

# California wants large percentages of New Trucks to be Zero Emissions by 2035 - Is it possible?

*Yes, but the State needs to follow through on Infrastructure, Grants and Coordination Commitments.*

Recently, the United States Environmental Protection Agency approved a California Air Resources Board (CARB) rule that requires 40 to 75% of new truck sales (vehicle weight dependent) to be zero emissions by 2035. And CARB was not finished there. On April 28, 2023, it adopted its Advanced Clean Fleets (ACF) regulation, which requires approximately 532,000 (142,000 Class 2b – 3, 225,000 Class 4 – 8 and 164,000 class 7-8) of the estimated 1.8 million trucks operating in California daily, to go zero emission between 2024 and 2045.

**For California to succeed in this ZET transition, availability of Infrastructure and access to Incentives are crucial.** ZET infrastructure has three critical components: 1) availability of sufficient grid power and Hydrogen fuel; 2) the ability to get that fuel to the trucks that need it; and 3) trained technicians to service those vehicles. At its October 27, 2022, hearing on the AFR, the CARB Board received assurances from both the CEC and the California Public Utilities Commission (CPUC) that the grid and hydrogen fueling infrastructure will be ready to handle the additional fueling required.

CEC stated that the load on California's grid from the adoption of the AFR would be 2.6% of total electrical consumption and 1.2% of peak electric demand in 2035. It noted that it was working with CPUC, Investor-Owned Utilities (IOUs), and California's Independent Systems Operator (CASIO), to ensure sufficient grid power is available for the ACF and other CARB regulations. Similarly, it is looking at hydrogen as required by Senate Bill 643, to ensure vehicle fueling infrastructure and fuel production support the adoption of zero emission trucks, buses, and off-road vehicles.

This should comfort those worried about grid brown outs and Hydrogen fuel shortages. We all hope the State, CAISO and the IOUs have learned enough from the power emergencies of 2021 and 2022 to ensure that there is surplus grid energy available for ZETs when demand is highest. Otherwise, when electrical demand gets tight, the State may just be exchanging one form of diesel pollution (truck exhaust) for another (ship and backup diesel engines).

CPUC stated that it has been working on site energization issues (getting power from the grid to chargers). As a result of Assembly Bill 841, the Commission now requires that IOUs pass the costs of energizing sites "before the meter" to rate payers. CPUC also recently established a 125 day average connection time requirement for IOUs to bring power to new charging sites. Again, all good news, but look at the fine print. The IOUs have multiple options to stop the clock, and this may be the major stumbling block for ACF implementation, especially for small

fleets and drayage truckers. California is already short on truck parking and what is available for example, at the Port of Oakland, is underserved by electricity and hydrogen infrastructure.

I spoke to Dr. Matt Miyasato, Vice President for Strategic Growth and Government Affairs at First Element Fuel, Inc. regarding the roll out of hydrogen truck fueling. Matt was confident about hydrogen's ability to meet trucker's duty cycle needs but did identify two key challenges: 1) local permitting of hydrogen stations is slow; and 2) station builders must have confidence that there will be enough demand to make an infrastructure investment. A real "chicken and the egg" conundrum.

This conundrum is also reflected in the third leg of the infrastructure stool where not enough technicians are currently available to support the full breath of the ACF. However, I expect that this challenge will be short lived, as manufacturers will have no choice but to support their customer's new trucks.

**Infrastructure or technology edge cases should not be held up as reasons the ACF will not work, but the State needs to be aware of how the use of exemptions will be perceived.** The ACF has allowances for fleets not to comply if infrastructure or technology is not there. However, this will likely create friction with environmentalists who already think the scope and speed of rule implementation are too narrow and too slow. Truckers who have spent money to comply, may also cry foul. This will create an unprecedented communications challenge for CARB and its State partners, who will have to explain why one fleet must comply versus another.

**On incentives, the State has put together an impressive portfolio which includes a \$10 billion commitment from the current Governor over the next five years** towards the transition of California's fleet and grid to carbon neutrality. These dollars are backed by additional Federal and Local grant funding, tax rebates and credits from the low carbon fuel standard. While all this funding is certainly necessary, it is spread across multiple agencies: CARB, CEC, CPUC, local air districts, community choice aggregators and the federal government. This matrix is so convoluted that it has spawned a cottage industry of consultants who, for a portion of the grant or credit funding received, do the applications and reporting for those too bewildered to navigate the options. Certainly, something not envisioned by the State!

## **Conclusions**

While CARB, CEC and CPUC have all committed to providing technical support to fleets regarding incentives, installation of infrastructure and technology selection, **the agencies should also commit to changing the current grant's structure to simplify it.** Stakeholders (State agencies, air districts, legislative staff, lobbyists, environmentalists, and industry) have long avoided cleaning up and simplifying the laws providing grants for fear of upsetting the funding apple cart. However, this is flawed thinking. Many of these programs have decades of excellent performance, but stakeholders should not be afraid of proposing changes to them, especially if those changes help end users. CARB needs to be considering this, unless of course

it believes that the fight over this rule won't spill over into the California Courts and Legislature?

Finally, at the October 2022 ACF meeting, CARB staff talked about a joint statement on coordination between it, CEC and CPUC. On April 20, 2023, that joint statement of intent was issued adding 5 more state agency signatories - a welcome acknowledgement of the mammoth task ahead. The statement outlines how the agencies will "coordinate and consult" with each other on 1) energy supply and grid planning, 2) charging and fueling station infrastructure planning and 3) charging and fueling station development. However, the statement misses the mark on coordination with stakeholders, only containing a commitment for the state agencies to attend stakeholder "workgroups, workshops and when applicable, board or commission meetings." This might be good for inter-government coordination but certainly does not put stakeholders or communities at the table as equal partners with the state agencies. This is a major missed opportunity!

In my time at the Bay Area Air Quality Management District (BAAQMD), we adopted many technology forcing rules. As those leaps became larger, we understood that real dialogue with and input from impacted stakeholders and communities, was the key to successful rule implementation. BAAQMD's latest rule, requiring a future phaseout of water and space heaters that use natural gas, has a provision for an Implementation Working Group. This group is tasked with ensuring the rule is working, and if not, proposing amendments to it.

BAAQMD is not the only place where such models are working. I spoke to Ms. Margaret Gordon, Co-Founder and Director of the West Oakland Environmental Indicators Project (WOEIP) about the Port of Oakland's (Port) Sustainability Collaborative. She explained that in pushing for the elimination of diesel use at the Port - community, industry, environmental justice and local government (air district, City, Port and transportation agency) representatives were working together as equals under a formal agreement. The parties share information on zero emissions technologies and infrastructure, work on grants to support their deployment and learn together about what will or will not work in various duty cycles. Ms. Margaret firmly believes that this example could be used as a model for ACF implementation. Her message was simple "You need to come, sit, and learn at our table!"

**CARB and its State partners should convene a "rule implementation working group" as part of the ACF's roll out.** This group should be structured as an equal partnership between stakeholders with the power to request rule changes from the CARB Board when things are not working. Such a body would provide the transparency that will be needed in the ACF's roll out. BAAQMD's implementation working group "may include community-based organizations, environmental justice groups, advocacy, and subject matter expert organizations, ....technology experts, ....local and state government staff, funding and financing agencies, equipment manufacturers and distributors, .....representation organizations and labor organizations." Not a bad list - CARB, CEC and CPUC - if you are reading this!

#### About the Author:

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