STATE OF MINNESOTA
PUBLIC UTILITIES COMMISSION

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August 26, 2021

In the Matter of Xcel Energy-Electric's Petition for Approval of Electric Vehicle Programs as part of COVID-19 Pandemic Economic Recovery Investments

Docket No. E002/M-20-745

Initial Comments of Fresh Energy, Sierra Club, Union of Concerned Scientists, and Plug In America

Fresh Energy, Sierra Club, Union of Concerned Scientists and Plug In America (the Clean Energy Groups, or CEGs) submit these Initial Comments in response to the Commission's August 3, 2021 Fourth Notice of Extended Comment Period.

Our comments focus primarily on Xcel Energy's ("Xcel" or "the Company") proposal to provide vehicle rebates to residential and commercial customers given the relative novelty of this program and the level of funding that Xcel proposes to dedicate to this program.

1) Introduction

1.1. The latest climate science is better and urges more action, sooner

The most recent report from the Intergovernmental Panel on Climate Change (IPCC) underscores with ever more accuracy and urgency the future that awaits us without coordinated, swift action to reduce our greenhouse gas (GHG) emissions dramatically before the end of the decade.[1] After a summer of record-breaking heat waves, droughts, and wildfires across the country – including and especially here in Minnesota – the public needs no report to tell them of the travails to come should we fail to reach our climate goals. Transportation is still the number one source of GHG emissions in Minnesota, and while some progress in reductions have been

[1] IPCC, "Summary for Policymakers" as found in report, *Climate Change 2021: The Physical Science Basis* (Aug 2021)
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made, much more needs to happen to reach the GHG emissions reduction goalposts outlined by the IPCC. Transportation electrification is a key part of achieving rapid decarbonization.

1.2. Electric vehicles are a necessary part of the zero-emissions future and provide many co-benefits

Numerous independent studies have come to the same conclusion: reducing global warming pollution to the levels required to avoid the worst impacts of climate change will require a dramatic shift to electric vehicles (EVs) powered by renewable and other zero-carbon energy sources.[2] EVs are cleaner than gasoline and diesel vehicles today and will become even more so as the electricity generation mix used to charge the vehicles continues its transition from coal to renewable energy.[3]

Electrifying transportation would also have tremendous public health benefits. The Minnesota Department of Health estimates that particulate matter and ozone pollution contribute to 2,000-4,000 deaths per year in Minnesota,[4] and vehicle tailpipes are a source of those air pollutants. Most troublingly, the costs of this pollution are not distributed equally; they fall disproportionately on children, the elderly, economically disadvantaged communities, and communities of color.[5] Switching gasoline and diesel vehicles for EVs can help reduce disproportionate pollution exposures in communities burdened by transportation pollution.

The successful implementation of EV programs and rate options can both accelerate transportation electrification and lower the cost of integrating renewable energy by leveraging charging load flexibility and the energy storage inherent in EV batteries. Done right, widespread transportation electrification will benefit all utility customers and Minnesota residents more broadly. MJ Bradley & Associates estimate that a mass market for light-duty EVs consistent with

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[2] *See, e.g.*, Williams, J.H. et al., "Pathways to Deep Decarbonization in the United States," Energy and Environmental Economics, Inc. (E3), November 2014; California Council on Science and Technology, "California's Energy Future: The View to 2050," May 2011; Williams, J.H. et al., "The Technology Path to Deep Greenhouse Gas Emissions Cuts by 2050: The Pivotal Role of Electricity," *Science* 335, no. 6064 (January 2012): 53-59; Cunningham, Joshua, "Achieving an 80% GHG Reduction by 2050 in California's Passenger Vehicle Fleet," *SAE International Journal of Passenger Cars—Electronic and Electrical Systems* 3, no. 2 (December 2010): 19-36; Wei, Max et al., "Deep Carbon Reductions in California Require Electrification and Integration across Economic Sectors," *Environmental Research Letters* 8, no. 1 (2013); Melaina, M. and K. Webster, "Role of Fuel Carbon Intensity in Achieving 2050 Greenhouse Gas Reductions within the Light-Duty Vehicle Sector," *Environ. Sci. Technol.* 45, no. 9 (2011): 3865–3871; International Energy Agency, "Transport, Energy, and CO2: Moving Towards Sustainability," OECD/IEA, 2009; National Research Council, "Transitions to Alternative Vehicles and Fuels," (Washington, D.C.: The National Academies Press, 2013).

[3] David Bael and Kathy Raleigh, "Life and breath: How air pollution affects health in Minnesota," Minnesota Department of Health and Minnesota Pollution Control Agency, (June 2019)

[4] The Minnesota Pollution Control Agency's and Department of Health's 2015 *Life and Breath* report (link) examined the effects of air pollution in the Twin Cities by zip code. The results (at pp. 36 – 38) are staggering: rates of premature death, respiratory hospitalizations, and asthma-related ER visits are dramatically higher in economically disadvantaged neighborhoods and neighborhoods in which the majority of residents are people of color

[5] *Id* at 13.

meeting the state's greenhouse gas reduction goals could provide cumulative net benefits to utility customers, EV drivers, and society at large totaling **over $30 billion**.[6]

1.3. Direct access to the benefits of electric vehicle ownership is still limited

Though the prices of electric vehicles have fallen dramatically in the past five years, with more affordable options coming into the market, on average electric vehicles still have a slight premium over their gasoline-powered counterparts.[7] While cost-parity across the board is estimated to arrive by 2025, it's well-documented that EVs are already cheaper to operate and maintain over their lifetime than their gasoline-vehicle counterparts. In fact, a recent study by the U.S. Department of Energy found that electric vehicles have a roughly $0.04 per mile savings on maintenance over their lifetime when compared to gasoline-powered vehicles. Over an expected 200,000 miles, these savings can accrue to $8,000.[8] Coupled with cheaper fuel costs, many electric vehicle models today can be cheaper than their gasoline-powered equivalents over their lifetime.[9]

This means that an electric vehicle purchase program, as proposed by Xcel Energy, that aims to support customers overcome the upfront technology and cost barrier of purchasing an electric vehicle will also unlock the benefits of these lower costs over the long run for these customers. In other words, the purchasing of EVs is the challenge to overcome; once it is, recipients will benefit from fuel cost and maintenance cost savings over the life of the vehicle.

2) Electric Vehicle Purchase Incentives

Before evaluating Xcel's specific electric vehicle rebate proposal, we want to provide a general overview of electric vehicle rebates and how to design them with equitable outcomes in mind, an important goal of transportation electrification. Additionally, several members of the Clean Energy Groups supported and signed onto the August 31, 2020 letter submitted into the E,G999/CI-20-492 COVID-19 Recovery &Relief docket, which calls for 40 percent of the benefits from utility programs proposed under the auspices of Covid-19 economic recovery to accrue to Black, Indigenous, and people of color (BIPOC) communities due to the disproportionate economic and health burden those communities have borne throughout the pandemic as well as historically.[10] While much of the discussion that follows focuses on household income as

[6] M.J. Bradley and Associate, "Electric Vehicles Cost Benefit Analysis: Plug In Electric Vehicle Cost-Benefit Analysis for Minnesota." (July 2018)
[7] New York Times, "Electric Cars Are Better for the Planet – and Often Your Budget, Too." (Jan 2021)
[8] InsideHook, "Here's Exactly How Much Cheaper It Is to Maintain an EV vs. Your Gas Car." (June 2021)
[9] See footnote 7
[10] Both the Union of Concerned Scientists and the Minnesota chapter of the Sierra Club signed onto this letter, alongside many other organizations.

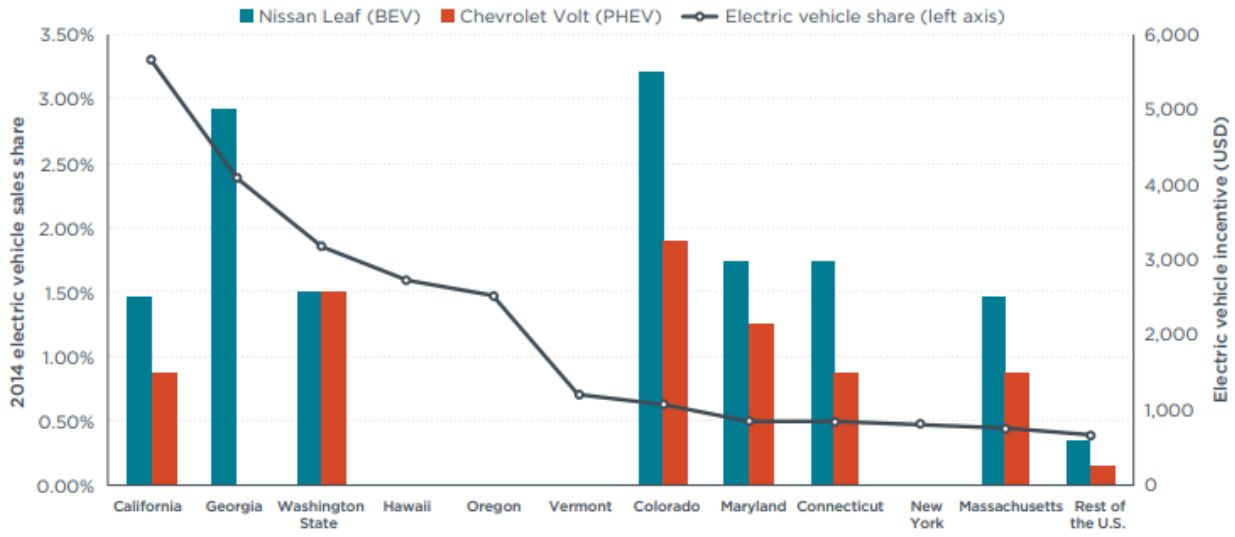
determining program participation, the CEGs also encourage Xcel Energy to consider the letter's stated priorities in evaluating these electric vehicle programs.

2.1. Purchase incentives, when designed adequately, can spur increased levels of electric vehicle adoption among consumers

Electric vehicle (EV) purchase incentives are a policy mechanism that has been shown to spur higher rates of adoption of electric vehicles among consumers than may have occurred without it, when designed well. An illustrative example of purchase incentives' efficacy can be seen in Georgia, where availability of the state's electric vehicle tax rebate program tracked extremely closely with sales of electric vehicles in that state. When the rebate was stopped, however, sales plummeted.[11]

However, as the International Council on Clean Transportation (ICCT) notes in its 2016 report on electric vehicle incentive design,[12] the design of such incentive programs is instrumental in ensuring their impact. A relatively high incentive alone may not spur significant adoption if it's bogged down in complexity or provided with little consumer marketing and education. Figure 1 shows how various state programs differed in spurring electric vehicle sales in several U.S. states with incentives in 2014.

Figure 1: Electric vehicle incentives and 2014 shares of new vehicles in selected U.S. states[13]



[11] Utility Dive, "Georgia electric vehicle sales shrink 80% in wake of tax credit repeal." (Jan 2017)
[12] ICCT, "Principles for Effective Electric Vehicle Incentive Design." (June 2016) at 21.
[13] Ibid

The same report also notes that "while incentives are linked to electric vehicle uptake, so too are charging infrastructure, non-financial incentives, and other consumer outreach activities."[14] Rather than decrease the need for rebates, this point merely notes that purchase incentives must be complemented by other investments to ease the transition to electric vehicles. The Union of Concerned Scientists (UCS) summarizes this in their fact sheet, "Amping Up EV Incentives":

> To electrify personal mobility in the United States – and to do so equitably – requires a suite of policies, including improving the availability and accessibility of charging infrastructure […] Nevertheless, while these policies can help drive EV adoption, monetary incentives for the electrification of personally owned and operated vehicles remain crucial for the 92 percent of households that own personal vehicles.[15]

While Minnesota has pursued several of these other policy mechanisms to support electric vehicle adoption, such as investing in public charging through the Volkswagen funds and adopting clean car standards, it has yet to pass any state-level financial incentive to support electric vehicle adoption. Yet there may be no better time to add electric vehicle purchase incentives to our existing constellation of EV policies. With Clean Cars Minnesota, a policy that promises to bring more electric vehicle inventory to the state, finally adopted and numerous EV charging programs filed by Xcel Energy[16] and approved by the Public Utilities Commission ("the Commission"), the Xcel service territory is primed to add electric vehicle purchase incentives to the mix and spur higher rates of electric vehicle adoption.

Given the early stage of the electric vehicle market, much of the data showing electric vehicle incentives' positive impact on EV adoption mostly pertains to "early adopters." As electric vehicles approach upfront cost parity in the next several years[17] and have, in some cases, become cheaper to own and operate over their lifetime as compared to gasoline-vehicle equivalents, it may be easy to dismiss electric vehicle rebates as no longer needed or necessary. The opposite, however, is true, as researchers at the UC Davis Institute of Transportation Studies demonstrated in their February 2020 paper on the subject, which concluded that "the importance of the incentives and their associated effect on purchase behavior has been changing over time: respondents are *less* likely to *not* change their decision and *more* likely to

[14] Ibid.
[15] Union of Concerned Scientists, "Amping Up EV Incentives Factsheet." (2021) at 1-2. Hereby referred to as "UCS Factsheet."
[16] Xcel Energy has both pursued a portfolio of EV charging programs in the last several years to provide more accessible home charging options and public charging options. *See* Dockets E002/M-18-643, M-19-559, M-19-186, M-20-711.
[17] ICCT, "Update on electric vehicle costs in the United States through 2030," at 7. Chart shows cost parity being reached across various EV types between 2024 and 2028.

not buy [an electric] vehicle at all as time passes and the technology moves away from early adopters. **Incentives are becoming more important for vehicle adopters as PEV market entry progresses."**[18]

In other words, **electric vehicle purchase incentives now more than ever are needed in order to spur additional EV adoption *beyond* early adopters and ensure EVs truly become ubiquitous.**

2.2. Equitable outcomes have not been considered in earlier electric vehicle incentive programs

While electric vehicle (EV) purchase incentive programs can very effectively increase electric vehicle adoption, there are lessons to be learned from early iterations of these programs, especially as the market moves past early adopters. To date, many EV purchase incentives have predominantly benefited wealthier consumers.[19,20] The reasons vary. For example, incentive design has been a barrier to participate, as in the case of purchase incentives being offered as a tax rebate. Such rebates may make program administration more efficient as recipients can claim the credit through state and federal tax systems, but non-refundable tax rebates require an income sufficiently high enough to fully realize the benefits of the tax credit.[21] While spurring adoption, this approach leaves out many lower-income households. This is especially problematic given that lower-income households tend to also be the ones most exposed to both transportation pollution and the rapidly worsening impacts of climate change, a fact which is as true in Minnesota as it is nationally.[22]

The good news is that by designing incentive programs to be accessible to lower-income households, the benefits of electric vehicles, both in terms of fewer emissions and cheaper operating costs as compared to gasoline-vehicles, can be accrued to more consumers in an equitable manner.

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[18] Alan Jenn et. al, "An in-depth examination of electric vehicle incentives: Consumer heterogeneity and changing response over time," (February 2020). Emphasis added. In a separate policy white paper issued May 2019, the UC Davis Institute of Transportation Studies quotes another study that finds "rebate importance…has increased since the enactment of income caps and increased rebates. This is because more price-sensitive buyers have entered the market".
[19] UC Davis, "Impact of the Clean Vehicle Rebate Project's increased rebate for low-and-moderate-income individuals on California's ZEV market." (May 2019) at 1. Hereby referred to as "UC Davis Whitepaper."
[20] UCS Factsheet
[21] UCS Factsheet at 3
[22] Minnesota Pollution Control Agency, "Disproportionate Impacts in Minnesota" (webpage). Accessed Aug 26,2021.

A different approach that could begin rectifying these past issues would be to focus on **cash rebates**[23], which don't rely on a high tax liability or high income. This expands eligibility for purchase incentives to all new car buyers. Additionally, focusing on **progressive rebate amounts**, with a higher rebate amount offered in response to a lower income, could also lead to a higher percent of lower income households being able to purchase an electric vehicle.[24,25] Finally, offering rebates at the **point-of-purchase** can also support usage of the rebates by consumers who may not have the upfront capital to take advantage of the rebates without it being point-of-purchase, or who may not have access to low-cost financing.[26]

An **income-cap or "income-qualified"** rebate is another way to ensure electric vehicle purchase incentives are benefiting consumers who most need them. Per a white paper published by the UC Davis Policy Institute for Energy, Environment, and the Economy and commissioned by the California Air Resources Board to address the impact of an income cap on California's Clean Vehicle Rebate Project, "income caps may be an efficient tool for increasing equitability while maintaining similar levels of rebated vehicles, since rebates matter less to high-income purchase."[27]. Preliminary analysis shows a correlation between implementing an income cap and a small increase in rebate recipients with annual household incomes below $50,000. The same white paper notes that income caps and progressive rebate amounts alone aren't sufficient, however; equally as important is **sufficient consumer education and outreach on these incentives** to ensure use.

This latter point is echoed by the Greenlining Institute in its evaluation of equity-minded clean transportation programs in California, noting that a best practice for the Clean Vehicle Assistance Program (another program offered in California to support replacing older vehicles with newer, clean vehicles including electric vehicles) is its rigorous approach to outreach.[28]

Many early purchase incentive programs have also only been allowed for new vehicle purchases or leases. However, the demographics of new vehicle purchasers is not representative of the general vehicle-buying population in the U.S.[29] Generally, new car buyers come from households with higher reported incomes, as the pie chart on the right in Figure 2 below shows:

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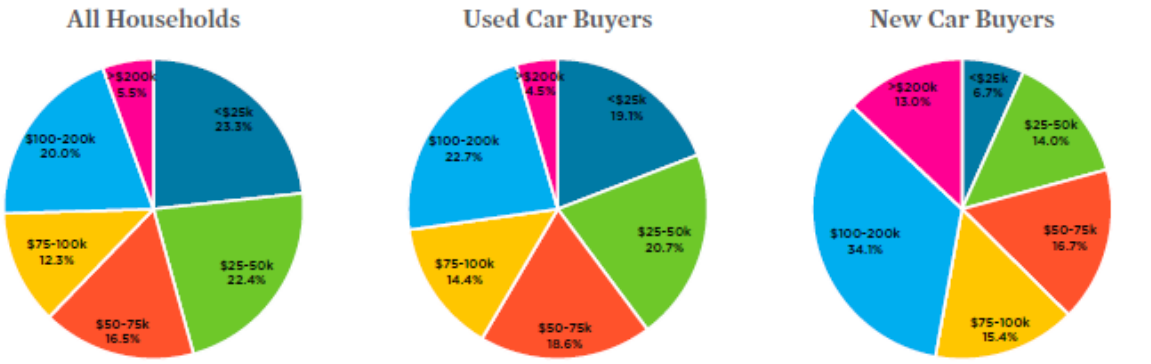
[23] cash rebates here is used to denote a rebate provided directly to its recipient as a reduction in purchase price ("point-of-sale") or as a check or other form of direct payment, rather than through tax filings. A refundable tax rebate could also provide recipient benefits without requiring a high tax liability, but is out of scope for the discussion here.
[24] UC Davis White Paper
[25] The Greenlining Institute, "Clean Mobility Equity: A Playbook. Lessons from California's Clean Transportation Programs," (June 2021). Hereby referred to as "Greenlining Playbook."
[26] UCS Factsheet, Greenlining Playbook.
[27] UC Davis White Paper at 1
[28] Greenlining Playbook at 86.
[29] UCS Factsheet at 2.

Figure 2: Car Market Income Demographics[30]



While used-car buyers have only slightly higher household incomes than the typical household, new-car buyers have significantly higher earnings. Households making more than $100,000 annually purchase nearly half of all new, privately owned cars.
SOURCE: UCS ANALYSIS OF FHWA 2017.

As Figure 2 shows, households that make above $100,000 per year comprise about 25 percent of the general population and yet make almost 50 percent of new vehicle purchases. On the other hand, used car buyers (middle pie chart) are generally more representative of the U.S. population in terms of household income distribution (left pie chart).

The number of used vehicle purchases compared to new vehicle purchases in the U.S. is significant as well, with used vehicle purchases outnumbering new vehicle purchases by more than two to one.[31] By offering **used electric vehicle purchase incentives** in addition to new vehicle purchase incentives, an incentive program can increase access to and affordability of electric vehicles across household incomes, ensuring a more equitable transition to electric transportation, a worthy goal in it and of itself.

Finally, as both Greenlining Institute and UCS note in their respective reports, pairing electric vehicle incentive programs with additional support will ensure that other barriers to affordable EV access can be addressed as well so that the program achieves its equitable outcomes. These additional enhancements include access to home or public charging, either in the form of an additional rebate for those who can install home charging or as a pre-paid charge card to be used with public charging[32]; robust community engagement, outreach, and education; and providing access to low-cost financing.[33]

[30] UCS Factsheet, figure 1.
[31] UCS Factsheet at 2.
[32] Greenlining Playbook at 86
[33] Ibid, UCS Factsheet.

Taken all together, several considerations to improve equitable outcomes in electric vehicle purchases incentives can be derived:

1) Focus electric vehicle purchase incentives as cash[34] rebates rather than non-refundable tax rebates, and design as point-of-purchase where possible;
2) Include progressive rebates that offer higher rebates to lower-income consumers and/or are restricted to certain incomes ("income cap" or "income qualified");
3) Provide rebates for both new and used vehicles; and
4) Pair these vehicle rebate programs with robust outreach and education and consider pairing with additional support like a charger rebate or pre-paid credit card and low-cost auto financing.

Creating an EV purchase rebate designed with equity in mind was also the priority of Colorado's Public Utilities Commission (PUC) when evaluating Xcel's proposal there to create a similar light-duty vehicle rebate program. The Colorado PUC ultimately decided to approve a portion of Xcel Energy's proposal, focusing its investments on income-qualified residential customers.[35]

With these principles and previous decision in mind, we can better evaluate Xcel Energy's proposal in Section 3.

2.3. There is a gap in available funding for electric vehicle purchase rebates in Minnesota

As mentioned, Minnesota is primed for electric vehicle policy and investments, particularly as one of only a few states who managed to hold onto a budget surplus in 2020.[36] To-date, no electric vehicle incentive programs have been passed. However, other legislation, most notable the "Future Fuels Act", has gained traction. The Future Fuels Act is modeled off California's Low Carbon Fuels Standard (LCFS), which is market-based policy that incentivizes transportation fuel providers to lower the GHG emissions of their fuel year over year. Those with the "cleanest" fuels will get compensated by the market. In the case of electric vehicles, the compensation can accrue to an administrating party and the funds made available to support other elements of transportation electrification. In Minnesota, the intent is to use some of these funds to support electric vehicle purchase rebates across the state.[37] However, the path to setting up a LCFS is relatively lengthy given its complexity in both design and administration. Finally, while credits

[34] Refundable tax rebates are not included for purposes of this discussion given focus on a utility rebate program
[35] Colorado PUC, "In the matter of the Application of the Public Service Company of Colorado for Approval of its 2021-2023 Transportation Electrification Plan: Commission Decision Granting Application With Modification." (2021). Hereby referred to as "Colorado Program."
[36] New York Times, "Why Some States Are Seeing Higher Revenue Than Expected Amid Job Losses. " (Dec 2020)
[37] Per Anjali Bains, a member on the Future Fuels Act working group in Minnesota, run by the Great Plains Institute.

and associated revenues will begin to accrue immediately once the program is set up, funds high enough to provide a sufficient level and number of electric vehicle purchase rebates will likely take several years to accrue, based on the experience in California.[38]

Other avenues of funding for electric vehicle purchase rebates exist at the federal level, where the Biden-Harris Administration has made clear their support of electric vehicle purchase incentives.[39] As with our state legislature, however, intent is not yet reality, and it could be many more months before funding is secured and disbursed, with uncertain impact for Minnesota.

As these examples illustrate, there is a keen and immediate funding gap currently for electric vehicle purchase programs in the state. Given the urgency of the climate crisis and the need to act quickly, as well as the immense investments required to electrify our transportation system, there is a place for utilities to offer funding to secure much needed progress, particularly in the near-term. Xcel Energy's proposal, to provide electric vehicle rebates through 2025, is well-suited to cover a portion of the funding gap for transportation electrification while other state and federal investments are pursued and finalized. Additionally, piloting how an EV rebate program could be designed and implemented, including improvements made over time based on feedback and results, would be directly beneficial to a state-funded program once funds are made available, by providing data and lessons learned from an in-state experience.

2.4. Fleet and electric bus purchase rebates

Much of the discussion so far has pertained to electric vehicle (EV) purchase incentives for consumers pursuing light-duty vehicles. Purchase incentives for electric buses are newer than those for light-duty vehicles, so less analysis on their efficacy on increasing rates of adoption has been conducted.

3) Xcel Energy's Electric Vehicle Rebate Proposal

In its detailed September 15 2020 of its Covid-19 Relief & Recovery filing, Xcel Energy outlines the following for its electric vehicle rebate program:[40]

- $50 million through 2025 for light-duty vehicle purchases or leases, available to residential, commercial, non-profit, and government entities, starting at $2,500 and $1,250 for new and used EVs, respectively and ratcheting down to $1,500 and $750 per new and used EV, respectively, in 2025;

[38] Per the experience of Dean Taylor of PlugIn America
[39] The White House, "American Jobs Plan Factsheet," (2021)
[40] September 2020 filing of Xcel Energy in docket E999/CI-20-492 at 15. Hereby referred to as "Xcel filing."

- $100 million through 2025 for transit and school bus providers, with transit providers receiving up to $1 million per bus for two years before ratcheting down to $250,000 in 2025, and school buses getting either $275,000 or $325,000 in the first year pending participation in Xcel's vehicle-to-grid (V2G) school bus pilot, ratcheting down to $225,000 or $275,000 in 2025;
- $65 million of bus rebates earmarked for Metro Transit; and
- All rebate recipients must be on participate in a managed charging program tariff.

Additional detail on eligibility and program design is included in Attachment C of Xcel's filing, such as a base manufacturer's suggested retail price (MSRP) cap of $50,000 for eligible light-duty vehicles.

3.1. Proposed modifications to electric vehicle light-duty rebate program

While Xcel's EV rebate program as proposed in totality is novel in both size and scope, there is one precedent for aspects of this proposal. This spring 2021, the Colorado PUC approved a $5 million light-duty EV rebate program in Xcel Energy's territory, to be disbursed over three years.[41] The CEGs have drawn from elements of that approved program (hereby referred to as the "Colorado program") in designing modifications below. We will note which modifications are drawn or supported by the Colorado Program.

Given the need to rapidly deploy electric vehicles of all types in Minnesota and the lack of a state-funded EV purchase rebate program to-date, the CEGs support a modified version of Xcel Energy's light-duty EV rebate purchase program, pared down to $5 million for income-qualified residential customers and $5 million for lower-resourced non-residential customers. These modifications and others are described in more detail below.

For residential customers:

- **$5 million** for a light-duty vehicle program for residential customers, with eligibility limited to **income-qualified customers**
    - The Colorado PUC sums up the importance of such a focus in the approve Colorado Program: "There is much to be learned and gained from engaging

[41] Colorado Program.

informed, income-qualified customers as EV purchasers, to the benefit of these customers, the electric grid, and society overall."[42]

- **Income-qualified** customers may be defined in a number of ways, but *flexibility* and *ease* of eligibility is critical to program success. The Partial Settlement Agreement in the Colorado Transportation Electrification Plan proceedings) has a good framework for considering eligibility that can and should be adapted for Minnesota.[43] It includes extending automatic eligibility for light-duty vehicle rebates to customers participating in any energy assistance programs, weatherization programs, or income-qualified community solar programs administered by Xcel Energy; and customers participating in other state-funded income-qualified assistance programs, like Supplemental Nutrition Assistance Program ("SNAP"). It also includes determining eligibility through income-verification by "other qualified low-income service providers or an income-qualified program administrator that the customer meets a household income below 60 percent of state median income, below 200 percent of the federal poverty level, or below 80 percent of area median income."[44] This eligibility criteria was included as part of the final approved Colorado Program.[45] The use of multiple benchmarks is admirable in its flexibility, and the CEGs recommend that the benchmark with the highest allowable income is used as part of the income-verification for Xcel's Minnesota light-duty vehicle rebate program.

- Increase per-vehicle rebates to **$5,000** for new EVs (purchased and leased), and **$3,000** for used EVs, offered each year the rebate program is operating (i.e. no "step-downs" unless determined by an advisory group – see Section 3.4)

    - These per-vehicle rebate amounts align with the best-practice of progressive rebates, i.e. higher rebates for lower income recipients, and closely match those approved under the Colorado Program and also match the vehicle grants offered by a low-income, equity-focused clean vehicle program in California, the Clean Vehicle Assistance Program, which though only created in 2018, has already had success in both disbursing funds and ensuring that 74% of funds went to "applicants who reside in low-income or disadvantaged communities."[46]

[42] Id at 33-34.
[43] Colorado PUC, "Partial Settlement Agreement," *In the matter of Public Service Company of Colorado for Approval of its 2021-2023 Transportation Electrification Plan.* (2021), at 8. Referred to as "CO Settlement."
[44] *Ibid.*
[45] Colorado Order at Order at 75-76 adopts the eligibility criteria of the CO Settlement: "The Commission adopts the eligibility criteria set forth in the Partial Settlement Agreement for equity focused TEP programs."
[46] Greenlining Playbook at 84

- Given the income-qualified requirement for residential customer eligibility, a higher rebate amount per vehicle is likely to experience a higher rate of success than the lower rebate amount proposed by Xcel Energy. If approved by a stakeholder advisory group (with the consensus of community members or community-based organization), lower rebates may be provided in the later program years if deemed to still be effective.

- Include an option for a **charger rebate of up to $1,000** OR a **pre-paid charge card of up to $1,000** for those unable to install a home charger

    - To support this additional program element, the CEGs recommend an additional **$1.67 million** be added to this program budget, above and beyond the $10 million offered for light-duty vehicle rebates.[47]

    - If the charger rebate is chosen, Xcel could administer the program through its existing EV Home Service program. The rebate should cover 100% of the costs borne by the customer to install a Level 2 home charger, up to $1,000.

    - While Xcel's EV Home Service program includes a low-cost way to install a Level 2 charger without a need to purchase upfront, additional costs required to participate – such as electric panel upgrade and line extensions – are *not* covered. These costs are more easily borne by wealthier customers but could prove a real deterrent to installing a home charger and participating in one of Xcel's residential EV charging programs for income-qualified customers. For those who have no access to home charging, a pre-paid charge card can help defray the higher fueling charges at public chargers. The pre-paid charge card can also serve as an additional incentive to purchase an EV despite the inconvenience of relying on public charging, which may prove a barrier to EV access above and beyond upfront cost of the EV itself. For these reasons, the **CEGs strongly recommend this additional charging support be included in the program.**

    - Additionally, Xcel is proposing financial support for charging infrastructure for its bus rebate program; extending a similar approach to income-qualified residential customers therefore follows an equivalent program design.

[47] $1.67 million was calculated by finding the range of possible rebate recipients under the CEG modification – i.e. between 1,000 – 1,667 recipients could benefit from the $5 million income-qualified residential rebate program. Applying another $1,000 charger rebate or charge card value to that range yields an additional budget of $1M -$1.67M. $1.67M is the high point of this range, ensuring maximum coverage should all rebate recipients take the used EV rebate.

- Create a **robust community outreach program** to complement the rebate program and ensure sufficient applicants for the rebate program

    - Xcel Energy details its promotional efforts in its September 2020 filing, but primarily relies on hotlines, dealerships, and online tools as their outreach strategy,[48] which is insufficient for an income-qualified rebate program.

    - As part of the modified outreach program proposed by the CEGs, we ask Xcel to consider **employing and training members of the communities intended to benefit** most from this rebate program, to be the community outreach coordinators and educators. Such a model not only provides jobs *directly* to the communities most impacted by the COVID-19 pandemic, it may also buoy the success of the rebate program by providing community-centered and culturally relevant education to prospective rebate recipients.

- Create a **residential EV advisory service or "concierge"** to guide applications through the entire rebate process, as well as help prospective recipients mitigate other potential challenges or barriers to EV access such as charging

    - The advisory services can be envisioned as analogous to the services currently provide to fleet operators under Xcel's E002/M-16-643 EV Fleet Services Pilot.

    - Complementary to the advisory or concierge service above, consider **pairing the rebate program with additional community services** such as access to low-cost auto financing, that can enhance this rebate program into a "one-stop shop" for improving EV access. Low-cost auto financing is another potential barrier to robust participation in an income-qualified EV rebate program.[49]

The last 3 bullet point modifications are intended to increase the likelihood of success of an income-qualified rebate programs, based on the experiences of other similar programs. A best practice for equity-minded programs is to enhance the program to address multiple needs of intended recipients. As environmental justice advocate noted in the Colorado Program proceedings, as summarized by the Colorado PUC, "it is important to view income-qualified consumers as a separate marketplace with distinct needs from other purchasers."[50]

[48] Xcel filing at page 5 of Attachment C
[49] UCS Factsheet at 5, Greenlining Playbook at 84.
[50] Colorado Program at 31-32.

In this case, an EV rebate may not be utilized by income-qualified customers without related barriers overcome such as rigorous, and community-based outreach; charging access and support; and access to low-cost financing. An excellent example of a program well designed to accomplish its intended equity goals is the Clean Vehicle Assistance Program in California, as mentioned earlier. In addition to provide vehicle replacement grants, the program employs members from the communities it intends to benefit to serve as community outreach coordinators and provides either a Level 2 charging station installed at the program participant's home by a local organization, at a value of up to $2,000; or a $1,000 pre-paid charge card for those who must rely on public charging, which is typically more expensive that home charging. The program is administered by the Beneficial State Foundation, who is partnered with the Beneficial State Bank to provide a specially designed, low-cost loan for program participants with low credit scores and/or who experience significant barriers to affordable auto-financing.[51]

Finally, should Xcel Energy choose to partner with a community-service provider or other community group to perform outreach to prospective rebate recipients, **additional funding should be proposed and funded to compensate these organizations for their services**. While the CEGs do not have a proposed amount for such a budget, we ask the Company to consider this additional investment as necessary to the success of an income-qualified EV rebate program.

For non-residential customers (nonprofits, commercial, and governmental entities):

- **$5 million** for a light-duty vehicle program for all other non-residential customers as outlined by Xcel Energy, with the following vehicle rebate amounts offered:
    - **$1,000** per new EV and **$500** per used EVs
    - As with the residential EV rebates, no "step-down" would be included in this modification unless recommended by the stakeholder advisory group at a later date.

- **Focus eligibility of non-residential EV rebates on smaller and/or less-resourced entities**. For commercial recipients, this would be small, local businesses with an emphasis on those owned by women, BIPOC, and veterans. For governmental entities, this could include non-state offices, such as regional organizations or municipalities, counties, and other forms of local governments. Beyond size, focus for governmental entities should privilege those with fewer resources, i.e. with a tax base below the Twin Cities Metropolitan average, or as determined in another manner.

[51] Greenlining Playbook at 84

    - While no utility-approved program precedent exists for non-residential EV rebates, the CEGs believe there is value in approaching eligibility in a similar manner to residential customers, i.e. ensuring that those non-residential rebate recipients who are least able to purchase an EV are able to do so with this program

- Consider a robust customer outreach program similar to the one proposed for residential EV rebates. Such outreach and education could exist under and be funded by Xcel's EV Fleet Services Pilot.
    - Additional funding and support for charging infrastructure could also be provided un the Fleet Services Pilot.

Particularly as little precedent exists, the CEGs encourage the non-residential rebate program to undergo additional development or workshopping with a stakeholder advisory group (see Section 3.4) or intended recipients to identify additional needs and barriers to access that may differ from low-income qualified residential customers.

For all light-duty vehicle rebate recipients:

- Require entry into a **managed charging tariff *if available to the customer***; where not available to the customer, e.g. renters or multi-family housing residents, do not require.
    - While admirable that Xcel would like to pair use of its vehicle rebates with managed charging for all recipients to optimize grid benefits, doing so risks excluding a large number of customers from participating, particular customers who may not have access to home charging or an ability to participate in any managed charging program, as no "managed charging" program for those using public charging is yet approved.
    - The CEGs also recommend Xcel expand the definition of "managed charging" in this case to include behaviors and technologies beneficial to the electric grid but which are not formally part of Xcel's operating managed charging programs. Examples could include non-networked chargers for special situations (e.g., low-income or some fleets); having solar and storage on-site to reduce overall demand; power-sharing or power-sequencing charging (more relevant for non-residential entities); or future-proofing charging station with additional computing power to allow advanced protocols or behaviors such as bidirectional charging.

- Ensure that the **base MSRP cap is responsive to different vehicle classes and indexed to increase with inflation**.
    - While a base MSRP of $50,000 might be inclusive of many electric sedans and some light-duty pick-ups, it could inadvertently exclude class 2b vehicles, such as transit vans or other, heavier electric pick-up options that might be better suited for certain income-qualified customers, government fleets or non-profits (e.g., senior centers or churches).
    - Light-duty generally encompasses vehicles up to and including Class 2a (8,500 lbs gross vehicle weight. The CEGs recommend expanding this to include Class 2b, which goes up to 10,000 lbs gross vehicle weight so the above applications can be included.
    - While the CEGs have not done a comprehensive review of make and model options for all the class 2b vehicles, we recommend Xcel perform such a review if it hasn't already done so to see which vehicle options would fall below the $50,000 base MSRP cap, and raise it if needed
    - The CEGs also recommend the MSRP cap not remain static but be indexed to the consumer price index or another indicator of inflation.
    - The **CEGs support the specification of a "base" MSRP cap being proposed**, **with the modifications proposed above.**

The CEGs believe the tailored rebate programs described above for income-qualified residential customers and less-resourced non-residential customers will accomplish Xcel's stated guiding EV principle to "increase access to electricity as a transportation fuel in an equitable manner"[52] by ensuring that the benefits of such program accrue to those who most need them.

3.2. Potential for a larger, expanded "Phase II" light-duty rebate program

The modifications described above could be considered as "Phase I" rebates that will ensure important program learnings and provide more accountability on ensuring the benefits of the light-duty vehicle rebate programs accrue to those who most need them, i.e. under-resourced residential customers, and less-resourced non-residential entities.

Based on the final approved design and outcomes of these Phase I rebates, as well as the status of other funds (e.g. state or federal funds as outlined in Section 2.3), the CEGs are open to considering additional rebates with expanded access as well should there remain a funding gap for vehicle purchase rebates in the near-term. These "Phase II" light-duty vehicle rebates could

[52] Xcel filing at page 2 of Attachment C.

include higher overall funding (i.e. above the $10 million currently proposed) and expand rebate eligibility to non-income qualified residential customers, with rebates tailored accordingly (e.g. lower per-vehicle rebates of $1,000, without the charging rebate or pre-paid cash card option). Details of such "Phase II" funded would be worked out in a future process, such as part of a stakeholder advisory group or in response to annual reporting. The CEGs are open to whichever path seems most appropriate to the Company and the Commission.

3.3 Proposed modifications to electric vehicle bus rebate program

Expanding clean, GHG-free transit and deploying electric school buses has clear societal benefits beyond the stated grid and climate benefits, including expanding access to electric transportation without need for owning or operating a personal vehicle and ensuring some of our most vulnerable populations – school children – are not subject to harmful tailpipe pollution during an important stage of development.[53] A rebate program to support deployment of electric school buses generally as well as V2G school buses specifically is in line with both climate and health benefits and societal benefits in general. Additionally, there are as-yet unquantified benefits of electrifying buses specifically, such as reduced noise and air pollution, important for both pedestrians, communities, and the bus driver alike.

To-date, there is one other utility, Duke Energy in North Carolina, with an approved program to provide funding to school districts to offset the cost of purchasing 15 electric school buses in each of its two service territories as part of a V2G "proof of concept" pilot.[54]

The Clean Energy Groups generally support an electric bus rebate program, with the following modifications:

- Designate a total of **$30 million** to the bus rebate program, with the following allocations:
    - **$20 million** dedicated to Metro Transit;
    - **$5 million** dedicated to other transit providers; and
    - **$5 million for** school bus operators.

[53] Erika Myers et. al, "School buses are hurting our kids – here's how we change that." *The Hill.* (April 2021). Authors outline a number of health risks to children exposed to by diesel school buses.
[54] North Carolina Utilities Commission, "In the Matter of Application by Duke Energy Carolinas, LLC, and Duke Energy Progress, LLC, for Approval of Proposed Electric Transportation Pilot: Order Approving Electric Transportation Pilot, In Part." (Nov 2020) at 16-17. Duke Energy will provide up to $215,000 per electric school bus.

- Change the per-bus rebate amount to cover the **incremental cost** between a standard fossil-fuel alternative bus (e.g. diesel, propane, etc.) and an electric bus
    - Incremental costs may include the additional charging infrastructure required to operate the bus

- **Prioritize deployment of electric buses to optimize benefits to** BIPOC and low-income communities, those most burdened by transportation pollution.[55]

    - Focus the use of the transit bus rebate funds to deploy electric buses in BIPOC and low-income communities[56] and/or routes that travel through or are predominantly used by these communities as well as those who bear the disproportionate impacts of transportation pollution.

    - For school buses, prioritize school districts that serve a large proportion of BIPOC and/or low-income school children, or schools which are located closest to concentrated sources of pollution like fossil fuel energy generation, manufacturing plants or other industrial processing facilities, and highways.

Similar to the light-duty vehicle rebate program, after the initial bus rebate program is underway, Xcel Energy may engage with a stakeholder advisory group to evaluate whether additional funding is warranted, i.e. a "Phase II" rebate program.

Rationale for $20 million to Metro Transit:

Metro Transit applied for and received roughly $4.2 million from the Federal Transit Agency to pilot eight 40-foot electric transit buses.[57] It already counts eight 60-foot electric buses in its fleet as well.[58] Both these actions as well as its impending electrification plan (see below) situate Metro Transit as both a leader in the region for electric buses and ready to absorb more funding to continue its electrification goals.

While $20 million isn't sufficient by itself to achieve the rapid electrification needed to convert Metro Transit's fleet of 900+ buses, combined with our modified proposal of $20 million in

[55] The Minnesota Pollution Control Agency (MPCA) maintains a map on its website that shows air pollution scores around the state, as well as areas of environmental justice concern and can be used as a resource to determine such communities. Map Link.
[56] Those other resources may be available, the MPCA's environmental justice map includes "areas of environmental justice concern" where more than 50% of the population is people of color and/or at least 40% of the population have income below 185% of the federal poverty level. *See* Map Link in Footnote 49.
[57] Metro Transit, "Electric Buses" (webpage). Accessed August 26, 2021.
[58] *Ibid.*

funding, it can support Metro Transit in building a fleet of up to 30 electric buses[59]. Why still a relatively small step, such funding will allow Metro Transit to transition from its small-scale pilots to a larger pilot that could realize additional operational efficiencies not possible in a small pilot. There are many small-scale electric transit bus pilots around the country, but few of the mid-size pilot that $20 million can provide. Thus learnings from such a mid-size pilot could benefit not only Minnesota in its quest to electrify transit, but other states in the U.S.

$20 million will also help Metro Transit make swift progress on its electrification plan, which will be finalized early in 2022.[60] Without Xcel's bus rebate funding, Metro Transit may need to slow down its plans, particularly if federal funding has not been disbursed.

3.3. Point of Purchase and upfront payments

For its light-duty vehicle rebates, in its draft Terms and Conditions filing, filed July 6, 2021, Xcel Energy outlines a process for offering purchase rebates at the point-of-sale:

> "The EV Rebate applicant may also apply for the EV Rebate prior to purchasing or leasing the applicant's EV in order to receive an EV Rebate at the time of purchase or lease of a Qualifying EV through an Xcel Energy "Gold" or "Silver" status EV dealership, or other dealership that has been approved by Xcel Energy to participate in the EV Rebate program. If you elect to obtain your EV Rebate at the time of purchase or lease, the "Gold" or "Silver" dealership will apply the EV Rebate directly to the purchase or lease price of a Qualifying EV at the time of purchase or lease."[61]

The CEGs support this proposal to provide point-of-purchase rebates for light-duty vehicles. As with other elements of the rebate program, we ask Xcel Energy to report on this element of the program, i.e. include in its annual reporting the number of purchase rebates taken at point-of-purchase and those received directly by rebate recipients after vehicle purchase. We also support Xcel Energy providing other options to accept the rebate, such as by check or another manner approved by the Company.[62]

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[59] Metro Transit, in its response to the Information Request No. 10 from the Minnesota Department of Commerce in July 2021, estimated incremental cost to be $810,000, including for charging infrastructure. $20 million combined with $4.2 million of FTA grants would cover almost 30 electric transit buses.
[60] Minnesota Reformer, "What in Minnesota's $7 billion transportation bill?" (June 2021).
[61] Supplemental Comments filed July 6, 2021 in Docket Nos. E002/M-20-745 and E002/M-18/643, at page 1 of Attachment A, under section "How to Apply for an EV Rebate to Receive You EV Rebate at the Time of EV Purchase or Lease."
[62] *Id.* at page 2 of Attachment A, under "Light Duty EV Rebate Details."

Xcel Energy also mentions in its September 2020 filing its intention to work with transit bus providers and school bus operators to provide upfront payment for their bus purchase rebates. This is further clarified in Xcel Energy's draft Terms and Conditions.[63] **The CEGs supports providing transit agencies and school bus operators with upfront payments as proposed.** The CEGs commend Xcel Energy for considering these design elements in its rebate proposal and including detailed descriptions of how it could work in its draft Terms and Conditions filing.

3.4. Annual Reporting on progress of rebate program is crucial along with a stakeholder advisory group

As with all of Xcel Energy's new electric vehicle programs, the CEGs recommend robust annual reporting. While annual reporting requirements for electric vehicle programs will be finalize by a Commission-convened working group this autumn, we recommend including the following elements:

- Number of applicants per rebate type (i.e. light-duty residential, light-duty non-residential, transit bus, school bus) and number of recipients
    - If possible, analysis on why applicants did not complete process through to receiving rebate
- Number of recipients who opted for point-of-purchase or upfront payment of rebate
- Summary of residential rebate recipients who had access to home charging and joined a managed charging program vs. those who will rely on public charging, along with dwelling type (e.g. single-family home owned or rented, multi-family home owned or rented)
- Number of dealers who opted into program, and general feedback
- Challenges of program implementation and proposed solutions
- Status report on education and community outreach for all types of rebates, with emphasis on light-duty residential for income-qualified customers
- (if approved) number of light-duty applicants who claimed additional home charger rebate and number who claimed pre-paid card option

Additionally, given the novelty of this program, not only to Minnesota but generally to an investor-owned electric utility, the **CEGs recommend a robust stakeholder engagement process including a "stakeholder advisory group" is included as part of the ongoing program evaluation**, to enable dynamic communication and feedback. This process could be akin to the one for Xcel Energy's E002/M-20-711 Multi-Dwelling Unit EV Charging proposal. The

[63] *Id. at* page 2 of Attachment B and at page 2 of Attachment C for transit and school buses, respectively.

stakeholder advisory group would serve both as a source of accountability for Xcel Energy has it pursues its equitable outcomes as well as a resource for solutions to the challenges inherent in building a complex program. The Colorado PUC approved a similar stakeholder engagement process as part of its Colorado Program approval, requiring a quarterly meeting to discuss all equity-focused aspects of the program.[64] While the details of how and when the group will meet can be determined by the Commission and Xcel Energy, at minimum **the group should meet at least twice per year after program approval (if approved),** with one meeting soon after the annual report is released, and include both advocates and the communities Xcel is aiming to support with this light-duty vehicle rebate program, including but not limiting to BIPOC, low-income, and those bearing the brunt of climate change and transportation pollution in Xcel Energy's service area.

3.5. Cost Recovery and other considerations

The CEGs will reserve discussion on the cost recovery mechanism proposed for the electric vehicle purchase rebate for the reply comments. We do **request Xcel Energy provide a rates impact analysis of its proposed cost recovery as well as any cost recovery methods proposed by other parties in the initial comments** (e.g., the Department of Commerce) in its utility reply comments.

The CEGs will also provide additional comments on the Terms and Conditions written by Xcel Energy, if more discussion is required, in reply comments, as well as Xcel's additional EV proposals (i.e. public fast charging proposal and Xcel's own fleet electrification) and other items as needed.

4) Conclusion and Recommendations

In conclusion, we support Xcel Energy's EV Rebate proposal as modified with the following recommendations:

For light-duty residential EV rebate program:

1) Approve a **$5 million light-duty EV rebate program** for income-qualified residential customers.
    a. "Income-qualified" should be defined with flexibility and paired with existing low-income services to ease program implementation.

[64] Colorado Program at 7.

b. Per-vehicle rebates should be **$5,000** for new EVs and **$3,000** for used EVs for the duration of the rebate program, unless modified by a stakeholder advisory group and approved by community representatives in the advisory group.
c. Rebates may be paired with managed charging if such an option is available to rebate recipient, but should not be required for recipients without access to managed charging

2) Approve an **additional $1.67 million** to fund a complementary charger program for recipients of the income-qualified residential rebate program. The charger program should offer one of two options for recipients:
    a. A charger rebate provided to cover 100 percent of customer costs related to installing a home charger (including related costs such as electrical upgrades, etc) up to $1,000 OR
    b. A pre-paid charge card with $1,000 value

3) Direct Xcel Energy to create a **robust community outreach program** to encourage residential rebate applications and an **advisory service or "concierge"** to support applicants through the process as well as mitigating additional challenges to EV rebate program participation

For non-residential light-duty EV rebate program:

4) Approve a **$5 million light-duty EV rebate program** for less-resourced non-residential customers (including nonprofits, non-state governmental entities, and commercial entities like small business).
    a. Per vehicle rebates should be **$1,000** for new EVs and **$500** for used EVs through the duration of the rebate program, unless modified by a stakeholder advisory group
    b. Rebates may be paired with managed charging if such an option is available to rebate recipient, but should not be required for recipients without access to managed charging

For bus rebates:

5) Approve a **$30 million bus EV rebate program**, with $20 million to Metro Transit; $5 million for other transit providers; and $5 million for school bus operators

a. Rebate amounts should cover the **incremental cost** of an electric bus over an equivalent fossil-fueled bus, including costs related to charging infrastructure
b. Program should **prioritize deployment of electric buses** in BIPOC and low-income communities and those most burdened by transportation pollution

General:

6) Ensure that the **base MSRP cap of $50,000 for light-duty vehicle rebates is inclusive** of vehicle classes up to and including 2b and **indexed** to increase with inflation.

7) Create a **stakeholder advisory group** to provide feedback and oversight on all EV rebate programs (i.e. both light-duty and buses)
    a. Stakeholder advisory group should meet at a minimum twice per year

Sincerely,

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CERTIFICATE OF SERVICE

I, Anjali Bains, hereby certify that I have this day, served a copy of the following document to the attached lists of persons by electronic filing and electronic mail.

Initial Comments of Fresh Energy, Union of Concerned Scientists, Sierra Club, and Plug In America

Docket No. E002/M-20-745

Dated this 26th day of August 2021

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Podratz	Marcia	mpodratz@mnpower.com	Minnesota Power	Electronic Service	No
Pranis	Kevin	kpranis@liunagroc.com	Laborers' District Council of MN and ND	Electronic Service	No
Prazak	David G.	dprazak@otpco.com	Otter Tail Power Company	Electronic Service	No
Residential Utilities Division	Generic Notice	residential.utilities@ag.state.mn.us	Office of the Attorney General-RUD	Electronic Service	Yes
Reuther	Kevin	kreuther@mncenter.org	MN Center for Environmental Advocacy	Electronic Service	No