BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

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IN THE MATTER OF THE APPLICATION OF PUBLIC SERVICE COMPANY OF COLORADO FOR APPROVAL OF ITS 2024-2026 TRANSPORTATION ELECTRIFICATION PLAN.	**)** **)** **)** **)** **)**	**PROCEEDING NO. 23A-____E**

DIRECT TESTIMONY AND ATTACHMENTS OF JEAN-BAPTISTE L. JOUVE

ON

BEHALF OF

PUBLIC SERVICE COMPANY OF COLORADO

May 15, 2023

**BEFORE THE PUBLIC UTILITIES COMMISSION
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DIRECT TESTIMONY AND ATTACHMENTS OF JEAN-BAPTISTE L. JOUVE

I. INTRODUCTION, QUALIFICATIONS, PURPOSE OF TESTIMONY, AND RECOMMENDATIONS

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Jean-Baptiste L. Jouve. My business address is 401 Nicollet Mall, Minneapolis, Minnesota 55401.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT POSITION?

A. I am employed by Xcel Energy Services, Inc. ("XES") as Senior Director, Strategic Partnerships and Ventures. XES is a wholly owned subsidiary of Xcel Energy Inc. ("Xcel Energy") and provides an array of support services to Public Service Company of Colorado ("Public Service" or the "Company") and the other utility operating company subsidiaries of Xcel Energy on a coordinated basis.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS PROCEEDING?

A. I am testifying on behalf of Public Service.

Q. PLEASE SUMMARIZE YOUR RESPONSIBILITIES AND QUALIFICATIONS.

A. As Senior Director, Strategic Partnerships and Ventures, I am responsible for supporting the Company and other Xcel Energy operating companies in economic

modeling, industry research, and collaboration with third parties for successful execution of stakeholder objectives. A description of my qualifications, duties, and responsibilities is set forth in my Statement of Qualifications at the conclusion of my testimony.

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. The purpose of my Direct Testimony is to:

- Support the reasonableness of the overall proposed budget for Public Service's 2024-2026 Transportation Electrification Plan ("TEP"), broken down by capital expenditures and operations and maintenance ("O&M") expenses; and
- Present Public Service's cost-benefit analysis ("CBA"), which was conducted by an independent third-party consultant, The Brattle Group ("Brattle"), to evaluate the benefits and costs of transportation electrification in the Company's service territory, including the consideration of the 2024-2026 TEP, as well as social cost of carbon dioxide and methane emissions in accordance with § 40-3.2-106, C.R.S.

Q. ARE YOU SPONSORING ANY ATTACHMENTS AS PART OF YOUR DIRECT TESTIMONY?

A. Yes, I am sponsoring Attachments JLJ-1 through JLJ-5, which were prepared by me or under my direct supervision. The attachments are as follows:

- Attachment JLJ-1: Guidehouse EV and Charging Needs Forecast Report
- Attachment JLJ-2: Brattle Cost Benefit Analysis
- Attachment JLJ-3: Social Cost of Carbon Dioxide and Methane
- Attachment JLJ-4: TEP Budget Workbook
- Attachment JLJ-5: Equity Spend Workbook

Q. WHAT RECOMMENDATIONS ARE YOU MAKING IN YOUR DIRECT TESTIMONY?

A. I recommend that the Colorado Public Utilities Commission ("Commission") approve the Company's proposed overall annual budget, including its portfolio-level budgets, for the 2024-2026 TEP. I also recommend that the Commission consider the results of the CBA, conducted by Brattle, as additional support for the Commission to approve the Company's proposed 2024-2026 TEP.

II. OVERVIEW OF TEP BUDGET, BUDGET FLEXIBILITY PROPOSALS, AND BUDGET DEVELOPMENT PROCESS

Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY?

A. The purpose of this section of my Direct Testimony is to present and support the proposed budget for Public Service's 2024-2026 TEP, both holistically and at the portfolio level, and also present illustrative examples of how Public Service's proposed budget flexibility framework will function for the 2024-2026 TEP.

Q. WHAT IS THE TOTAL PROPOSED BUDGET FOR THE COMPANY'S 2024-2026 TEP?

A. The Company proposes a total budget of $439 million, including $345 million of capital and $94 million of O&M for the TEP between the years 2024 and 2026. Table JLJ-D-1 below summarizes the Company's anticipated capital investments, rebates, and O&M costs on a portfolio basis[1] and total budget basis, also broken down by year.

[1] For transparency purposes, the table presents TEP administration costs in a similar manner to the presentation of actual programming portfolios of the TEP.

Table JLJ-D-1: Summary of 2024-2026 TEP Budget (Millions)

Portfolio	Spend Type	2024	2025	2026	2024-2026
Advisory Services	Capital	$0.28	$0.38	$0.54	$1.2
	O&M Expenses	$3.6	$3.8	$4.2	$11.6
	Total	**$3.8**	**$4.2**	**$4.7**	**$12.8**
Clean Vehicles	Capital	$8.8	$11.8	$14.5	$35.0
	Total	**$8.8**	**$11.8**	**$14.5**	**$35.0**
Public Charging Acceleration Network	Capital	$6.0	$30.2	$84.1	$120.3
	O&M Expenses	$2.2	$7.4	$15.1	$24.8
	Total	**$8.3**	**$37.6**	**$99.2**	**$145.1**
Residential	Capital	$4.5	$5.7	$7.4	$17.5
	O&M Expenses	$2.4	$3.4	$4.4	$10.1
	Total	**$6.8**	**$9.1**	**$11.7**	**$27.7**
Commercial	Capital	$7.8	$30.1	$53.6	$91.5
	O&M Expenses	$3.4	$5.6	$8.5	$17.5
	Total	**$11.2**	**$35.7**	**$62.1**	**$109.0**
Innovation	Capital	$4.0	$16.2	$24.4	$44.6
	O&M Expenses	$6.8	$5.9	$5.9	$18.6
	Total	**$10.7**	**$22.1**	**$30.3**	**$63.2**
Plan Administration	Capital	$5.2	$17.2	$12.1	$34.5
	O&M Expenses	$1.7	$5.7	$4.3	$11.7
	Total	**$6.9**	**$22.9**	**$16.4**	**$46.2**
Total Filing	Capital	$36.6	$111.6	$196.5	$344.7
	O&M Expenses	$20.0	$31.8	$42.4	$94.2
	Total	**$56.6**	**$143.4**	**$239.0**	**$438.9**

Q. PLEASE EXPLAIN THE STARTING BASIS FOR THE COMPANY'S DEVELOPMENT OF ITS TEP BUDGETS.

A. To assist the Company with calculating and forecasting the EV adoption and associated charging infrastructure needs aligned with the state's 2030 EV adoption goal, the Company retained an independent, industry-leading consulting firm, Guidehouse, Inc. ("Guidehouse"). Guidehouse used a proprietary forecasting

methodology and software to calculate EV adoption and charging need estimates for the State and the Company's service territory. Specifically, the Company relied on Guidehouse's economic modeling of EV adoption and corresponding charging infrastructure referred to as the Colorado 2030 target scenario ("2030 State Target"). The 2030 State Target is addressed in Attachment JLJ-1 to my Direct Testimony.[2] The 2030 State Target reflects Guidehouse's estimates of the level of EV adoption and charging infrastructure need within the Company's territory required to support Colorado's 2030 EV goal of 940,000 light duty vehicles. Leveraging the Guidehouse Colorado 2030 goal-implied charging infrastructure need, the Company designed budgets that represent customer participation reasonable to occur in relation with addressable market represented by the charging infrastructure need.

Q. HOW DID GUIDEHOUSE DEVELOP ITS FORECAST OF THE 2030 STATE TARGET?

A. Guidehouse developed its forecasts leveraging Guidehouse's proprietary Vehicle Analytics & Simulation Tool ("VAST"). Summarized in Attachment JLJ-1, VAST is a systems dynamics model with several modules including:

(1) Vehicle Adoption: The Vehicle Adoption Module of the VAST tool forecasts vehicle adoption of various powertrain, fuel, and vehicle class configurations in each census tract of the geographical area considered. By modeling vehicle adoption based on inputs specific to a particular

[2] Attachment JLJ-1 provides the technical guidance report of Guidehouse's forecast.

geographical area considered, the forecast is designed to closely reflect local market conditions and have a stronger empirical basis when compared to similar national, state, or regional forecasts.

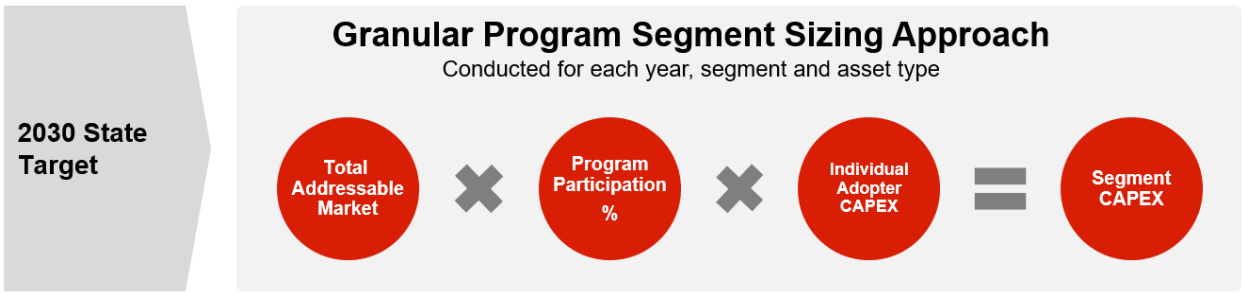
(2) Charging Needs: The Charging Needs Module of the VAST tool forecasts charging infrastructure provided as the number of L2 and DCFC ports of a given average capacity necessary and sufficient to support the above EV adoption, calculated through a dynamic market equilibrium model (i.e., the number of charging station ports required to supply a given number of vehicles).

Guidehouse's proprietary VAST tool ran these two modules iteratively to develop the forecasts specific to Public Service's electric service territory to support the Company's budget development.

Q. PLEASE EXPLAIN IN MORE DETAIL HOW GUIDEHOUSE'S FORECAST WAS USED TO DEVELOP THE COMPANY'S PROPOSED PORTFOLIO BUDGETS.

A. Figure JLJ-D-1 below provides a high-level visual depiction of the process used to develop the Company's capital budgets.

Figure JLJ-D-1: Budget Development Visualization



A. As reflected in Attachment JLJ-1, the Guidehouse EV adoption forecast contains market segment forecasts for: (1) residential vehicles, and (2) commercial vehicles, along with subsegments for vehicle duty and class. The forecast of charging needs contains segment forecasts for Public Charging, Residential, Commercial (Fleet & Workplace), and Multifamily, along with subsegments by charger type (L2 or DCFC).

The year-over-year incremental changes in these forecasts (i.e., the annual forecasted additions) are used to identify the incremental Total Addressable Market ("TAM") used for each respective segment. The incremental TAM for charging needs represents the annual incremental need for all providers to deploy adequate charging infrastructure for the corresponding annual incremental EVs in the forecast. The Company further split the incremental TAM into segments to reflect various mix of participants via rebates and Company-owned and operated asset programs.

Next, Public Service multiplied the assumptions regarding rate of participation for each segment by its corresponding incremental TAM to develop a projected annual number of participants for each segment.

Capital spending per participant assumptions were developed by examining historical program values, market sources, and internal expertise. For each segment, the Company multiplied the capital spending per unit by the projected number of participants, resulting in our total proposed capital expenditure budget.

The methodology described above was used broadly across segments and years to develop our total capital program budgets.

Q. HOW DID THE COMPANY IDENTIFY THE ASSUMED PARTICIPATION RATES AND UNITARY CAPITAL SPENDING FOR PURPOSES OF DEVELOPING ITS TEP BUDGETS?

A. The Company reviewed historical capital spending per unit and program participation rates where available, as well as market data, and relied upon internal expertise to select appropriate annual estimates per segment.

Q. DOES PUBLIC SERVICE EXPECT TO SPEND ITS ENTIRE PROPOSED BUDGET FOR THIS 2024-2026 TEP?

A. Possibly, but not necessarily. The actual amounts of investment, rebates, and administrative costs for each year are expected to differ from but not exceed the Company's proposed budgets. The possible variances are expected to be due to the uncertainty associated with the forecasting inputs, including the annual Guidehouse estimates, the timing and magnitude of customer demand for the programs and services, and the capital spending and expenses of the programs and equipment. The budgets were generally designed as not-to-exceed amounts for each segment, to ensure that the Company has sufficient budget necessary to meet expected demand, with the understanding that the market need, customer

choices, and other factors, such as equipment availability and supply chain, commodities markets, industry-wide and global macro-economic factors, plus local, national and global political and regulatory changes, will dictate actual spend. Simply put, actual spend could ultimately be lower than the proposed budgets.

Q. IS THE COMPANY REQUESTING BUDGET FLEXIBILITY?

A. Yes. As explained by Company witness Mr. Jack Ihle, flexibility in budgets allows the Company to respond to program interests in real time, and budget flexibility will continue to be essential to serve customer needs as they materialize. The Company is requesting to continue the currently approved annual budget flexibility within portfolios and between portfolios, subject to a cap of 150 percent. It is also requesting the ability to replace the existing annual flexibility mechanism, allowing an annual increase up to a cap of 125 percent, with a new mechanism that applies across the TEP three-year period and allowing an increase up to a three-year overall cap of 125 percent.

Q. HAS THE COMPANY QUANTIFIED WHAT THE TOTAL SPEND WOULD BE UNDER ITS PROPOSED TEP BUDGETS IF IT WERE TO EXERCISE THE MAXIMUM RANGE OF BUDGET FLEXIBILITY IT IS PROPOSING?

A. Yes. While the Company does not believe this is a likely scenario and will strive to manage to its proposed budgets, in the unlikely event the Company were to exert maximum budget flexibility, it would spend approximately $549 million. This $549 million is equal to the product of the $439 million proposed budget by the 125% overall three-year flexibility factor.

Q. HOW DID THE COMPANY TAKE INTO ACCOUNT RECENTLY PASSED FEDERAL LEGISLATION, INCLUDING THE INFLATION REDUCTION ACT ("IRA") AND INFRASTRUCTURE INVESTMENT AND JOBS ACT ("IIJA"), AS WELL AS STATE-BASED PROGRAMS AND INCENTIVES, IN DEVELOPING ITS PROPOSED BUDGETS?

A. Public Service developed the budgets with a goal of reducing the uncertainty of attaining the 2030 EV adoption target for the State of Colorado. The Company's budgets are thus above and beyond what other State and federal streams of support will accomplish in the absence of the TEP.

That said, and as identified by Company witness Mr. Jack Ihle in his testimony, there is an opportunity for the Company's TEP costs to be reduced as a result of tax credits or grant and funding opportunities from federal and state sources. Public Service intends to pursue available opportunities that can benefit our customers. However, Public Service's ultimate eligibility for potential tax credits or funding depends on a number of variables and considerations that are inherently difficult to determine in advance, including characteristics of census blocks where participants will be located, which can impact eligibility for certain incentives or tax credits, as well as the discretion of agencies administering grant programs. For this reason, Public Service has not assumed any prescribed levels of federal or state funding or tax credits in developing its TEP budgets related to capital investment. As discussed by Mr. Jack Ihle, the Company's annual updates to the Transportation Electrification Programs Adjustment ("TEPA") rider will reflect and

show applicable cost mitigation associated with IRA, IIJA, State funding, or tax credits received by the Company.

III. PORTFOLIO-LEVEL BUDGETS

Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY?

A. The purpose of this section of my Direct Testimony is to present the Company's portfolio-level budgets.

Q. PLEASE LIST THE VARIOUS PROGRAM PORTFOLIOS THAT COMPRISE THE COMPANY'S TEP BUDGET.

A. The 2024-2026 TEP (Attachment HS-1 to Company witness Ms. Huma Seth's testimony) explains each portfolio. Listed again here, the six portfolios are the following:

- Public Charging Acceleration Network
- Residential
- Commercial
- Innovation
- Clean Vehicles
- Advisory Services

A. Additionally, while not a programming portfolio, for budgetary purposes and to provide increased transparency, we are presenting an additional category of costs in our budget breakout for overall Plan Administration.

Below, I explain in more detail how the portfolio budgets were developed. In addition, Attachment JLJ-4 contains a detailed version of the Company's 2024-2026 TEP budgets, broken down by years, programs, sub-programs, capital, and O&M.

A. Public Charging Acceleration Network Portfolio

Q. WHAT IS THE BUDGET FOR THE PUBLIC CHARGING ACCELERATION NETWORK PORTFOLIO?

A. The table below provides a breakdown of the Public Charging Acceleration Network portfolio budget.

Table JLJ-D-2: Public Charging Acceleration Network Budget

Spend Type	Category	2024	2025	2026	2024-2026
Capital		**$6.0**	**$30.2**	**$84.1**	**$120.3**
	EVSI	$2.6	$13.1	$36.5	$52.2
	EVSE	$3.4	$17.1	$47.6	$68.1
O&M Expenses		**$2.2**	**$7.4**	**$15.1**	**$24.8**
	Infrastructure Maintenance	$0.53	$2.5	$7.1	$10.2
	Program Administration	$1.7	$4.9	$8.0	$14.6
Total		**$8.3**	**$37.6**	**$99.2**	**$145.1**

Q. PLEASE SUMMARIZE THE TYPE OF CAPITAL INVESTMENTS THE COMPANY IS CONTEMPLATING AS PART OF ITS PUBLIC CHARGING ACCELERATION NETWORK CAPITAL BUDGET.

A. The capital costs included in the Public Charging Acceleration Network portfolio budget include Electric Vehicle Supply Equipment ("EVSE"), Electric Vehicle Supply Infrastructure ("EVSI"), and all related site design, permitting, land acquisition (as applicable) and construction costs as described in Company witness Ms. Deborah Erwin's Direct Testimony.

Q. PLEASE EXPLAIN THE CATEGORIES OF COSTS THAT COMPRISE THE COMPANY'S PUBLIC CHARGING ACCELERATION NETWORK O&M BUDGET.

A. The O&M expense necessary to support the portfolio include education and awareness, infrastructure maintenance, IT, and program administration costs, as described in Company witness Deborah Erwin's Direct Testimony.

B. Residential Portfolio

Q. WHAT IS THE BUDGET FOR THE RESIDENTIAL PORTFOLIO?

A. The table below provides a breakdown of the budget.

Table JLJ-D-3: Residential Budget

Spend Type	Category	2024	2025	2026	2024-2026
Capital (excluding Rebates)		**$0.94**	**$1.8**	**$2.9**	**$5.6**
	EVSE	$0.70	$0.80	$0.89	$2.4
	BESS	$0.24	$1.0	$2.0	$3.2
Capital (Rebates)		**$3.5**	**$4.0**	**$4.5**	**$11.9**
	EVSI	$0.63	$0.71	$0.80	$2.1
	EVSE	$2.9	$3.3	$3.7	$9.8
O&M Expenses		**$2.4**	**$3.4**	**$4.4**	**$10.1**
	Infrastructure Maintenance	$0.23	$0.33	$0.44	$1.0
	Customer Incentive	$0.42	$0.80	$1.2	$2.4
	Program Administration	$1.7	$2.2	$2.8	$6.7
Total		**$6.8**	**$9.1**	**$11.7**	**$27.7**

Q. PLEASE SUMMARIZE THE TYPE OF CAPITAL INVESTMENTS THAT ARE PART OF THE RESIDENTIAL CAPITAL BUDGET.

A. The capital investments include the EVSE and related battery energy storage systems ("BESS") that Public Service will rent to customers through optional subscription services. As described by Company witness Ms. Kelli Duffy, the Company will credit revenues Public Service ultimately receives through related

monthly charges from participating customers against program revenue requirements.

Q. PLEASE SUMMARIZE THE COMPANY'S RESIDENTIAL REBATES.

A. The Residential portfolio includes rebates to help customers defray the costs associated with wiring their homes to accommodate EV charging with EVSE and an adequate 240V circuit to power the charger. It also includes an equity-supportive, as defined in Section IV of my testimony, rebate program to provide enhanced support for certain residential customers, which addresses both wiring and EVSE-related costs.

Q. PLEASE EXPLAIN THE CATEGORIES OF COSTS THAT COMPRISE THE COMPANY'S RESIDENTIAL O&M BUDGET.

A. The O&M expenses included in the Residential portfolio budget include the costs necessary to maintain Company-owned EVSE and related BESS equipment that will be used in equipment rental services, including for example field maintenance and repair of rental equipment, customer service support, and certain program administration costs such as development of contracts with vendors and customers.

C. Commercial Portfolio

Q. WHAT IS THE BUDGET FOR THE COMMERCIAL PORTFOLIO?

A. The table below provides a breakdown of the Commercial portfolio budget.

Table JLJ-D-4: Commercial Budget

Spend Type	Category	2024	2025	2026	2024-2026
Capital (excluding Rebates)		**$7.3**	**$29.1**	**$52.2**	**$88.5**
	EVSI	$5.1	$8.9	$13.6	$27.6
	EVSE	$0.11	$0.42	$0.77	$1.3
	BESS	$0	$3.8	$5.8	$9.6
	Grid Reinforcement	$2.0	$16.0	$32.0	$50.0
Capital (Rebates)		**$0.58**	**$1.0**	**$1.4**	**$3.0**
	Commercial Rebates	$0.54	$0.65	$0.77	$2.0
	New Construction	$0.05	$0.32	$0.67	$1.0
O&M Expenses		**$3.4**	**$5.6**	**$8.5**	**$17.5**
	Infrastructure Maintenance	$0.29	$0.35	$0.45	$1.1
	Program Administration	$3.1	$5.2	$8.1	$16.4
Total		**$11.2**	**$35.7**	**$62.1**	**$109.0**

Q. PLEASE SUMMARIZE THE TYPE OF CAPITAL INVESTMENTS THE COMPANY INCLUDES IN THE COMMERCIAL PORTFOLIO BUDGET.

A. The capital investments Public Service will undertake in connection with the Commercial portfolio include EVSI, which Public Service will install, own, and maintain for qualifying customers. It also includes a portfolio of distribution grid reinforcement investments, needed to accommodate transportation electrification, as discussed in Company witness Ms. Connie Paoletti's Direct Testimony. Lastly, it includes Company-owned, installed, and maintained EVSE and BESS that customers may use to support their EV charging needs through optional equipment rental services.

Q. PLEASE SUMMARIZE THE COMPANY'S PROPOSED COMMERCIAL REBATES.

A. Public Service will offer rebates to incentivize and enable qualifying commercial customers to procure EVSE through equity supportive programs, as well as

rebates to support new construction projects and Primary General and Transmission General Customers in installing their own EVSI.

Q. PLEASE EXPLAIN THE CATEGORIES OF COSTS THAT COMPRISE THE COMPANY'S COMMERCIAL PORTFOLIO O&M BUDGET.

A. The O&M expenses included in the Commercial portfolio budget include the costs necessary to maintain Company-owned EVSI and EVSE, including for example field maintenance and repair of equipment, customer service support, recurring software fees, and certain program administration costs such as development of contracts with vendors and customers, inventory management, and vendor oversight.

D. Innovation Portfolio

Q. WHAT IS THE BUDGET FOR THE INNOVATION PORTFOLIO?

A. The table below provides a breakdown of the Innovation portfolio budget.

Table JLJ-D-5: Innovation Budget

Spend Type	Category	2024	2025	2026	2024-2026
Capital (excluding Rebates)		**$4.0**	**$5.9**	**$9.1**	**$19.0**
	EVSI	$0.78	$2.5	$4.1	$7.3
	EVSE	$0	$1.5	$2.8	$4.3
	BESS	$1.2	$0.87	$1.2	$3.3
	IT	$2.0	$1.0	$1.0	$4.1
Capital (Rebates)		**$0**	**$10.3**	**$15.3**	**$25.7**
	School Bus	$0	$5.6	$8.0	$13.6
	Special Application Vehicle Electrification	$0	$2.8	$4.6	$7.4
	Open Innovation & EVSI + EVSE	$0	$1.9	$2.7	$4.7
O&M Expenses		**$6.8**	**$5.9**	**$5.9**	**$18.6**
	Education and Awareness	$0.50	$0.35	$0.40	$1.3
	Infrastructure Maintenance	$0.10	$0.28	$0.48	$0.9
	Advisory	$0.33	$0.33	$0.33	$1.0
	IT	$0.10	$0.10	$0.10	$0.3
	Program Administration	$5.7	$4.9	$4.6	$15.2
Total		**$10.7**	**$22.1**	**$30.3**	**$63.2**

Q. PLEASE SUMMARIZE THE TYPE OF CAPITAL INVESTMENTS THE COMPANY IS CONTEMPLATING AS PART OF ITS INNOVATION CAPITAL BUDGET.

A. Through the Special Application Vehicle Electrification ("SAVE") and School Bus Electrification projects, the Innovation portfolio includes capital investment in EVSI and EVSE to promote wider access to the benefits of transportation for sectors and industries that have proven especially challenging to electrify. The Company will also invest in EVSE and EVSI through various demonstration projects to better understand the potential for vehicle to grid ("V2G") and vehicle to everything ("V2X") applications.

Q. PLEASE SUMMARIZE THE REBATES IN THE INNOVATION PORTFOLIO.

A. Through the SAVE and School Bus Electrification projects, in addition to providing EVSE and EVSI, Public Service will issue rebates to help defray the costs associated with purchasing various kinds of specialty EVs.

Q. PLEASE EXPLAIN THE CATEGORIES OF COSTS THAT COMPRISE THE COMPANY'S INNOVATION O&M BUDGET.

A. The O&M budget includes costs associated with promoting education and awareness of related initiatives. The O&M budget also includes the costs to maintain EVSI and other equipment that the Company will invest in through the portfolio, and IT costs and program administration costs similar in nature to those that apply for our other portfolios.

E. Clean Vehicles Portfolio

Q. PLEASE PRESENT THE BUDGET FOR THE CLEAN VEHICLES PORTFOLIO.

A. The table below provides a breakdown of this portfolio budget.

Table JLJ-D-6: Clean Vehicles Budget

Spend Type	Category	2024	2025	2026	2024-2026
Capital (Rebates)		**$8.8**	**$11.8**	**$14.5**	**$35.0**
	Residential EV Rebate	$1.8	$2.0	$2.3	$6.1
	TNC and DNC High Mileage Rebate	$0.38	$0.63	$0.86	$1.9
	TNC Rental Fleet Rebate	$1.9	$2.7	$3.0	$7.6
	Governmental EV Rebate	$4.8	$6.4	$8.3	$19.5
Total		**$8.8**	**$11.8**	**$14.5**	**$35.0**

Q. PLEASE SUMMARIZE THE REBATES THE COMPANY IS CONTEMPLATING AS PART OF ITS CLEAN VEHICLES PORTFOLIO BUDGET.

A. Through the Clean Vehicles portfolio, the Company will issue a variety of rebates to incentivize and enable qualifying customers to purchase or lease EVs. These programs are designed to ensure wider access to the benefits of transportation electrification for certain customers and communities, and to electrify high-mileage vehicles.

Q. PLEASE EXPLAIN WHY THERE IS NO LISTED O&M BUDGET FOR THE COMPANY'S CLEAN VEHICLES PORTFOLIO.

A. As explained by Company witness Ms. Erwin, the Company's budget for Clean Vehicles does not include an estimate for O&M at this time. The Company did not include any such estimate because it is still working and partnering with Transportation Network Companies ("TNC") and Delivery Network Companies ("DNC") to develop the details of certain proposed programming. As this proceeding continues, the Company will continue to work to refine its estimate of

O&M associated with the Clean Vehicles portfolio and related programs, especially those that assist TNCs and DNCs. In the interim, the Company commits that its total O&M budget proposal for the TEP as a whole will not exceed its provided yearly O&M estimates, but with the understanding that a reasonable portion of these estimates may be reallocated to the Clean Vehicles portfolio.

F. Advisory Services Portfolio

Q. WHAT IS THE BUDGET FOR THE ADVISORY SERVICES PORTFOLIO?

A. The table below provides a breakdown of the Advisory Services portfolio budget.

Table JLJ-D-7: Advisory Services Budget

Spend Type	Category	2024	2025	2026	2024-2026
Capital (Rebates)		**$0.28**	**$0.38**	**$0.54**	**$1.2**
	Fleet Electrification Advisory	$0.28	$0.38	$0.54	$1.2
O&M Expenses		**$3.6**	**$3.8**	**$4.2**	**$11.6**
	Education and Awareness	$1.5	$1.4	$1.4	$4.3
	Digital Tools	$0.26	$0.20	$0.21	$0.7
	Trade Allies	$0.37	$0.39	$0.41	$1.2
	Advisory	$0.0	$0.0	$0.0	$0.0
Residential		**$2.1**	**$2.0**	**$2.1**	**$6.2**
	Education and Awareness	$0.23	$0.24	$0.24	$0.7
	Digital Tools	$0.14	$0.15	$0.17	$0.5
	Trade Allies	$0.11	$0.16	$0.24	$0.5
Commercial		**$0.5**	**$0.5**	**$0.6**	**$1.7**
	Community Advisory & Workforce Training	$1.0	$1.3	$1.5	$3.7
Community		**$1.0**	**$1.3**	**$1.5**	**$3.7**
Total		**$3.8**	**$4.2**	**$4.7**	**$12.8**

Q. PLEASE SUMMARIZE THE ADVISORY SERVICES REBATES THE COMPANY IS CONTEMPLATING.

A. Through its Advisory Services portfolio, the Company will continue to offer rebates to provide commercial fleet operators support on vehicle electrification advisory

services that develop a customized fleet electrification plan suited to individual fleet duty cycles, infrastructure, and electrification goals.

Q. PLEASE EXPLAIN THE CATEGORIES OF COSTS THAT COMPRISE THE COMPANY'S ADVISORY SERVICES O&M BUDGET.

A. These O&M expenses include the costs necessary to inform our customers about the benefits of EV adoption and advise customers and communities on ways to accomplish their specific transportation electrification goals through various tools and programs. The Advisory Services budget also includes costs to support customer and community education regarding opportunities available to participate in TEP programs across our various portfolios.

G. Plan Administration

Q. WHAT IS THE BUDGET FOR PLAN ADMINISTRATION?

A. The table below provides a breakdown of the stand-alone Plan Administration budget.

Table JLJ-D-8: Plan Administration Budget

Spend Type	Category	2024	2025	2026	2024-2026
Capital (excluding Rebates)		**$5.2**	**$17.2**	**$12.1**	**$34.5**
	IT	$5.2	$17.2	$12.1	$34.5
O&M Expenses		**$1.7**	**$5.7**	**$4.3**	**$11.7**
	IT	$1.4	$4.7	$3.3	$9.4
	Evaluation	$0.3	$1.0	$1.0	$2.3
Total		**$6.9**	**$22.9**	**$16.4**	**$46.2**

Q. PLEASE DESCRIBE THE COSTS THAT ARE ADDRESSED IN THE PLAN ADMINISTRATION BUDGET.

A. The Plan Administration budget includes IT spending associated with supporting all TEP portfolios as well as TEP program evaluation costs. IT spending will

include both capital and O&M components. As described in the TEP Plan document provided as Attachment HS-1 to Company witness Ms. Huma Seth's Direct Testimony, IT spending will enhance the EV customer experience through customer enrollment journeys, charger and charging management solutions, customer facing tools, integrations with existing systems, and solutions supporting data insights and reporting capabilities among other efforts. The program evaluation budget reflects a planned continuation of the evaluation practices that were established under the first TEP, including the support of an independent third-party evaluation of TEP programs.

Q. HOW DID THE COMPANY DETERMINE THE BUDGET FOR PLAN ADMINISTRATION COSTS?

A. IT costs were developed using two assumptions: one, an overall percentage gross up applied to the total program budget and two, the yearly allocations of that overall gross up amount over the duration of the 2024-2026 TEP. The percentage overall gross up applied to the program capital and O&M budget was chosen equal to 10 percent, based on internal discussions and previous experience with similar programs within the Company and other affiliates of Xcel Energy. The annual allocations were chosen equal to 15 percent, 50 percent, and 30 percent, for the years 2024, 2025 and 2026, respectively, based on historical ramp rates and expected implementation of new programs. In addition, program evaluation costs were estimated separately, based on the existing TEP third party evaluation engagement, and adjusted for the increase in scope due to the larger scale of the 2024-2026 TEP.

Q. HOW DO THE COSTS INCLUDED IN THE PLAN ADMINISTRATION BUDGET DIFFER FROM THE ADMINISTRATION COSTS INCLUDED WITHIN EACH PORTFOLIO?

A. The *Plan* Administration budget includes costs that are portfolio-wide and typically involve interrelated tasks supporting multiple portfolios simultaneously that cannot be broken down by portfolio. *Program* Administration costs for individual portfolios relate to the costs to administer the individual programs within the portfolio.

IV. EQUITY-SUPPORTIVE SPENDING

Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY?

A. In this section of my Direct Testimony, I present Public Service's estimate of the share of our overall TEP budget that provides available funding for "equity supportive" spending.

Q. WHAT SPENDING QUALIFIES AS "EQUITY SUPPORTIVE" FOR PURPOSES OF THIS ANALYSIS?

A. For purposes of this analysis, Public Service considers spending to be equity supportive when the spending supports customers and communities that encounter heightened barriers to EV adoption, including income-qualified ("IQ") customers and disproportionately impacted ("DI") communities, and other customers and communities considered equity eligible under our proposed TEP as described in Company witness Ms. Nadia El Mallakh's Direct Testimony. While some of this spending is associated with dedicated programs that will only be offered to equity-eligible customers and communities, equity supportive spending also encompasses the share of certain programs without such eligibility limitations that Public Service expects will support equity-eligible customers and communities (i.e., public charging located in DI Communities). The programs that Public Service has considered in this analysis, which I refer to as "equity supportive programs" are reflected in Table JLJ-D-10 of my Direct Testimony.

While it is inherently uncertain how many equity-eligible customers and communities will ultimately participate in our TEP programs, the Company has designed our TEP budgets to accommodate reasonable levels of program

participation in furtherance of the 2030 State's goal (as discussed above). To the extent customer and community interest in the Company's equity supportive programs exceeds the Company's estimates for a particular program, we will use our budget flexibility framework to comprehensively manage our budgets to meet the heightened demand.

Q. HAS THE COMPANY QUANTIFIED HOW MUCH OF ITS BUDGET MAY BE LEVERAGED FOR EQUITY SUPPORTIVE SPENDING?

A. Yes. Table JLJ-D-9 below presents a breakdown of the Company's budget that could reasonably be leveraged for equity supportive spending, broken down by program. Attachment JLJ-5 contains a version of the same. As reflected in Table JLJ-D-9, Public Service estimates that approximately 20 to 30 percent of the Company's total, three-year TEP budget provides identified available funding for equity supportive spending.

Table JLJ-D-9: Estimated Identified Equity Supportive Spend

Item	Spend $mm 2024-2026	Estimated Equity %		Est. Equity Spend $mm 2024-2026		Est. Equity % of Filing	
		Min	Max	Min	Max	Min	Max
Capital							
XE DCFC Public Charging	$120.3	15%	50%	$18.0	$60.2	4.1%	13.7%
Residential IQ/DIC Rebates - EVSE	$6.5	100%	100%	$6.5	$6.5	1.5%	1.5%
Commercial IQ/DIC Rebates - EVSE	$2.0	100%	100%	$2.0	$2.0	0.4%	0.4%
IQ/DIC Rebates - Vehicles	$6.1	100%	100%	$6.1	$6.1	1.4%	1.4%
TNC/DNC Driver Rebate - Vehicle	$1.9	100%	100%	$1.9	$1.9	0.4%	0.4%
TNC Fleet Rebate - Vehicle	$7.6	100%	100%	$7.6	$7.6	1.7%	1.7%
Innovation School Bus Pilot	$22.6	100%	100%	$22.6	$22.6	5.2%	5.2%
Innovation Specialized Electrification	$10.0	50%	65%	$5.0	$6.5	1.1%	1.5%
Innovation Other	$12.0	0%	0%	$0	$0	0%	0%
All Other Capital	$155.7	0%	0%	$0	$0	0%	0%
Capital Total	**$344.7**			**$69.7**	**$113.3**	**15.9%**	**25.8%**
O&M	$94.2	20%	20%	$18.8	$18.8	4.3%	4.3%
Filing Total	**$438.9**			**$88.5**	**$132.1**	**20.2%**	**30.1%**

Q. DO PUBLIC SERVICE'S ESTIMATES CAPTURE THE EQUITY SUPPORTIVE BUDGET SHARE ASSOCIATED WITH PROGRAMS THAT ARE NOT INCLUDED IN THIS TABLE?

A. No. For purposes of this analysis, Public Service determined that it was not practical to attempt to estimate the share of program-specific budgets that could reasonably support equity eligible customers and communities for each and every TEP program. For example, Public Service has not attempted to estimate the portion of EVSI investments that will ultimately support equity eligible customers.

Therefore, these estimated equity amounts may not capture the full extent of the support Public Service will offer equity eligible customers.

Q. WHY DID THE COMPANY CALCULATE ESTIMATED "MINIMUM" AND "MAXIMUM" AMOUNTS?

A. The ultimate share of TEP spending that will support equity eligible customers depends on customer demand and market conditions that are uncertain at this time. The Company provides ranges of potential equity supportive spending to provide the reasonable lower and upper bounds of expectations. Uncertainties that impact the range include specific sited locations of the Company's Public Charging Acceleration Network portfolio, the prevalence of EV adoption over the course of the 2024-2026 TEP, and the level of TEP program participation by qualifying customers and communities.

Q. HOW DID THE COMPANY CALCULATE ITS PROJECTED O&M EQUITY SPEND?

A. The Company assumes a 20 percent equity allocation of O&M spend. 20 percent is approximately the same as the equity allocation of capital investments within the overall plan.

Q. HOW DOES THE COMPANY PLAN TO TRACK EQUITY SPEND UNDER ITS 2024-2026 TEP?

A. As described in Company witness Ms. Huma Seth's Direct Testimony, Public Service will include information on TEP spending by program category, as well as the geographic distribution of program participants and infrastructure investments, in the Company's annual reporting.

V. COST-BENEFIT ANALYSIS

Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY?

A. The purpose of this section of my Direct Testimony is to present the cost-benefit analysis ("CBA") performed by Brattle for Public Service to evaluate the costs and benefits of transportation electrification in the Company's service territory under an EV adoption trajectory consistent with the 2030 State goal and as modeled by Guidehouse. Cost taken into consideration cover all the costs of transportation electrification, including the 2024-2026 TEP, as well as the social costs of net emissions, including carbon dioxide and methane in accordance with § 40-3.2-106, C.R.S. The CBA also estimates net emissions for nitrous oxides, sulfur oxides, and particulate matter. I have attached this CBA to my Direct Testimony as Attachment JLJ-2.

Q. WHY DID PUBLIC SERVICE PERFORM A CBA?

A. As described in Company witness Mr. Jack Ihle's Direct Testimony, Senate Bill ("SB") 19-077 directs that Public Service "must seek to minimize overall costs and maximize overall benefits" of transportation electrification. Mr. Ihle describes how the Company has leveraged its real-world experience with the current TEP and its internal research capabilities combined with external resources to propose a 2024-2026 TEP that is in the best interest of customers, consistent with SB 19-077, and to support EV adoption in line with the State's 2030 goal. To complement this understanding, the CBA is useful as a practical study commonly used in the utility industry to quantify the impacts of transportation electrification in the Company's

service territory. The results of the CBA study ultimately support greater understanding of the value of the Company's proposals.

Q. WHY DID PUBLIC SERVICE RETAIN BRATTLE TO PERFORM THE CBA?

A. Brattle was retained after the Company evaluated Brattle's capabilities and experience compared to its peers. The Company's key considerations centered on the Brattle's ability to perform an accurate and robust CBA, and Brattle's ability to distill a well-supported methodology into a reasonably flexible and understandable model.

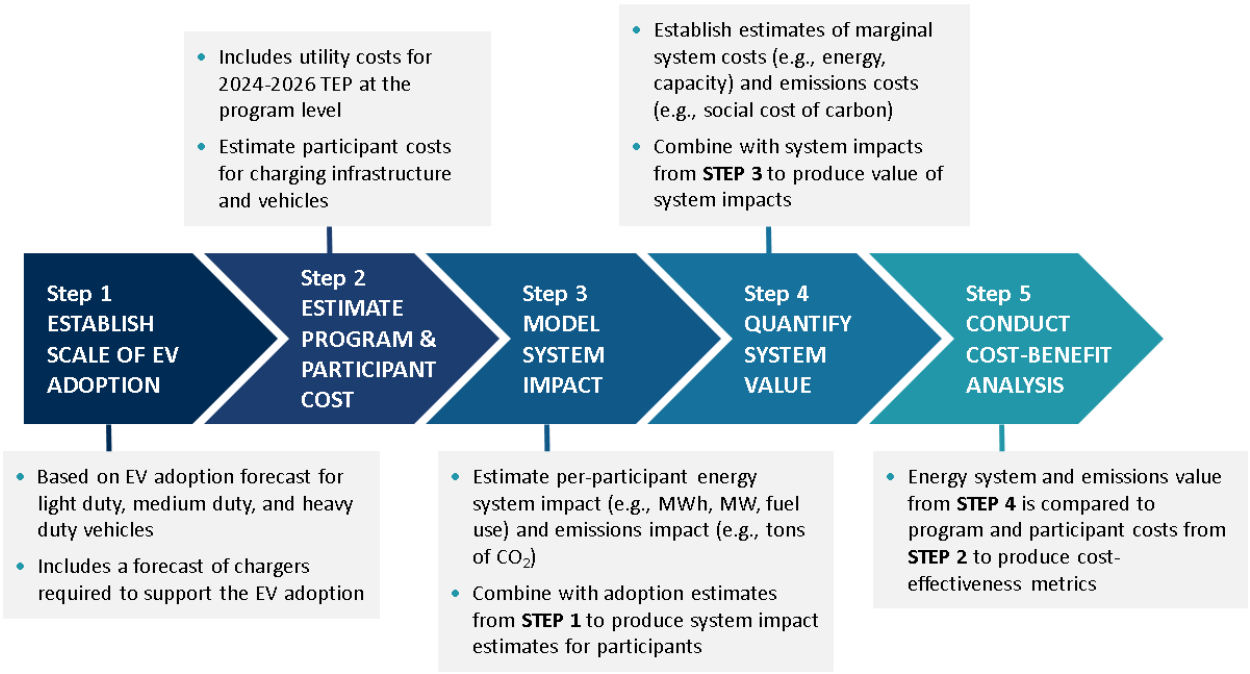
Q. PLEASE DESCRIBE HOW THE BRATTLE GROUP PERFORMED THE CBA.

A. As further described in the CBA attached to my Direct Testimony as Attachment JLJ-2, Brattle performed the CBA by estimating the costs and benefits of EV adoption consistent with the 2030 State goal within the Company's electric service territory, taking into consideration the 2024-2026 TEP. As is customary for comparable CBA studies, Brattle completed the CBA using three cost effectiveness tests: the Societal Cost Test ("SCT"), the Participant Cost Test ("PCT"), and the Ratepayer Impact Measure Test ("RIM"). Each cost effectiveness test explores the relative costs and benefits associated with EV adoption from a different perspective.

The SCT is the primary cost effectiveness test applicable to assess the impact of transportation electrification because it holistically considers overall costs and overall benefits of transportation electrification on a societal level. In particular, the SCT includes the social cost of net emissions, which are required to be considered pursuant to § 40-3.2-106, C.R.S. In contrast, the PCT and RIM

tests take narrower perspectives on the costs and benefits, and do not consider the social cost of emissions. Brattle followed an analytical approach to determine the results of each test that includes five steps. Those steps are described in detail in attachment JLJ-2. They are also summarized in the Figure JLJ-D-2 below.

Figure JLJ-D-2: Brattle CBA Steps



Q. WHAT WERE THE SOCIAL COSTS OF EMISSIONS CONSIDERED IN THE CBA?

A. The SCT test considered the social cost of emissions, including the social cost of net carbon dioxide and methane emissions, associated with transportation electrification. When replacing internal combustion engine ("ICE") vehicle with EVs, the tailpipe emissions from gasoline and diesel engines are avoided. Concurrently, the incremental electricity required to charge the EVs results in additional carbon dioxide emissions from fossil fuel power plants on the

Company's system, as well as methane leaks associated with the pipeline system supplying the natural gas power plants. As described in the CBA, in analyzing the social cost of emissions associated with transportation electrification, Brattle assumed a societal discount rate of 2.5 percent, consistent with § 40-3.2-106 (4), C.R.S, and the annual unitary pricing of carbon dioxide and methane over the study period as per the assumptions provided in Attachment JLJ-3. These assumptions are aligned with the directives of federal Executive Order 13990 and associated data.[3]

Attachment JLJ-3 shows that a total in excess of 32 million short tons of carbon dioxide is avoided for the period 2024-2043, offset by an additional 4 million short tons of carbon dioxide emitted for corresponding additional generation by the Company's system.[4] Attachment JLJ-3 also reflects that additional generation by the Company's system contributes to an estimated additional 2.9 thousand tons of leaked methane corresponding to incremental electricity generation. The net present value of the benefits of net avoided carbon dioxide, discounted at a rate of 2.5 percent, is in excess of $2 billion over the period 2024-2043.

[3] Social Cost of Carbon, Methane, and Nitrous Oxide - Interim Estimates under Executive Order 13990 https://www.whitehouse.gov/wp-ontent/uploads/2021/02/TechnicalSupportDocument_SocialCostofCarbonMethaneNitrousOxide.pdf and Social Cost of Greenhouse Gases Annual Values (February 26, 2021); Social Cost of Greenhouse Gases Annual Values (February 26, 2021), https://www.whitehouse.gov/wp-content/uploads/2021/02/tsd_2021_annual_unrounded.csv

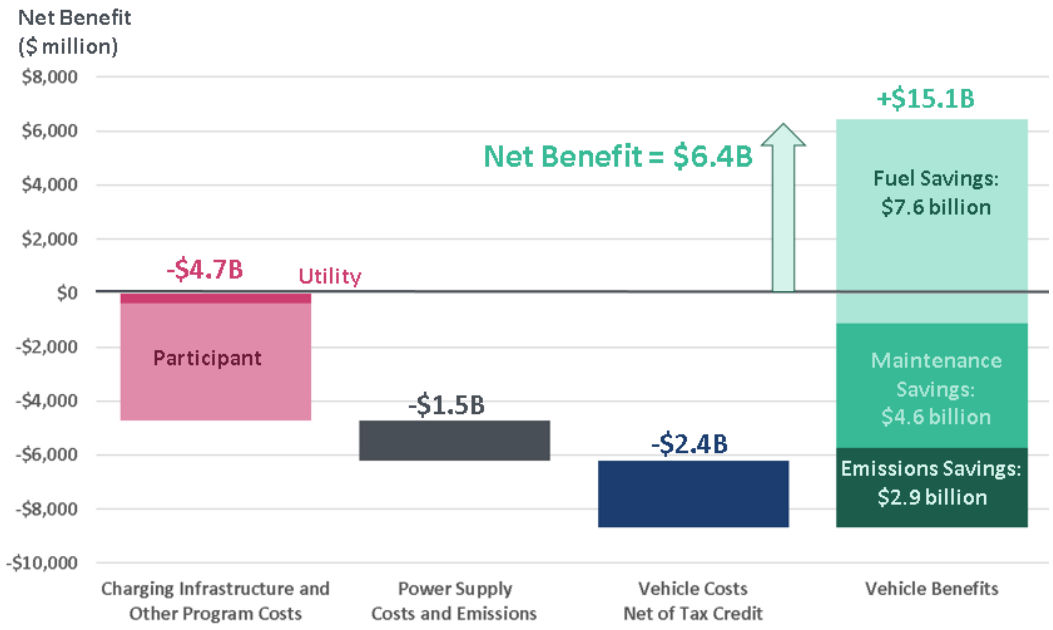
[4] Note that these carbon dioxide emission amounts are provided in short tons, while the same emissions amounts addressed in the Brattle CBA are provided in metric tons.

Q. AT A HIGH-LEVEL PLEASE DESCRIBE THE OTHER RESULTS OF THE CBA.

A. The CBA results reflect that transportation electrification in the Company's electric service territory, consistent with the 2030 State EV adoption goal, results in positive net benefits of $6.4 billion to society (SCT) over the 20-year period of the study. The benefits are split between the Personal Vehicle ($4.5 billion) and Commercial Vehicle ($1.9 billion) EV categories. They stem from avoided fuel costs, avoided maintenance costs, and avoided emission costs from increased EV adoption replacing ICE vehicles, including avoidance of particulate matter and nitrous oxides. These benefits more than offset the costs of transportation electrification, including the incremental initial EV acquisition costs, the cost of incremental electricity service including energy generation, transmission and distribution capacity, and the charging infrastructure cost, inclusive of the 2024-2026 TEP (Figure JLJ-D-3).

In addition, transportation electrification results in net benefits for the PCT of $2.0 billion and the RIM of $1.1 billion.

Figure JLJ-D-3: Societal Net Benefits Waterfall



Q. IN YOUR VIEW, WHAT ARE THE KEY TAKEAWAYS FROM THESE RESULTS?

A. The SCT demonstrates that the overall benefits of accelerating EV adoption in Public Service's service territory in line with the State's 2030 EV adoption goal outweighs corresponding overall costs. Furthermore, the CBA also shows that growing EV adoption across the Company's service territory yields positive results under the RIM and PCT cost tests. However, I would emphasize that the more appropriate CBA metric to consider is the SCT because it includes the statutorily required societal cost of net emissions.

In addition, it is remarkable that the decreased emissions from gasoline and diesel fuel usage reduction greatly exceed the incremental electricity emissions, and these annual net emissions reductions will continue to increase over time as Public Service further reduces fossil fuel intensity in its electric generation mix.

VI. CONCLUSION

Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS.

A. I recommend that:

- The Commission approve the Company's proposed overall annual budget, including its portfolio-level budgets, for the 2024-2026 TEP; and
- The Commission consider the results of the CBA as additional support for the Commission to approve the Company's proposed 2024-2026 TEP, as well as 2024-2026 TEP's proposed budget.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does.

Statement of Qualifications

Jean-Baptiste L. Jouve

Jean-Baptiste Laurent Jouve is Senior Director within the Clean Transportation and Strategic Partnership group for Xcel Energy. He leads the function of financial and economic modeling, industry research and development of partnerships for the design and execution of Clean Transportation programs, and related efforts across Xcel Energy's eight state footprint. Mr. Jouve has over 20 years of experience in the energy industry in various roles, including the Utilities, Oil and Gas and Renewable industries.

M. Jouve joined Xcel Energy in 2021 and previously served as Director of Corporate Finance within the Treasury and Corporate Development groups at Xcel Energy during the 2015-2018 period, supporting valuation, agreement negotiation and execution of several hundreds of millions of wind and solar transactions. His prior work experience includes being the Chief Financial Officer at New Energy Equity, a DG solar developer having successfully completed more than 200 projects totaling more than 300 megawatts in 15 states, prior to its acquisition by Allete Energy. Mr. Jouve also held several positions in Equity Research and Investment Banking for Royal Bank of Canada Capital Markets and Deutsche Bank, in New York, NY, and Minneapolis, MN. He first started his career in Spain and in France as a software engineer working on ADMS calculation applications for the distribution grid of Electricity de France (EDF).

Mr. Jouve received a Master of Business Administration from the Wharton School at the University of Pennsylvania, and a master's degree in Electrical Engineering from the Grenoble Institute of Technology in France.

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

* * * * *

IN THE MATTER OF THE APPLICATION OF PUBLIC SERVICE COMPANY OF COLORADO FOR APPROVAL OF ITS 2024-2026 TRANSPORTATION ELECTRIFICATION PLAN.	)))))	**PROCEEDING NO. 23A-____E**

AFFIDAVIT OF JEAN-BAPTISTE L. JOUVE
ON BEHALF OF
PUBLIC SERVICE COMPANY OF COLORADO

I, Jean-Baptiste L. Jouve, being duly sworn, state that the Direct Testimony and attachments were prepared by me or under my supervision, control, and direction; that the Direct Testimony and attachments are true and correct to the best of my information, knowledge and belief; and that I would give the same testimony orally and would present the same attachments if asked under oath.

Dated at Minneapolis, Minnesota, this 10 th day of May 2023.

Jean-Baptiste L. Jouve
Senior Director, Strategic Partnership & Ventures

Subscribed and sworn to before me this 10 day of May, 2023.

ARPITA SOMANI
NOTARY PUBLIC - MINNESOTA
MY COMMISSION EXPIRES 01/31/26

Notary Public

My Commission expires 01/31/2026