



Pennsylvania Zero-Emission Vehicle Roadmap

Drive Electric PA Coalition Meeting



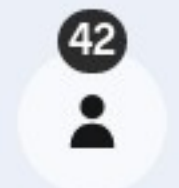
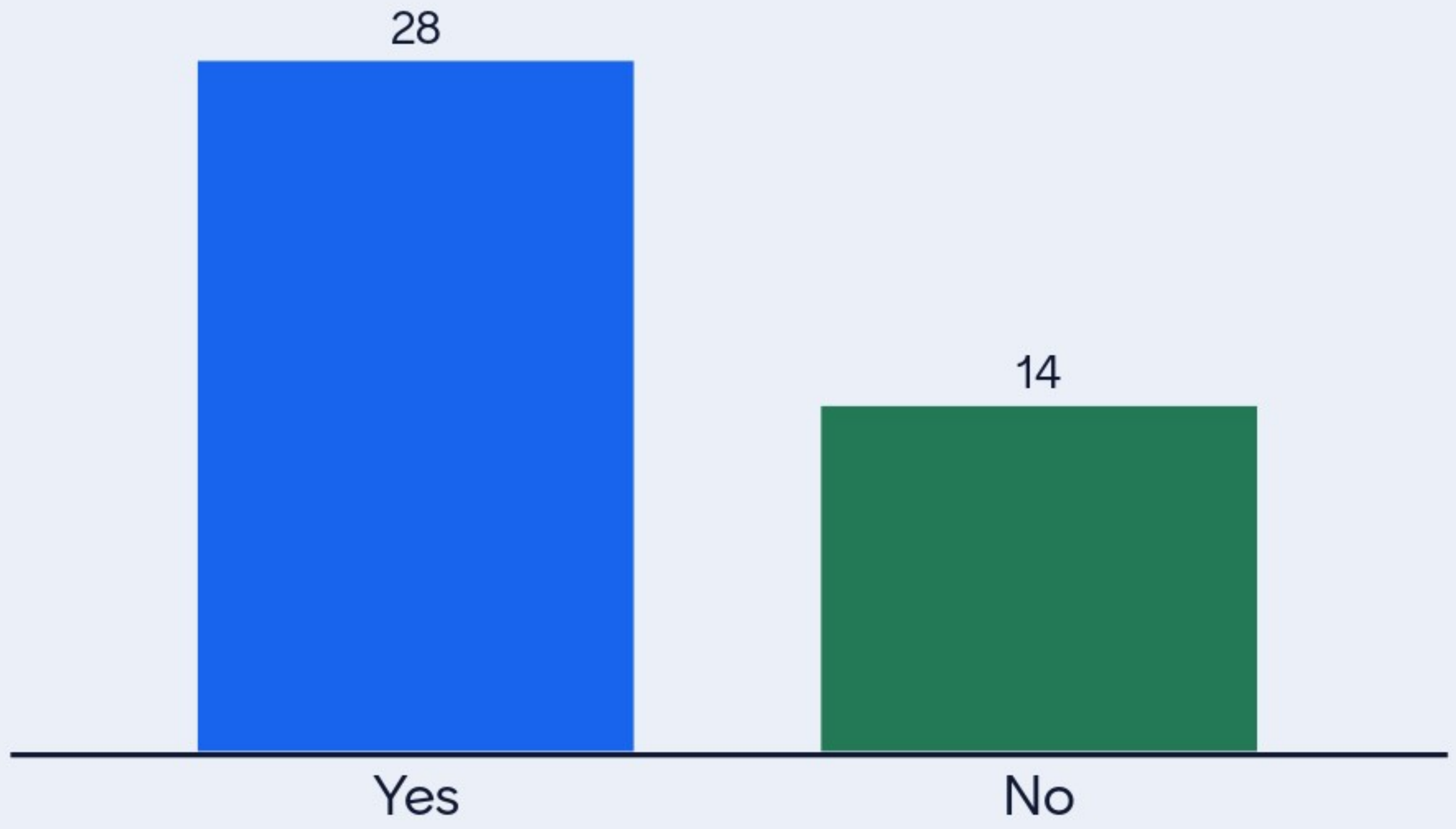


Instructions





Test Question: Have you ever driven a Zero Emission Vehicle (ZEV)?





Question Group (QG) #1

Notes:

This group of questions consists of three multiple choice questions.





What do you see as the primary barrier to zero-emission vehicle (ZEV) adoption in Pennsylvania?



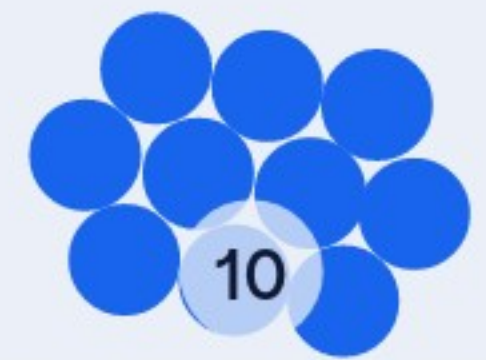
Limited charging infrastructure



High upfront vehicle costs



Technology availability (e.g., range, specialty vehicles, model availability)



Lack of awareness or education



Other (will specify in next slide)



What do you see as the primary barrier to zero-emission vehicle (ZEV) adoption in Pennsylvania?

Range anxiety

Charging station reliability

Lack of utility planning for charging infrastructure buildout

Vehicle Pricing

Power available to support energy need in heavy duty fleets

Lack of legislative support, lack of true state leadership like in CA, NY, etc.

Grid planning & interconnection capacity

Lack of residential charging

4



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What do you see as the primary barrier to zero-emission vehicle (ZEV) adoption in Pennsylvania?

A sustainable infrastructure

Dealership buy-in for LD, lack of policy such as ACT for MHD

waiting for tech maturity

Lack of interest in EVs as they don't offer the value that a gas powered model offers.

Education and encouragement

Lack of Used evs

Grid modernization

Education

4



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What do you see as the primary barrier to zero-emission vehicle (ZEV) adoption in Pennsylvania?

Promoting the Avg \$ of EV instead of the ENTRY Point \$

High cost of vehicles given low average household income levels.

range fears

Vehicle Grid integration strategies.

Belief that the "government" will force everyone to ditch their ice vehicle 4 an ev. "Mandated overreach"

Will be interesting to poll attendees how many will own only EVs.

Thinking fueling an EV should be the same experience as fueling an ICE vehicle.

Charging infrastructure

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What do you see as the primary barrier to zero-emission vehicle (ZEV) adoption in Pennsylvania?

Battery life and concerns about lithium fires

Funding for LMI & small business, they need higher incentives and more technical support & education to adopt & access

Safety at public charging stations

Education. Need more EV ride and drives

"Catcher's mitt" mentality ("this is happening anyway, why do we need to do anything?")

Range anxiety

Maintenance/ trained workforce

Battery range and life

4



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What do you see as the primary barrier to zero-emission vehicle (ZEV) adoption in Pennsylvania?

Incentives for car dealers / sales people

Waiting around to charge when on a long trip

Misinformation

(hopefully) fewer people buying cars, more people buying bikes and riding buses and trains :)

Workforce training

Recognition of the value of the product to the consumer. Is it a good deal and is it better than other vehicles that I can buy?

Ev manufacturers not being able to do annual inspections because state requires emissions certification to do inspections

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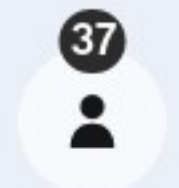
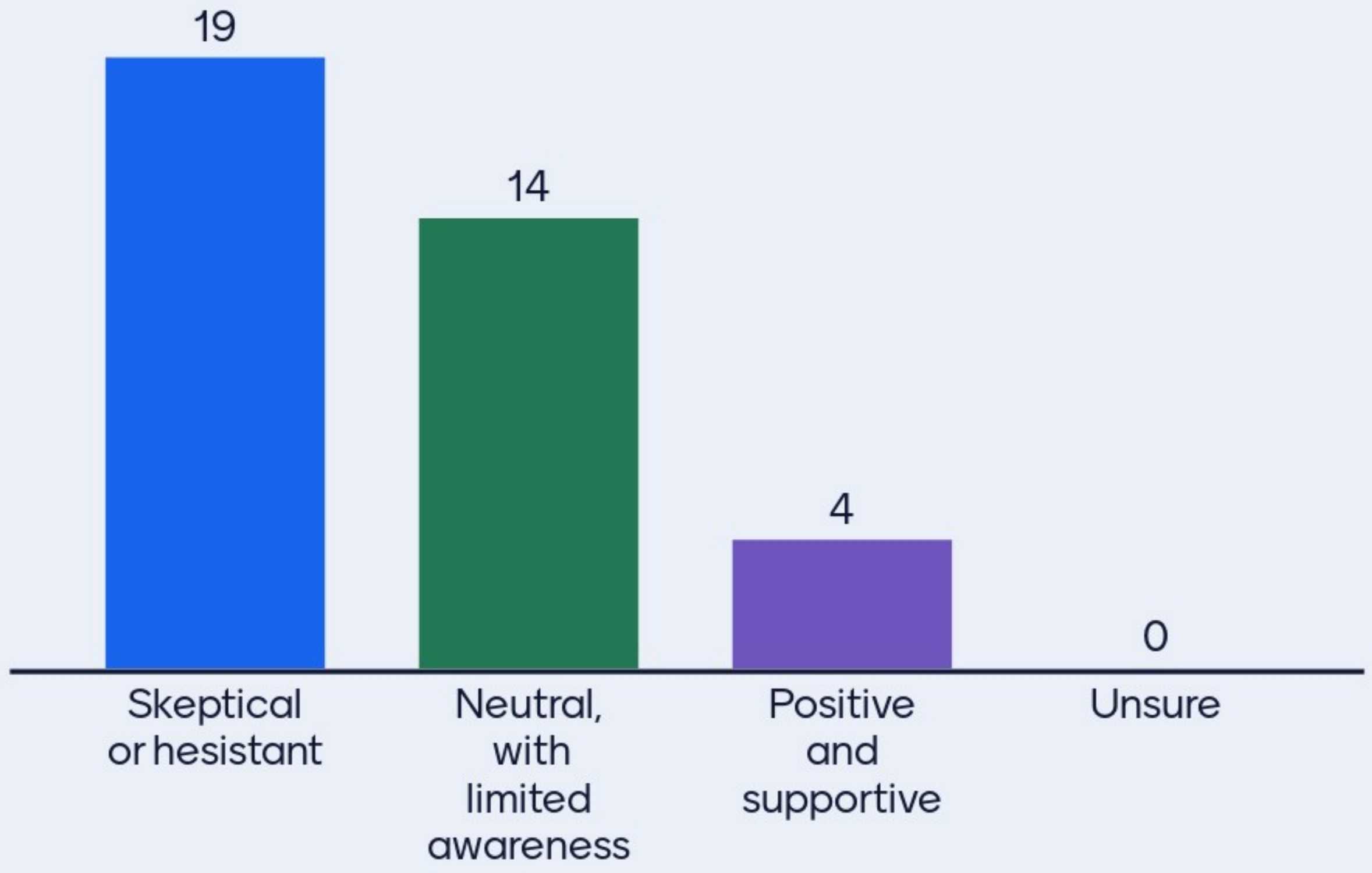


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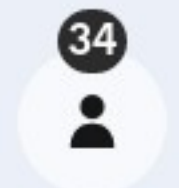
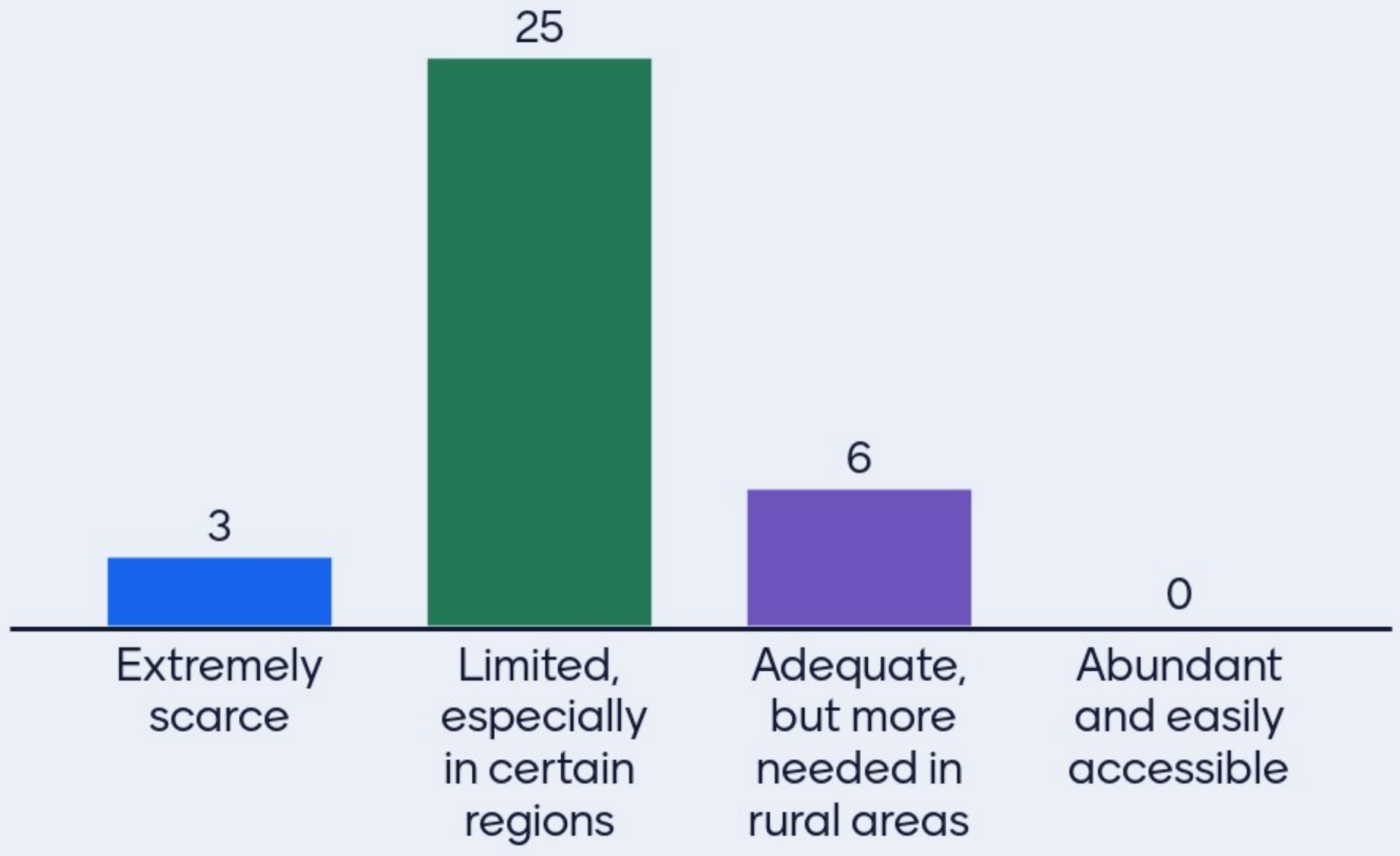


How do you perceive the public's attitude towards ZEVs in Pennsylvania?





How would you describe the availability of charging stations in Pennsylvania?





Question Group #2

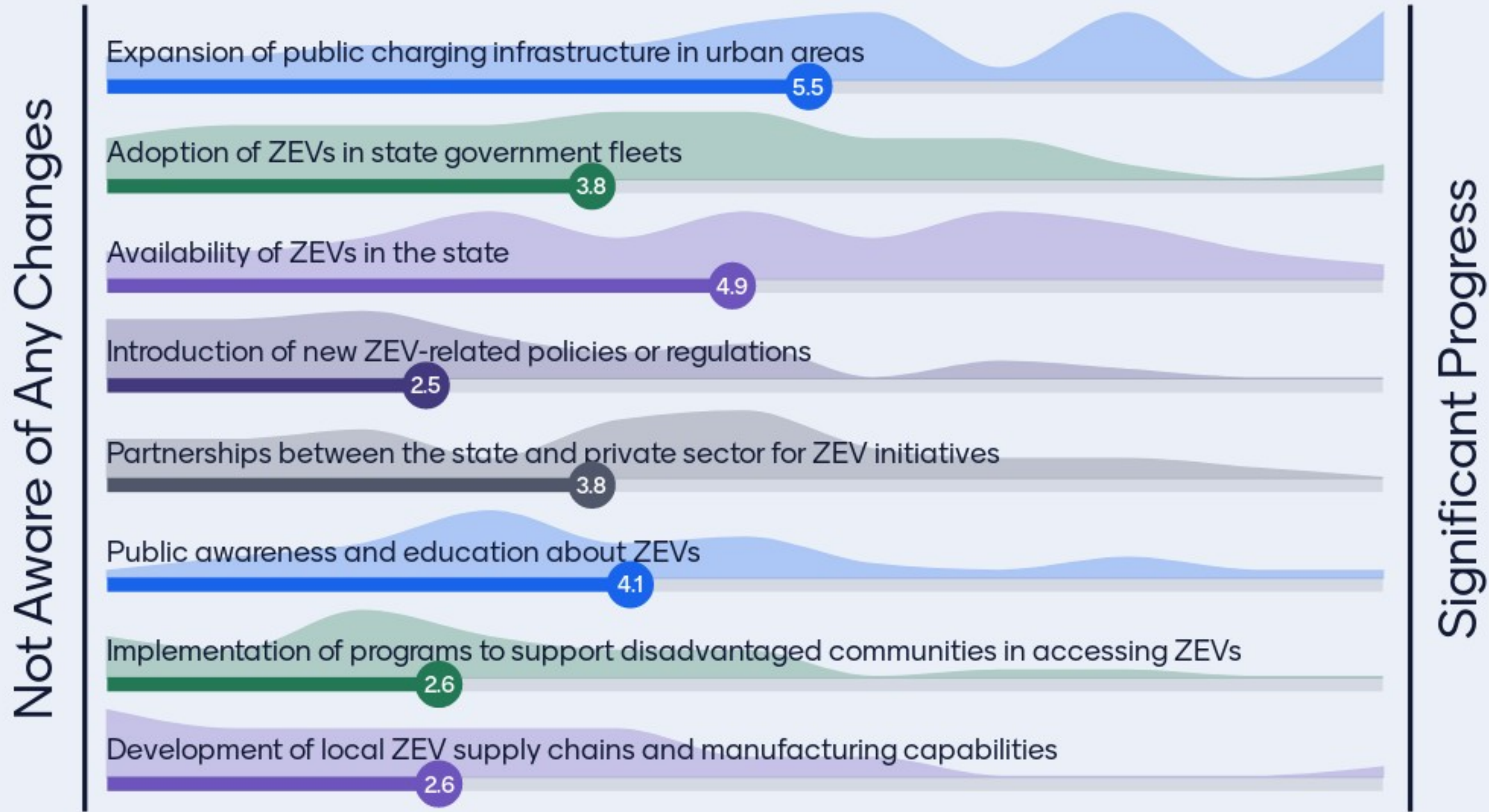
Notes:

- 1) Scale items on a scale of 0 to 10.
- 2) There will be separate questions for *light-duty* and separate questions for *medium and heavy-duty* vehicles



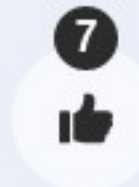
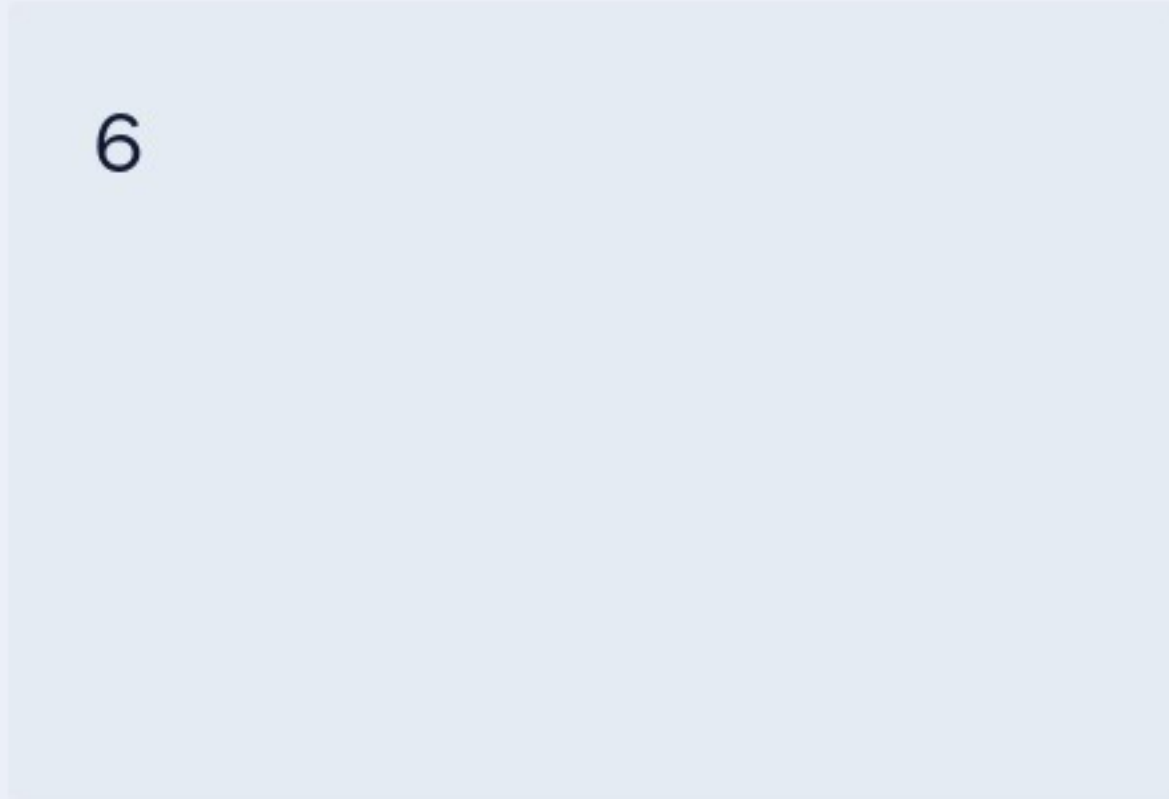
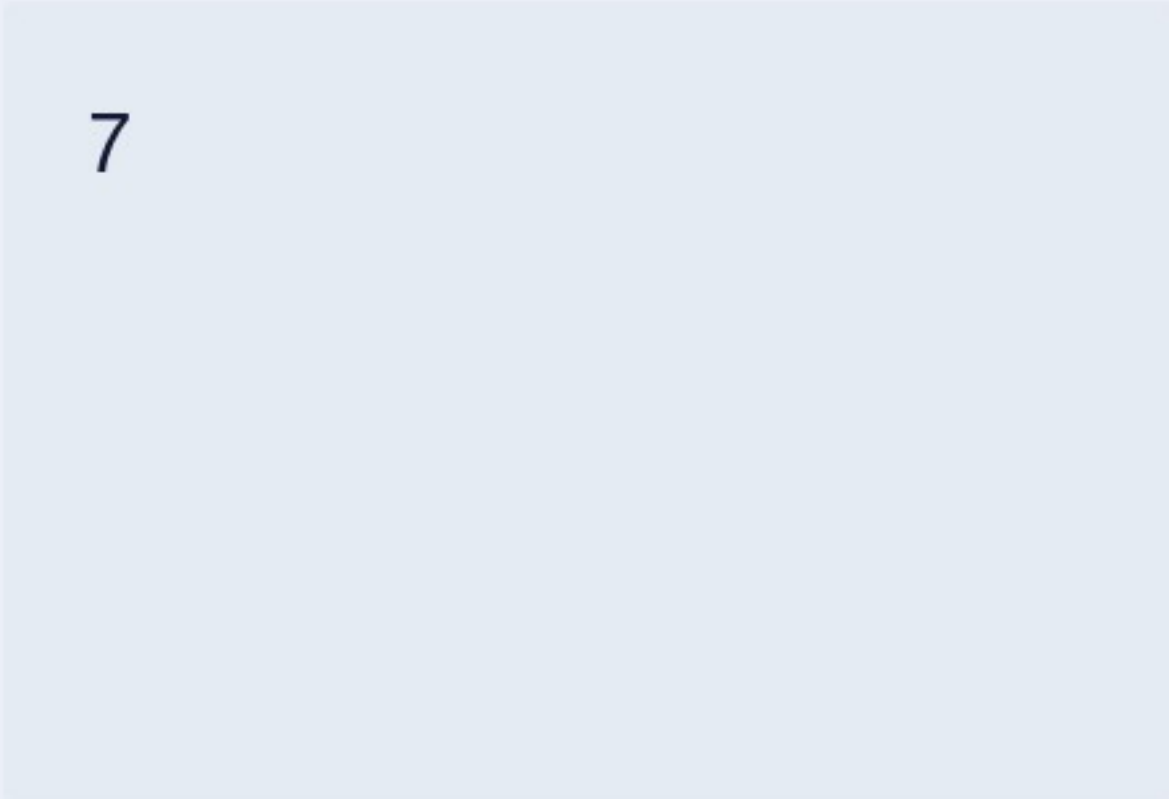
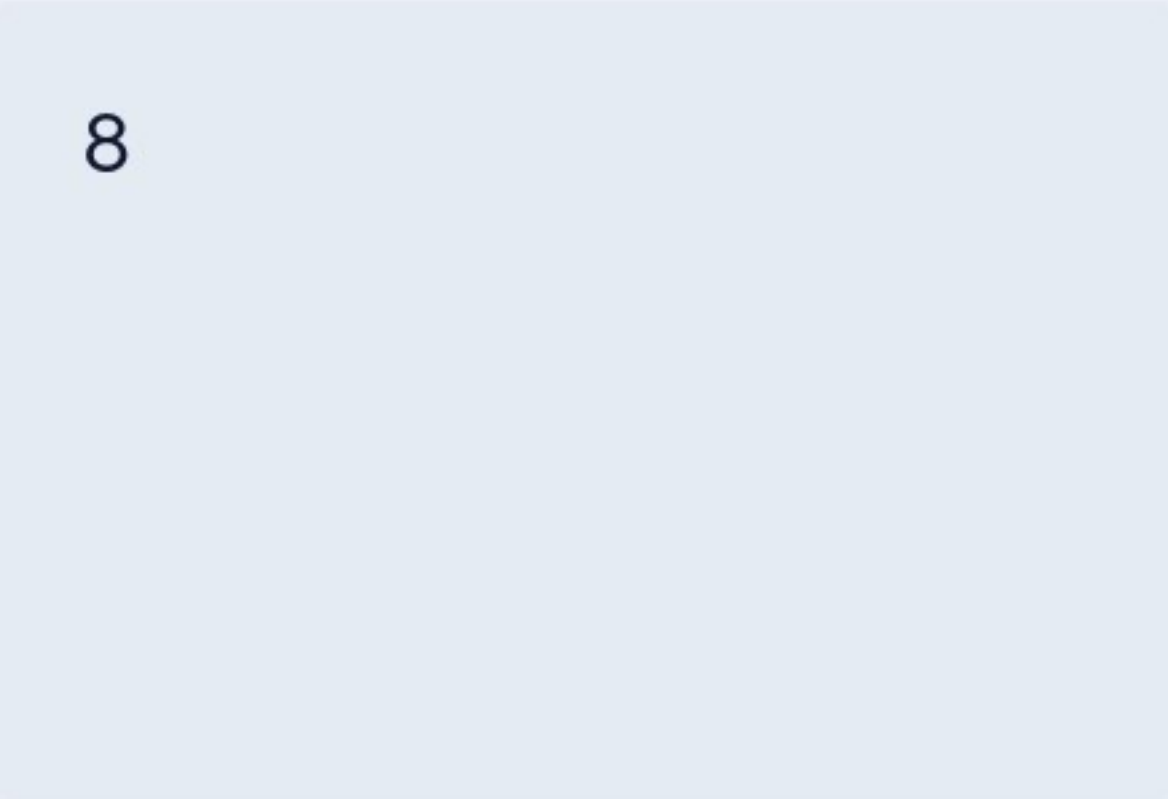
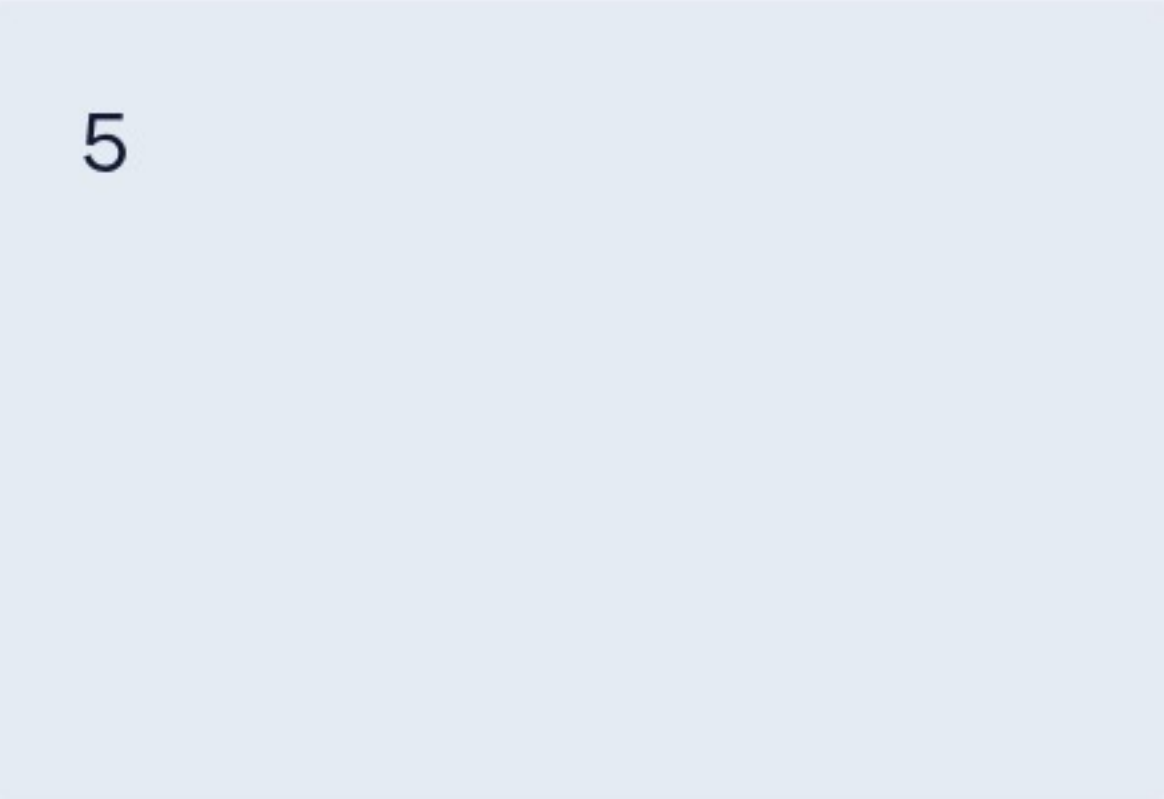
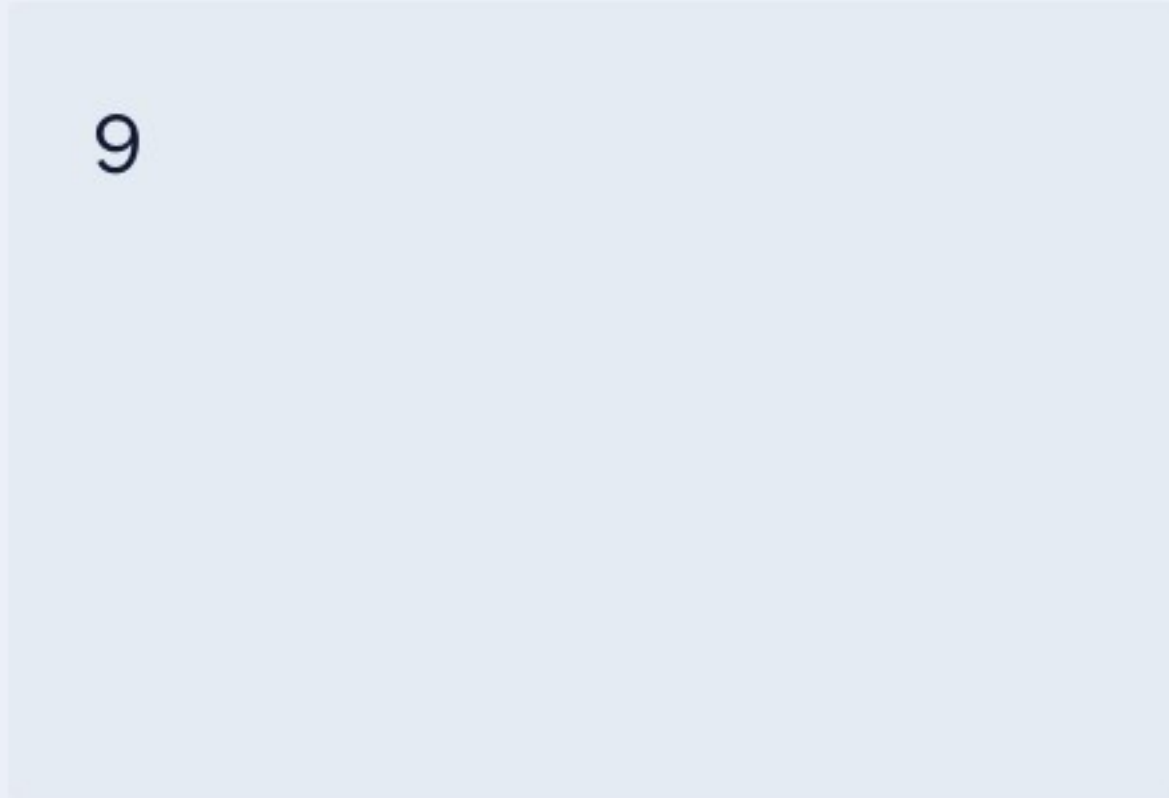
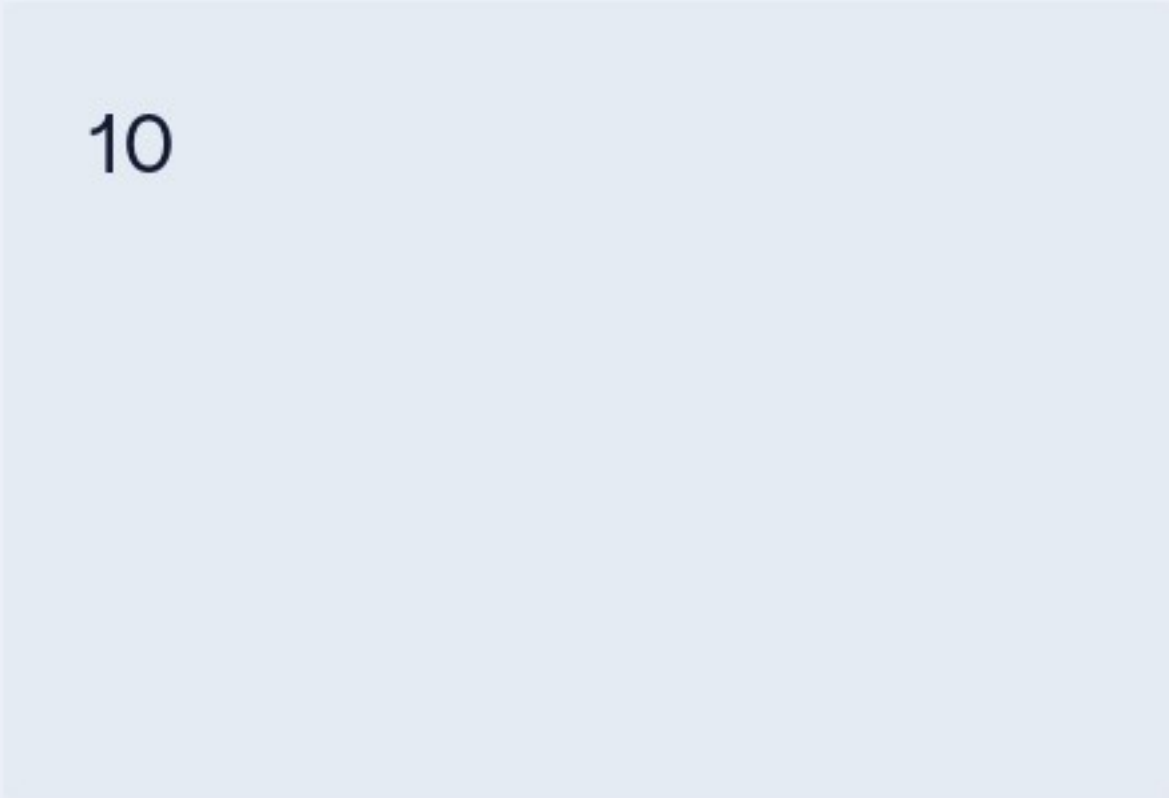
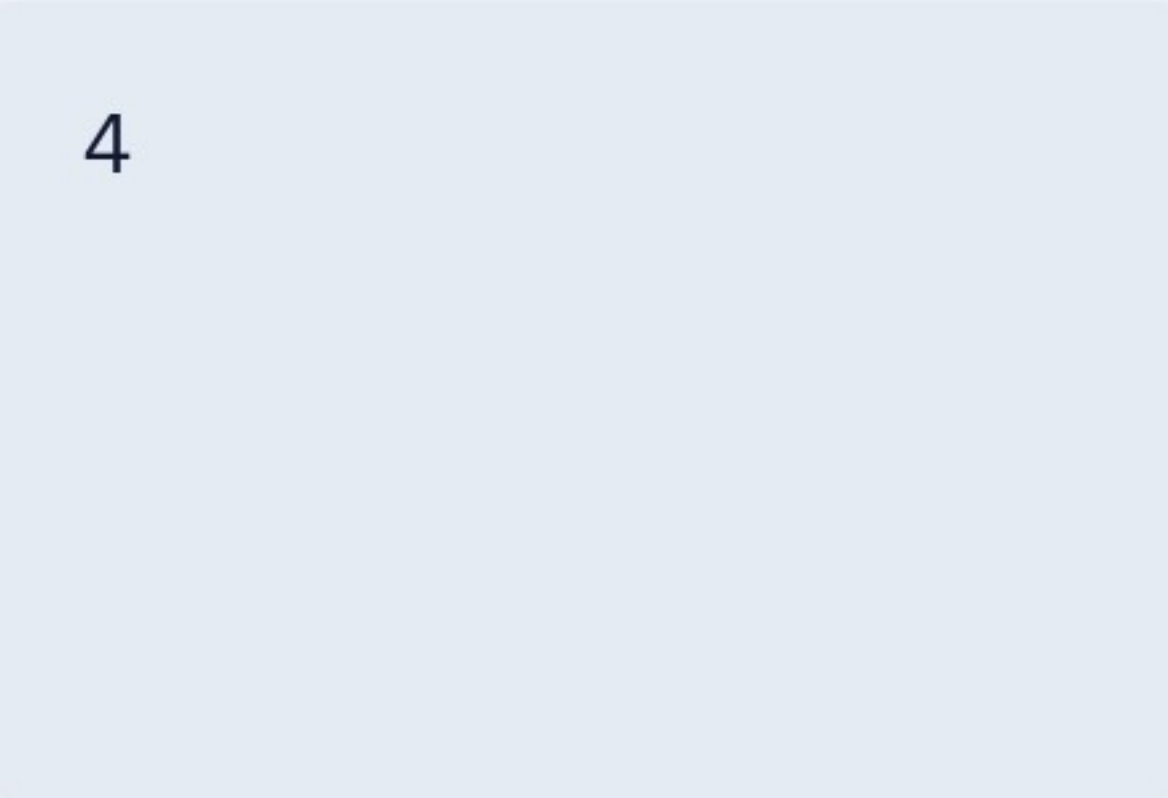
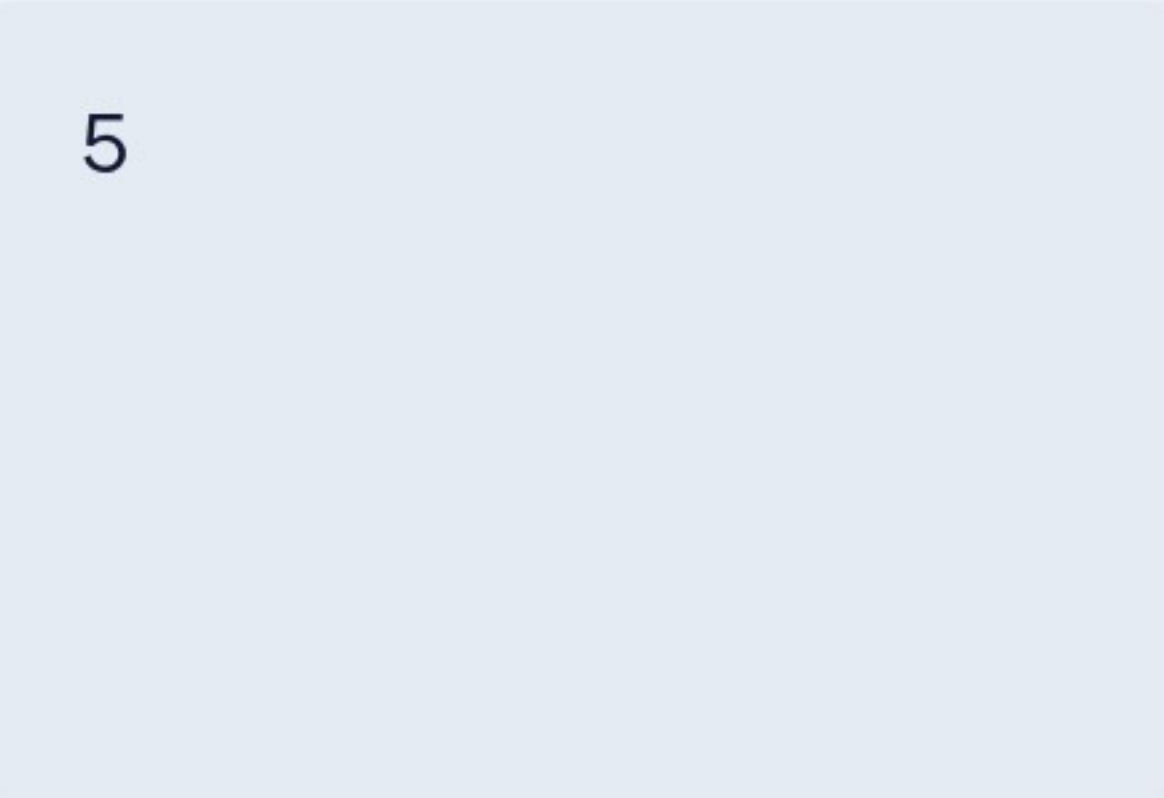


Changes and achievements in Pennsylvania's ZEV landscape since last EV Roadmap





Changes and achievements in Pennsylvania's ZEV landscape since last EV Roadmap





Changes and achievements in Pennsylvania's ZEV landscape since last EV Roadmap

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5- improved grant programs like AFIG to address cost challenges

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3. Biggest change in the South Central PA area is the new Tesla dealership on the Carlisle Pike. Car professional friends say that an EV Fiat 500 is coming in 2024.

No awareness

Other—I wasn't involved in the last EV Roadmap

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Changes and achievements in Pennsylvania's ZEV landscape since last EV Roadmap

0. There's a need for the state to more proactively let municipalities know the benefits of EVs and how you can reduce cost with state and federal grants

Additional fee for owning an EV?

7 - Public utility commission recognition of the need for utility rates and programs to address grid impacts of EVs.

EV charging infra

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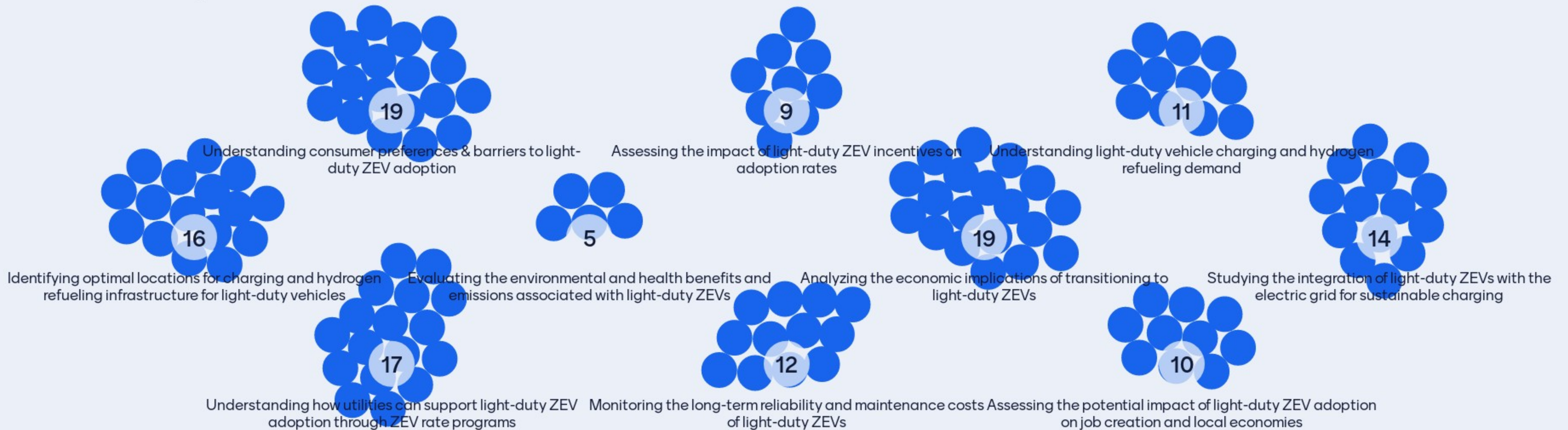


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Significant knowledge gaps to address to promote *LIGHT-DUTY* ZEV adoption in Pennsylvania





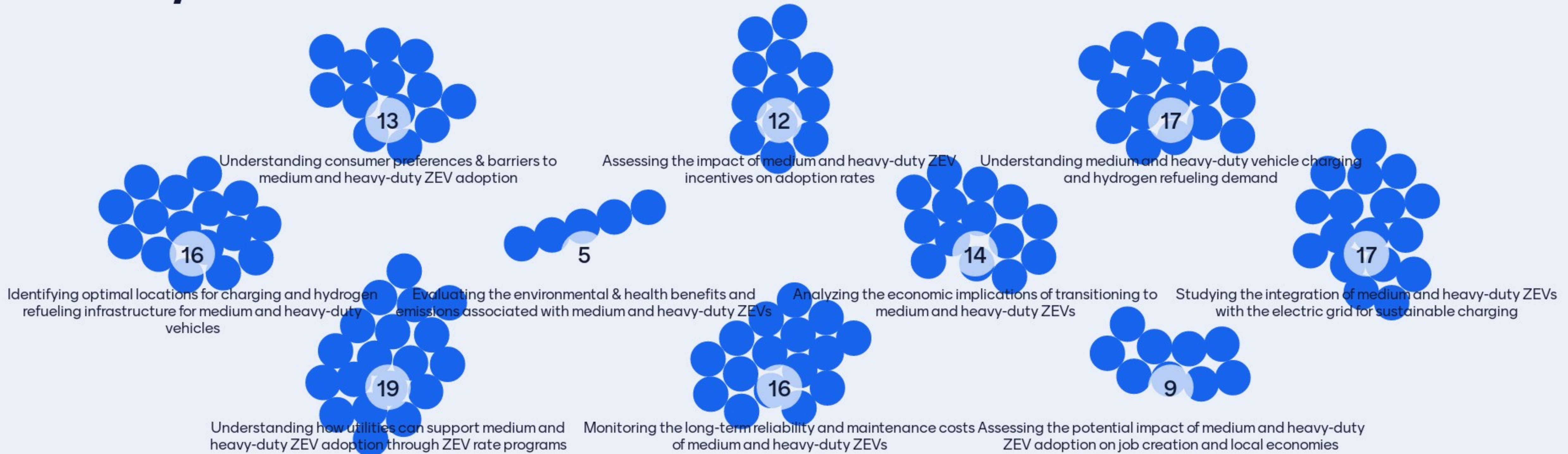
Significant knowledge gaps to address to promote *LIGHT-DUTY* ZEV adoption in Pennsylvania

Understanding the entry point costs.





Significant knowledge gaps to address to promote *MEDIUM & HEAVY-DUTY* ZEV adoption in Pennsylvania





Significant knowledge gaps to address to promote *MEDIUM & HEAVY-DUTY* ZEV adoption in Pennsylvania

Permitting reform

Availability of vehicles

Permitting reform

legislators in rural areas, discourage EV adoption in part because we should take full advantage of the local resources we have in PA. EVs are negatively associated with environmentalists.



Question Group #3

Notes:

This group of questions consists of two open ended questions for your written response.





Are there any other statewide or regional efforts* that we should consider when developing the ZEV roadmap?

Duquesne light and PECO's incentive or grant programs

Should definitely consider legislation and policies, looking at how utilities are planning for transportation electrification (ie HB 1240)

Better coordination with PAPUC

Utility incentive programs

More utility programs to incentivize residential installations

Policy adoption: ACT Rule

Integration of city/community/county sustainability and/or climate action plans

Targeted education to municipalities and counties on how to reduce long-term costs of switching to EVs at all level.



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Are there any other statewide or regional efforts* that we should consider when developing the ZEV roadmap?

Increased residential installation efforts.

Local municipality climate and sustainability plans.

A recommendation to utilities and utility regulators to require grid-focused VGI strategies to be implemented in the short term.

You can ask the Public Utilities to give ZEV's favorable charging rates. But who makes up the difference? Residential? Small Businesses? Industrials?

Utility demand EV required

Need more assistance to help municipalities and nonprofits to reduce upfront costs.

Permitting reform

Transit Adoption and Alternative Fuels Tax



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Are there any other statewide or regional efforts* that we should consider when developing the ZEV roadmap?

Overlap with autonomous vehicle innovation

- PA Clean Power Coalition- Clean Cities network- Recent Duquesne Light EV public engagement efforts

We are working on Federal ZEV corridor projects that should be considered

Figure out how to estimate electricity for Alternative Fuel Taxes when the original charging station were installed without any metering. In our town, the charging stations are hooked into the lights

Fair use registration fees for electric cars and hybrids to make up for loss of gas tax revenue

More action, less study. Adopt the ACT. Require every electric utility to do transportation electrification planning.



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What did you like or dislike about the previous EV roadmap? How could the updated ZEV roadmap be more helpful to DEPA stakeholders?

The interactive "heat" maps are a great addition

Ease of reading, good supporting graphics and charts

The EV roadmap seems adequate / appropriate. I want to know how DEPA only hires good-looking people!?

Reports on electric vehicles and infrastructure improvements

The improved reporting on ZEV registrations has been immensely helpful for planning

Too focused on SOVs

Helpful resources for different kinds of stakeholders

Not easily usable by municipalities. It needs to be jazzed up to 1) get city managers excited. 2) show cost reductions to groups with very tight budgets. 3) make it very easy to read

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What did you like or dislike about the previous EV roadmap? How could the updated ZEV roadmap be more helpful to DEPA stakeholders?

It may be beneficial to explore consumer interests and needs as part of developing the plan.

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Clear and actionable recommendations for future policy and regulatory developments that can help ZEV adoption.

Regional breakdown of data may be of interest

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Thank You!

