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A Green Initiative Policy

Rising concerns about air pollution, greenhouse emissions, public health, global warming and the ever-looming threat of climate change have motivated many industries to accelerate the pace of green innovation and raise public awareness about eco-friendly products. Today, California is renowned for green initiatives, and California knows that bold steps are needed. Since the 1960s, the California Air Resources Board has been ratcheting down motor emissions to cut smog and protect public health and environment. The transportation sector, including all passenger cars and light trucks, heavy duty trucks, off road vehicles and fuel needed to power them, is responsible for half of California's greenhouse gas emissions. In response to these factors, the California governor introduced new regulations called *The Advance Clean Cars Act II* (ACC II) that restrict the trade of internal combustion vehicles and facilitate the transition to zero emissions vehicles (ZEV) on public roads. This act aims to increase the percentage of ZEV numbers until it reaches 100 % in 2035.

A notable green initiative has been many states move to ban the sale of gasoline cars, a policy that other regions are beginning to adopt. A total 12 states have adopted the Advance Clean Act regulations and three states are in the process of adopting the regulation. Yet, despite like-minded states starting to adopt this act, some people are concerned about the potential risk of the environmental disparities favoring wealthy residents who can afford to buy electric cars.

As a result, Jim Appleton, president of the New Jersey Coalition of Automotive Retailers, says, “This is an extreme government mandate that limits consumer choice and threatens to make new cars unaffordable for working and middle-class families in New Jersey” (qtd. in Fry). Meanwhile, such quick actions may have potential risks and challenges though, the government expects ACC II may pave the way for the transit of new energy cars, one of the ways to achieve our environmental goals.

Ultimately, I believe the policy is an essential step to transition from internal combustion vehicles to electric vehicles, leading to beneficial long-term effects on the planet and establishing a new system to the widespread adoption of sustainable energy in the automotive industry.

To begin, gasoline cars have higher emissions, which is responsible for 80 % of smog-causing pollutants, significant sources of toxic air contaminants that directly affect community health, the environment and economy. Still, gasoline vehicles dominate most of the country’s public roads. Furthermore, gasoline vehicles don’t just harm the climate, they also wreak havoc on public health. Due to the fact that gasoline vehicles make up approximately 80% of total air pollution in California, burning gasoline and diesel accounts for most of the harmful gases like carbon dioxide, nitrogen oxide and particulate matter which contribute to serious respiratory diseases. Along the same lines, electric vehicles produce no tailpipe emissions, eliminating pollutants such as nitrogen oxides and particulate matter, which significantly contribute to air pollution and respiratory issues. A US Department of Energy study shows average electrical sources of vehicles. The data implies that compared to gasoline cars, electric vehicles have significantly less CO₂ emissions that emit approximately 3k per vehicle based on assumptions with 2022 data (“Electricity Sources and Fuel -Cycle Energy”). Contributing to a good quality of atmosphere leads to health benefits and cost saving as well. According to the

American Lung Association, transitioning to zero emissions vehicles could prevent thousands of premature deaths annually and save billions in healthcare costs. This is due to the significant reduction in exposure to harmful pollution like PM2.5, which exacerbate conditions such as heart disease. Consequently, ZEV improves the status of the environment as well as public health after all. On the other hand, while reducing air pollution and enhancing public health are vital short-term benefits, the long-term success of the ACCII policy lies in its ability to promote a sustainable energy future.

Building on the foundation of cleaner air, the Advance Clean Act II policy also drives advancement in sustainable energy by facilitating innovations, such as the grid integration. A key form of ZEVs are powered solely by electricity, which is capable of generating from natural gas, coal, nuclear energy, wind energy, hydropower, and solar power. Some ZEV cars use the latest electric technology to contribute to sustainable energy. To take a case in point of hybrid electric vehicles, they create synergy from gasoline and electric energy to reduce the fuel consumptions. A significant advantage of electric vehicles (EV) compared to conventional gasoline vehicles is their energy efficiency. Unlike gasoline cars, EVs use approximately 87% - 91% of the energy from the battery and regenerative braking to propel the vehicles, while gasoline vehicles only convert about 16% - 25% into movement ("Where the Energy Goes"). It is based on analysis of over 100 vehicles by Oak Ridge National Laboratory using EPA test car list data files. These solely energy and technology push the fundamentals of reusable energy leading to new optional ways to contribute green initiative in transportation sectors, which can affect long-term benefits on the environment. This renewable energy lifecycle emits a lower rate of greenhouse gases over a long period, because recycling EV batteries can reduce the emissions associated with making

an EV by reducing the need for new materials. The EV lifecycle fosters technological innovations that optimize energy efficiency and support sustainable practices.

The ACCII policy not only supports innovations, but also ensures that it benefits all communities and prevents disproportionate burdens. Previous programs, such as those implemented before ACCII, emphasize helping California transition to electric vehicles. However, as EVs become more mainstream, the state has shifted its focus to assist individuals who cannot afford the higher upfront costs of these vehicles. One such initiative, the “*Clean Cars 4 All*” program, provides up to \$9,500 to low-income drivers who scrap older vehicles and purchase cleaner options, including EVs. This program is a critical step in making EVs accessible to economically disadvantaged groups, aligning with ACCII’s commitment to inclusivity and equity. Air board spokesman David Cleger emphasizes this approach, stating, “The goal here is not to eliminate options for one group of motorists at the expense of another, but to assist those who’ve been unable to purchase a cleaner vehicle and to broaden and deepen the state’s ZEV (zero-emission vehicle) fleet.” (“CarMatters”). His point highlights the policy’s intention to ensure no one is left behind in the transition to cleaner technologies.

Moreover, the policy also subsidizes cleaner heavy-duty vehicles like school buses to promote the environment benefits in disadvantaged areas. Subsidies and policies that facilitate the transition to cleaner heavy-duty vehicles are especially beneficial to minority communities, as the link between diesel emissions for Black and Latino communities overburdened on living life. One great example of subsidies targeted at the community level is *Clean School Bus Rebates*. This program provides subsidies to school bus fleet owners to replace existing fleets with clean and zero emissions vehicles, as well as subsidies for EV charging infrastructure (“Aspen Global Change Institute”). By prioritizing accessibility and equity, the ACCII policies fosters the

transition to sustainable energy, reinforcing the importance of collective action in combating climate change.

Finally, investment in EV infrastructure under policies like the ACCII generates significant economic benefits and job creations. A prime example is Biden-Harris Administrations allocate of \$15.5 billion to retools existing automotive manufacturing facilities and expand the EV infrastructure, ensuring the transition to electric vehicles creates high-paying, union-supported jobs. According to the U.S. Secretary of Energy Jennifer M. Granholm, “building the cars of the future also necessitates helping the communities challenged by the transition away from the internal combustion engine” (energy.gov). In other words, she believes in the importance of economic growth and equity. To sum up, the policy, like the ACCII, facilitates the contribution from the federal government.

The Advance Clean Cars Air II regulations have implemented adaptable measures across diverse areas to ensure no community is left behind, maintain fairness and accessibility. As the government has been making efforts, many sectors are experiencing positive transformations, fostering a new sustainable lifestyle for all. As the global environment continues to evolve, we must challenge ourselves with innovative technological reforms to combat climate change.

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