Understanding Clean Car

BY MATT SOLOMON

The 2018 zero-emission vehicle *(ZEV)* requirements might mean big changes for dealerships in New Jersey – but then again, they might not. The ZEV rule, which requires OEMs to make up an increasing percentage of their overall sales with electric, plug-in-hybrid, or fuel-cell vehicles between 2018 and 2025, contains a number of flexibilities intended to ease the regulatory burden on manufacturers, allowing each one to tailor a compliance plan that fits best with its overall business strategy.

While helpful to carmakers, these flexibilities also make it difficult to pinpoint the number of ZEVs that will be delivered for sale in New Jersey or any other ZEV Program state outside California. This article will attempt to de-mystify the process that state regulators use to determine compliance, which will hopefully shed some light on the choices that each manufacturer will face, and the resulting span of possible deployment numbers here in New Jersey.

The number of ZEVs that a manufacturer is required to sell in each ZEV Program state is based upon that manufacturer's total annual sales in that state. But because manufacturers can use credits earned and "banked" from previous years, and because they can also purchase credits from other companies, **the number of actual cars they'll need to sell in a given year could be as little as zero.** CARB has calculated that, on average, manufacturers could continue to sell ZEVs at current levels through 2021, meeting the additional requirements simply by spending down their banked credits.

It's also important to remember that the requirements are defined in terms of *credits,* not cars. All battery-electric vehicles *(BEVs)* and many plug-in hybrid-electric vehicles *(PHEVs)* will get more than one credit per car: they can earn between 0.5 and 4 credits apiece, based on the total miles that can be driven on a single charge. This means, for example, that General Motors would need to sell more than three times as many Volts *(1.3 credits each)* as Bolts *(4 credits each)* to earn the same number of ZEV credits. It also means that each manufacturer's sales share requirement can't be calculated without knowing exactly which mix of vehicles *(and specifically, how far each model can go without the engine turning on)* will be used for compliance.

As if those factors don't make it hard enough to project an actual number of ZEVs to be delivered for sale in the state, there is one more: Most manufacturers are expected to take advantage of a provision in the rule that allows them to trade not just with other credit holders *within the state;* but also to trade credits from their bank in one state to their banks in any *other* ZEV Program state *(except California),* a process known as "pooling". While this sounds technical, it can have a major impact on manufacturers' sales plans and targets. A carmaker could choose, for example, to sell more ZEVs than required in New York, and then transfer the extra credits earned from those sales to its "bank" in New Jersey, in lieu of sales. There is no limit to how much of the requirement can be met this way.

How will this work in practice? Manufacturers have wide latitude to focus on those markets within the "pool" that work best for them and their dealers. It will be up to each individual OEM to decide whether to sell extra ZEVs – and thus earn extra credits – in New Jersey, or to sell fewer ZEVs here and use credits from another state in the pool to comply with New Jersey requirements. That said, based on our experience working with states and automakers to

build ZEV readiness, we can expect certain factors to come into play, including consumer awareness, charging infrastructure, and the availability of customer incentives.

In many ways, the pooling provisions represent a real opportunity for New Jersey dealerships. The manufacturers are not, technically, required to sell significantly higher volumes in New Jersey *(though, as mentioned, they'd need to make up any New Jersey credit deficit with surplus credits earned elsewhere in the region).* But they should be eager to partner with dealerships to tap into the many potential new markets in New Jersey that have yet to experience the rapid growth in EV sales that we're seeing now in states like Connecticut and Massachusetts. What's more, things are increasingly lining up to support ZEV sales within New Jersey. There are now over 500 public charging outlets already installed around the State, increasing buzz among consumers around exciting new plug-in models, and, of course, the State Sales Tax exemption for BEVs, a reliable incentive that pencils out to over $2,500 in savings for a typical EV buyer.

In addition, New Jersey's Department of Environmental Protection *(NJDEP)* has launched several programs aimed at expanding access to charging infrastructure throughout the State. Through its workplace charging grant program *It Pay$ to Plug In,* NJDEP has awarded nearly $850,000 in grants to help businesses install chargers for use by their employees. While the initial round of funding has been exhausted, NJDEP has received preliminary approval for $3.6 million in additional transportation funding for strategic deployment of an expanded electric vehicle charging infrastructure. Once authorized, this funding will allow NJDEP to reopen *It Pay$ to Plug In,* and to expand the program to additional strategic settings to help build out the public charging network Statewide, covering not just workplaces but also downtown areas, leisure destinations, public colleges and universities, and major transportation corridors.

So, given all of that, how many EVs can we expect OEMs to deliver for sale in New Jersey? While we still can't make a precise estimate, we can look at some relevant benchmarks for context. For example, we know that if total industry sales remain at current levels across the entire ZEV state "pool" *(roughly 3M annual sales in 2016 in the nine pool states,)* manufacturers collectively will need to submit about three million credits through 2025. CARB projects that across all the pool states, manufacturers will have a collective surplus of 840,000 credits by the end of 2017, reducing the combined industry-wide obligation over the next eight years to 2.2 million credits. Assuming New Jersey maintains its 21 percent share of total LDV sales in the nine pool states, its proportional share of the total requirement from all manufacturers from 2018 to 2025 would be 460,000 credits.

So how many cars does that translate to? Well, that's going to be different for each manufacturer, because each BEV and PHEV gets its own specific credit score. But we can calculate a theoretical upper and lower bound for these nominal requirements *(remember we still haven't accounted for pooling).* If, for example, the full credit requirement was met entirely with cars like the Bolt, which earns 4 credits apiece, then manufacturers would need to deliver just under 120,000 for sale in the State over the next eight years. In the other extreme, if manufacturers were to comply entirely with vehicles that earn the lowest amount of credits *(which seems unlikely given the current industry trend toward vehicles with greater range),* they'd need to deliver around 380,000 PHEVs and around 320,000 BEVs in the same time frame.

Of course, because of credit pooling, those numbers are just benchmarks. It will be up to the manufacturers to choose where within the pool they want to earn the ZEV credits they need. For dealerships that are interested in stepping out as technology leaders, the pooling provision of the ZEV rule presents an opportunity to partner with manufacturers in tapping this new and rapidly growing market segment. For those dealerships that are still uncertain, the regulatory flexibilities described above should provide some clarity – and hopefully relieve some anxiety – about the manufacturers' near-term obligations. And the coming year will present a terrific opportunity to learn more about electric-drive technology, and see why it is appealing to an ever-increasing share of the driving public.

Here at NESCAUM, we're working with various states to support ZEV deployments across the northeast and beyond through innovative policy work, technical analysis, and concerted stakeholder engagement. We're working with the OEMs to develop an outreach campaign to help spark consumer interest in driving electric. As facilitators of the ZEV Task Force Dealerships Workgroup, we are talking with dealer associations on a regular basis, to make sure we hear about any concerns and to build on opportunities to work together to grow the ZEV market. **nj car**

Matt Solomon is Transportation Program Manager at NESCAUM. He can be reached at 517.259.2029 or, via email, at msolomon@nescaum.org.

[1]Ten states in total are implementing the ZEV Program requirements: California, Connecticut, Maine, Maryland, Massachusetts, New Jersey, New York, Oregon, Rhode Island, and Vermont.

[2]The pool states consist of all ZEV Program states except California. Credits traded between Oregon and any other pool state are discounted by 30%.

[3]California Air Resources Board, Advanced Clean Cars Midterm Review Report, Appendix A, Table 3. https://www.arb.ca.gov/msprog/acc/mtr/appendix_a.pdf