

February 11, 2020

Kansas Taxation Committee
The Honorable Steven Johnson, Chair
Kansas State Capitol, Room 112-N
Topeka, Kansas 66612

RE: HB 2499

Thank you, Representative Johnson and Committee members, for the opportunity to appear before you today. I am Dr. Joe Haslag, Economics Professor at the University of Missouri-Columbia. Today, I would like to address the economic impact that investments in electric vehicle charging infrastructure will have on the Kansas economy, including the revenue effects. The economic projections go toward assessing whether a credit is worth it.

Summary

In the next decade, fifty percent (50%) of all cars and light-duty trucks sold in the United States will be electric.¹ Presently, there are three primary impediments to the large-scale adoption of electric vehicles (EVs). First, besides a few sparse low-cost offerings in the market, the price of most EVs today are more expensive than internal combustion engine vehicles. That will change dramatically in the next 24 months, as the cost of batteries continues to decline at an astounding rate (more than an 87% decline since 2010). Second, the range of the car batteries (in other words, the miles driven per charge) continues to accelerate, and in fact, even today, many EVs to be introduced to the market in 2020 have ranges of 300 or more miles, comparable to internal combustion engine vehicles. Third, EV consumers uniquely suffer from “range anxiety”, the fear of having a depleted battery with no public means to charge. The car and battery manufacturers are currently spending billions to address the first two issues; it will be up to private capital, in partnership with state and local governments, to solve the third issue. Without a public direct current fast charging (DCFC) EV network in Kansas, car manufacturers will not be incented to sell vehicles in the state, and further, consumers simply will not switch to electric vehicles, regardless of price and battery range.

The below presents the report’s key findings regarding the positive economic impact a \$30 million tax credit investment (“**Investment**”) in a DCFC network will achieve for Kansas by encouraging the adoption of EVs in the state.

- Increase in GDP

All of the Investment will be applied to the construction of EV charging stations and electrical equipment and to local subcontractors in the electrical, plumbing, concrete and other trades. The projected, discounted gain of real GDP from the Investment is **\$219.40** million over 20 years.

- Increase in Tax Revenue Base

- The expected increase in the tax revenue, due solely to the increase in GDP, is \$14.04 million over 20 years.
- Because EV drivers will pay more in annual road tax than internal-combustion engine

¹ See Electric Vehicle Outlook 2019 *BloombergNEF*.

drivers, the projected, discounted increase in state tax collections is \$80.03 million over 20 years.

- Taken together, Kansas will collect **\$94.07** million on a projected, discounted basis over 20 years, which just taking these additional tax collections into account, will yield a **5.88%** ROI on the Investment, which is similar to what an investor could expect to earn in a public infrastructure fund taking far more risk.

- Discretionary Income and Rural Economic Development

Due to significant fuel savings and avoided maintenance, an EV driver in Kansas will save around \$1,000 per year. Given the national savings rate average, 8.1% of those savings will go back into local communities. Those savings tend to be higher in rural areas since miles driven are considerably higher than in urban communities.

- Social and Environmental Impact

By replacing internal combustion engine vehicles with zero emission electric vehicles, the environmental and social costs of greenhouse gas emissions will decline significantly. Over the next 20 years, the projected, discounted sum of reduced environmental and social costs to Kansas is **\$323.39** million.

Joseph H. Haslag, PhD
Professor and Kenneth Lay Chair in Economics
haslagj@missouri.edu
573-882-3483