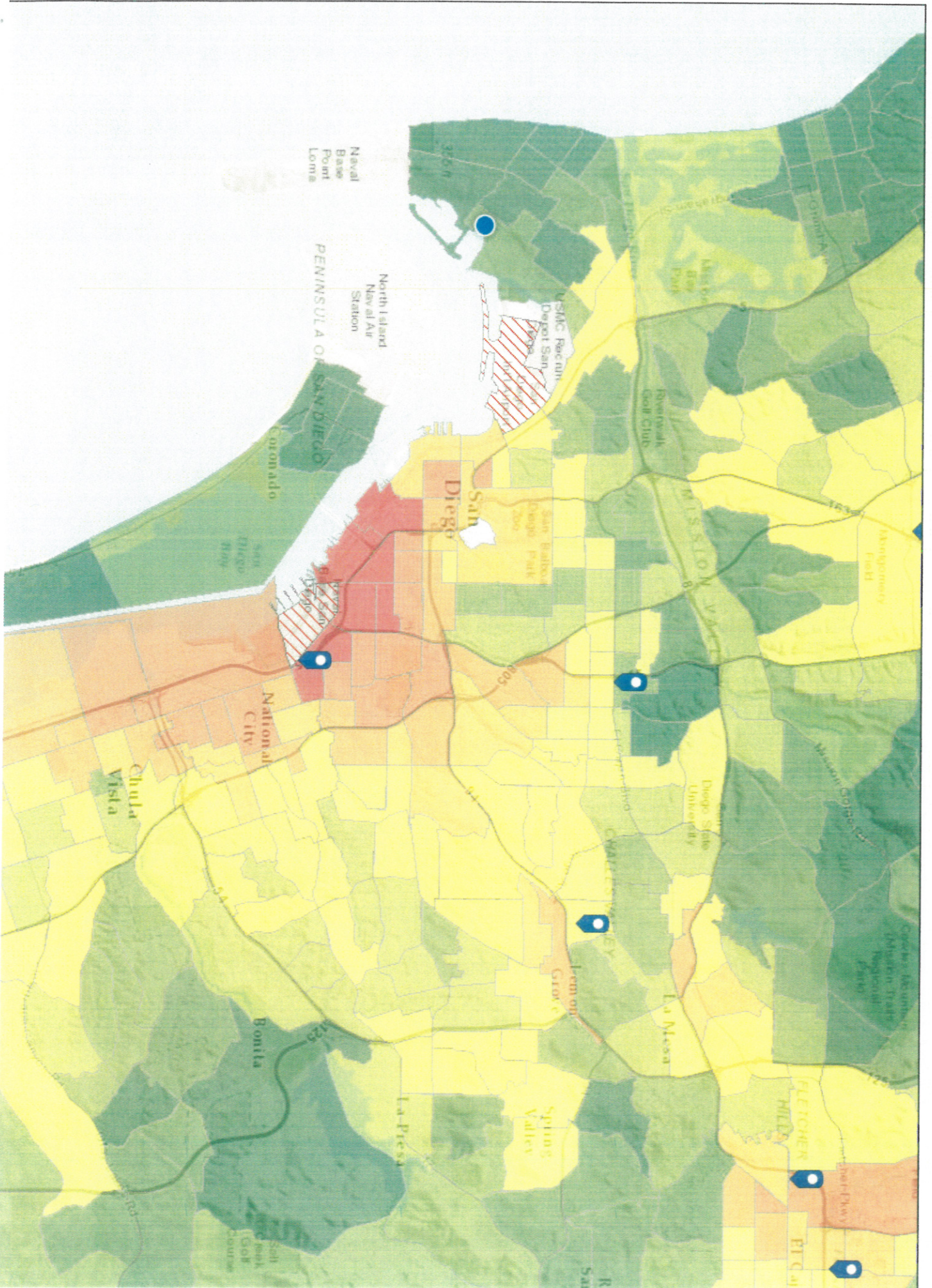
51 - 60%

61 - 70%

71 - 80%



CalEnviroScreen 3.0 Results



17-3-8
Dr. Karen Jakpor



March 24, 2017

The Honorable Mary Nichols
Chair, California Air Resources Board
1001 I Street
Sacramento, CA 95814

Subject: Public Health Support for Strong Clean Cars Standards

Dear Chair Nichols:

On behalf of the undersigned health and medical organizations in California, we write to support strong state and federal advanced clean car regulations to protect public health from motor vehicle pollution. We also write to urge the California Air Resources Board to continue its

leadership by strengthening the clean car rules beginning in 2025 to advance the fight against air pollution and climate change. These state and federal rules are critical to keep our patients and our communities healthier and more resilient to the worst impacts of climate change.

Motor vehicles represent a major share of the air and climate pollutants harming communities in California and across the United States. Their contribution to health and climate threats makes adopting and enforcing the strongest possible motor vehicle standards vital. The changing climate threatens the health of Americans alive now and in future generations. Growing evidence over the past few years has demonstrated the multiple, profound, climate change risks that imperil the lives and health of millions. The increasing evidence of climate change health impacts together with the robust research demonstrating harm by pollution from motor vehicle emissions demonstrate the need for the strongest possible technology requirements to protect public health.

We support strong implementation of existing federal U.S. Environmental Protection Agency/National Highway Traffic Safety Administration vehicle emission standards as well as California's 2025 Advanced Clean Cars and Zero Emission Vehicle program authorized under the Clean Air Act. These federal and state standards are most effective when implemented jointly with the benefits of the standards delivered across the country. California's standards set the bar for curbing emissions of ozone-forming pollution, limiting deadly particles, and controlling climate pollution as they lead the nation forward on zero-emission technology.

Therefore, we offer the following recommendations in support of improving and protecting public health against pollution burdens and global climate change health impacts:

- **California and the federal government must implement current advanced clean car standards to protect public health.** Federal EPA/NHTSA and California emission standards will deliver meaningful climate and public health benefits by 2025. We urge federal and state agencies to ensure the strong implementation of these rules in a coordinated manner in the best interests of public health, clean air and a healthy climate.
- **California should move forward now to develop post-2025 clean car and zero emission technology standards.** California's leadership in developing more advanced clean car and zero emission technology standards is leading the way to cleaner air and a healthy climate. We urge the California Air Resources Board to begin development of the post-2025 standards now to further reduce ozone-forming pollutants, fine particles and climate pollution as well as to strengthen and extend the Zero Emission Vehicle standard. We urge the post-2025 zero emission vehicle program to ensure alignment with a 2050 goal of achieving a robust market with 100% zero emission vehicle sales.
- **California's authority to address motor vehicle pollution standards must be maintained.** Other states should continue to have the opportunity to adopt California standards to maximize pollution reductions now and in the future. California's vehicle program has advanced clean technologies in the United States and around the world. It

has brought tremendous benefits, not only to California residents, but to nationwide efforts to drive down pollution.

California's health-protective standards serve as a benchmark for clean air and climate protections needed across the United States. We support strong federal and state programs that follow California's example and ensure that all people are protected to the greatest extent possible from the serious health burdens of vehicle pollution.

Sincerely,

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American Academy of Pediatrics – California

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March 24, 2017

The Honorable Mary Nichols
Chair, California Air Resources Board
Members of the California Air Resources Board
1001 I Street
Sacramento, CA 95814

Subject: Health Professional Support for Strong Clean Cars Standards

Dear Chair Nichols and Members of the Board:

On behalf of the undersigned health professionals in California and across the United States, we write to support strong state and federal advanced clean car regulations to protect public health from motor vehicle pollution. We also write to urge the California Air Resources Board to continue its leadership by strengthening the clean car rules beginning in 2025 to advance the fight against air pollution and climate change. These state and federal rules are critical to keep our patients and our communities healthier and more resilient to the worst impacts of climate change.

Motor vehicles represent a major share of the air and climate pollutants harming communities in California and across the United States. Their contribution to health and climate threats makes adopting and enforcing the strongest possible motor vehicle standards vital. The changing climate threatens the health of Americans alive now and in future generations. Growing evidence over the past few years has demonstrated the multiple, profound, climate change risks that imperil the lives and health of millions. The increasing evidence of climate change health impacts together with the robust research demonstrating harm by pollution from motor vehicle emissions demonstrate the need for the strongest possible technology requirements to protect public health.

We support strong implementation of existing federal U.S. Environmental Protection Agency/National Highway Traffic Safety Administration vehicle emission standards as well as California's 2025 Advanced Clean Cars and Zero Emission Vehicle program authorized under the Clean Air Act. These federal and state standards are most effective when implemented jointly with the benefits of the standards delivered across the country. California's standards set the bar for curbing emissions of ozone-forming pollution, limiting deadly particles, and controlling climate pollution as they lead the nation forward on zero-emission technology.

Therefore, we offer the following recommendations in support of improving and protecting public health against pollution burdens and global climate change health impacts:

- **California and the federal government must implement current advanced clean car standards to protect public health.** Federal EPA/NHTSA and California emission standards will deliver meaningful climate and public health benefits by 2025. We urge

federal and state agencies to ensure the strong implementation of these rules in a coordinated manner in the best interests of public health, clean air and a healthy climate.

- **California should move forward now to develop post-2025 clean car and zero emission technology standards.** California's leadership in developing more advanced clean car and zero emission technology standards is leading the way to cleaner air and a healthy climate. We urge the California Air Resources Board to begin development of the post-2025 standards now to further reduce ozone-forming pollutants, fine particles and climate pollution as well as to strengthen and extend the Zero Emission Vehicle standard. We urge the post-2025 zero emission vehicle program to ensure alignment with a 2050 goal of achieving a robust market with 100% zero emission vehicle sales.
- **California's authority to address motor vehicle pollution standards must be maintained.** Other states should continue to have the opportunity to adopt California standards to maximize pollution reductions now and in the future. California's vehicle program has advanced clean technologies in the United States and around the world. It has brought tremendous benefits, not only to California residents, but to nationwide efforts to drive down pollution.

California's health-protective standards serve as a benchmark for clean air and climate protections needed across the United States. We support strong federal and state programs that follow California's example and ensure that all people are protected to the greatest extent possible from the serious health burdens of vehicle pollution.

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