MEETING MINUTES OF THE HYBRID MEETING

ARLINGTON COUNTY C2E2 ENERGY COMMITTEE

The **C2E2 ENERGY COMMITTEE** convened its hybrid meeting online and in Room 306A (2100 Clarendon Blvd.) at **7:00 PM** on **October 15, 2025**.

PRESENT

Elizabeth Whitney
Kevin Vincent
Kip Malinosky
Claire Noakes
John Bloom
Doug Snoeyenbos
Rob Sandoli
Fernando Rodriguez
Stephanie Burns
Jamie Kern

ABSENT

Scott Dicke
Jonathan Morgenstein

STAFF

Rhina Lara
Rich Dooley

GUESTS

Matt Kahn

SUMMARY OF PRESENTATIONS/DISCUSSIONS

1. **Welcome the new EC member: Fernando Rodriguez (7:00) – EC members**

   - F. Rodriguez is formerly of FERC and has worked on many energy matters over the years
   - The EC members went around the room and introduced themselves to F. Rodriguez
   - E. Whitney reminded people that we are in an active recruitment period for more EC members

2. **Review/ approve meeting agenda and September meeting summary (7:10) – Elizabeth Whitney**

   - E. Whitney welcomed everyone to the meeting.
   - The October meeting agenda and September meeting summary were both unanimously approved.

3. **Public Comment (7:12)**
   - None

4. **SAFE/ReMo report on AI (7:15) - Paul Ruiz, Senior Director of Policy at Securing America's Future Energy (SAFE)**
   - Mr. Ruiz provided a Powerpoint presentation (Attachment 1) regarding how artificial intelligence (AI) is being used in the transportation sector

- He has advised the transportation sector on environmental issues
- The transportation sector has evolved technologically over the years. AI now allows us to anticipate what is coming, which is a different era in transportation. It can help make the sector safer.
- There are numerous ways in which AI can be used in transportation, e.g., helping with maintenance, navigating traffic, detecting infrastructure issues.
- Signal preemption can help with disaster and emergency response situations.
- AI has helped reduce insurance claims and reduced injury claims.
- Flight path simulation can help airlines save money.
- Three-legged stool & circle of AI infrastructure:
    - **Power** needs
    - More computational ability demands more **chips**
    - More chips increasing **computing** capabilities and adds yet more power
- Billions of dollars will go toward more data centers and toward data chip manufacturing plants
- Gate of the Backbone – what Northern VA is known as in the industry
    - Lowe energy prices
    - Infrastructure
    - Knowledgeable workforce
- In VA, data centers already account for 25% of the Commonwealth's electricity demand.
- Edge data centers are growing in importance, and even though they are not as numerous of larger data centers, they are growing in stature.
- Autonomous vehicles (AVs) will greatly increase the need for low latency computations. Low latency is the ability of a computing system or network to provide responses with minimal delay.
- Faster permitting, getting infrastructure built quickly – has been the focus of the current White House
- China is deploying more AI technology and is striving to shape the rules of the game globally, e.g., standards setting
- Here is the link to the report from the Coalition for Reimagined Mobility - AI in Motion: Securing America's Edge in Safer, Smarter Transportation

Q&A

- C. Noakes – It's not if, but when, AI will make these predicted changes. How will resiliency and redundancy play a role? Are AI experts planning for days if/when a black swan event were to occur?
    - A: AI is being used to help lessen the need for grid growth to accommodate the additional data centers. The Wall Street Journal asks – will this be another bubble, like the dot.com bubble? If you assume we do need this technology, then we need to invest in our grid. Our grid is quite old. We need to upgrade transmission lines. We live in a world of uncertainty right now – great technological transformation has not been seen at this pace.
- J. Kern – Regarding the China / U.S. competitiveness: What is the US trying to achieve in terms of dominance? It seems like an AI arms race with no end in sight.
    - A: China struggles to foster as innovative of a culture as the U.S. has, but China does throw a lot of public money into the AI industry. We (the US) should lean into our strengths. We have the opportunity to lead globally.

5. Home electrification (7:45) - David Friedman

- He used to work at Rewiring America
- Electrification helps people afford energy
- Energy bills are up over 40% over the past five years
- American households spend about $1B/day on household energy. 78% of Americans are stressed about energy bills.
- There are five things that drive the bottom line for energy:
    - How you heat/cool your home

    - How you heat your water
    - How you drive your car
    - How you cook your food
    - Where your electricity comes from
- A standard house that has natural gas and electricity is akin to a plug-in hybrid that has two different energy (fuel) systems. Building out each energy system costs money and resources. Having an electric-only home allows people to save money when it comes to building a new home.
- Once an all-electric home is built, the operational costs are less than for a multi-fuel home.
- There are many reasons why electrification is a benefit to us:
    - Adds more jobs
    - Reduces global warming pollution
    - Saves lives and improve public health
    - Offsets 5 years of projected data center growth and supports the grid (by V2G), though our grid is not connected in a way to best optimize the available technologies
- How do we get contractors & repair companies to shift from gas-powered equipment to electric equipment?
- Dominion Energy (DOM) has an EV Charger Rebate and a heat pump water heater (HPWH) Rebate
- Education about the opportunities is key in Arlington

Q&A

- K. Malinosky – Across the US, what localities have embraced 100% electricity?
    - A: Rewiring America did try to help communities move in that direction, but David did not have that information handy regarding specific examples.
    - David advocates for the conversion of office buildings to all-electric multifamily (MFH) buildings.
- R. Sandoli – Arlington developers say that it is actually less costly to run a MFH that uses natural gas.
    - A: Developers knee-jerk reaction has been that electrification is more expensive than the current norm. It is an opportunity to research.
    - David asked whether developers included the cost to include gas infrastructure to serve the building? Have the developers included solar PV to the mix?
- C. Noakes – Developers have said that a 100% all-electric building can cause DOM to require a developer to pay for a new substation. DOM has not provided the necessary grid information up-front to developers to help predict where grid infrastructure problem areas exist.
    - A: Home solar and community solar shows its importance here.
    - Also, to help lessen the load on the grid, any buildings with electric resistance heat should convert over to air-source heat pumps.
- D. Snoeyenbos – Who should we reach out in AIRE who focuses on this?
    - A: Ask Steve Burr that question as he should have that answer.
- K. Malinosky – Can the County help educate contractors on electrification?
    - A: The County has teamed with the City of Alexandria on a webinar to better understand what contractors need to move then toward electrification.
- J. Kern – Can the County conduct a survey as to what the desires are for electrification? Can such data help developers understand what the market wants and needs in future buildings? E. Whitney added that Arlington is a great place to test out electrification given the income available to put toward such equipment.
    - K. Vincent – Arlington is not only progressive, but it also is willing to pay a premium given the household incomes in our area.
    - J. Bloom – Keep in mind that Washington Gas offers incentives to builders and developers to include gas appliances in new developments.
    - David noted that there's definitely a need to educate people on the benefits of electric equipment.
- R. Sandoli – Retrofits are key – we need to get the information to people at the time when old equipment needs to be replaced and when renovations are being done.

6. CPO updates (8:15) – Rich Dooley

- R. Dooley provided an update on County initiatives being worked on by the Climate Policy Office (CPO):
    - EcoAmbassadors - launched on Oct 8, focusing on Transportation, Waste, and Building Electrification
    - CAP – staff are continuing negotiations with the proposed consultant
    - Climate Action Toolkit – on Nov 18th, inviting mission aligned orgs to talk about their resource needs. County is designing a toolkit for orgs to use to communicate about climate change and climate action
    - GetGreen – Planning for a Nov. 1 launch of a civic association contest
    - Legislative priorities – working with the County's new legislative liaison
- In addition, the next MWCOG CEEPC meeting is on Nov. 19th and the next BEEAC meeting is on Nov. 20th - more to come on that next EC meeting.
- J. Kern: How can we lower the bar toward participation for the GetGreen app? Why does the user need to first enter in their name and e-mail address even before they're given information on what the app does, the app's intent, etc?

7. EC Work period (8:25)

a. APS Sustainability Committee update & APS letter **– Elizabeth Whitney**
b. GBIP Update – **Doug Snoeyenbos**

APS

- APS Sustainability Committee Chair – Eric Tilden – met with E. Whitney. He welcomed the input from the EC and looked forward to helping with the letter from the EC and C2E2 on APS sustainability activities.
- RECs – not having the RECs reduces the schools' ability to claim that they have green power.
- E. Whitney asked if we care about the value about claiming APS's use of renewable energy, or do we think it is more important to add as much solar as possible regardless of whether APS has to relinquish the RECs or not.
    - J. Bloom noted that the County is aiming for carbon neutrality, so keeping the RECs is important to get there. He thinks that RECs still matter.
- D. Snoeyenbos – Every student and parent who looks at the top of the school and sees solar panels helps normalize the concept of having solar panels on buildings.
- K. Vincent – Solar panels need to be part of the APS curriculum and education program. What better way to have that than to have solar on the school and to teach on it.
    - K. Malinosky – His school can show how much the solar panels are producing for energy.
- E. Whitney would like to take away that issue and argument for APS. We want to let them sell their RECs.
- C. Noakes – It was a couple of weeks ago where the School Board talked about their CIP budget.
    - She really wanted to get the School Board the message to *not* spend all of its CIP money on certain select projects, rather, set some aside some CIP funds to allow for solar PV to be added within the next ten years.
- J. Kern – Does APS see the operational benefits of adding solar? A: Unfortunately, similar to other organizations, the operations budget people in APS do not talk regularly with the capital budget people in APS.

GBIP

- D. Snoeyenbos – general consensus seems to be that we do not want to rush into changing the GBIP. The County Board is hearing that the GBIP needs to be reviewed along with the standard Site Plan Conditions. There needs to be a staff initiative between DES/AIRE and CPHD to address the standard Site Plan Conditions.
- E. Whitney – Changing the basic standard Site Plan Conditions is akin to improving the building code as it raises the floor for building performance for all site plan projects. If the bare minimum is what developers are going to do, then we need to raise that minimum to help us reach our goals.
    - K. Vincent – He endorses what E. Whitney advocates for.
    - R. Sandoli – Baseline is LEED 4.1 Silver in the baseline Site Plan Conditions. Also, we want to make some LEED elements prerequisites outside of the LEED certification process. That is what the City of Alexandria is doing.
- J. Kern asked if there is a way to provide more input from the community on this topic.

- A: D. Snoeyenbos said that the County invariably will provide opportunities for input.
- J. Bloom –the minimum Site Plan Conditions are essentially the ground floor of the GBIP. If the Site Plan Conditions are not addressed, then they'll get rolled up into the GBIP discussion.

8. C2E2 meeting update, DOM VPP comments, Demand Side Mgmt. mtg – (8:40) - Elizabeth Whitney

- Ran out of time. This item will be saved for the November EC meeting.

9. Adjourn (9:00)

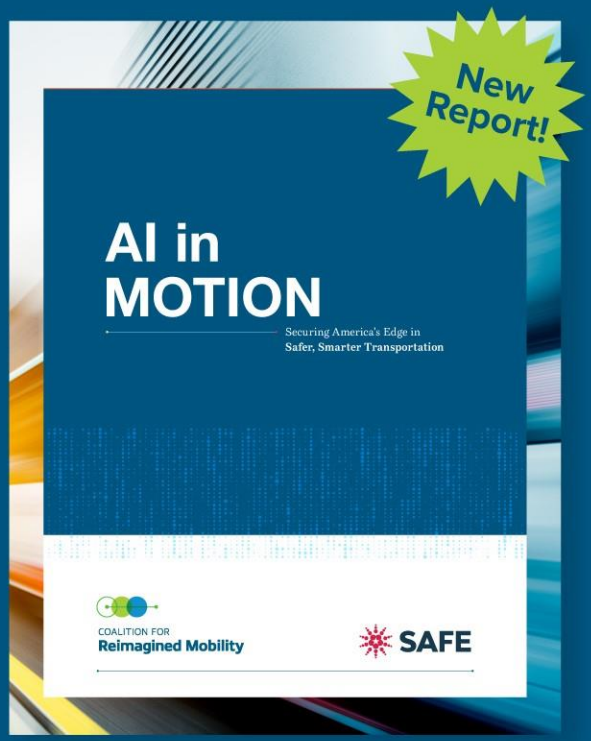
- The meeting adjourned at 9:08 pm.

ATTACHMENT 1
PAUL RUIZ – SECURING AMERICA'S EDGE IN SAFER, SMARTER TRANSPORTATION

AI in Motion

Securing America's Edge in
Safer, Smarter Transportation

C2E2 Briefing
OCTOBER 2025



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AGENDA

1. **Context**
2. **State of AI**
   - Current Deployment
   - Benefits
   - Impact: Models
   - Use Cases
3. **Challenges & Competition**
   - Barriers to Scale
4. **Conclusion**
   - Key Takeaways

ABOUT SAFE & ReMo

SAFE is an action-oriented, nonpartisan organization committed to transportation, energy, and supply chain policies that advance the economic and national security of the United States, its partners, and allies. Since 2005, SAFE has worked with its Energy Security Leadership Council—a peerless coalition of current and former Fortune 500 CEOs and retired four-star admirals and generals—to support secure, resilient, and responsible energy solutions.

Learn more at **SecureEnergy.org**

The Coalition for Reimagined Mobility (ReMo), an initiative of SAFE, advances policies and solutions to develop and scale advanced transportation technologies for a 21st-century mobility system that is safe, secure, and efficient. ReMo convenes stakeholders and conducts research and education campaigns to drive economic growth, strengthen national security, and spur innovation that improves how people and goods move.

Learn more at **ReimaginedMobility.org**

AN EVOLVING TRANSPORTATION ECOSYSTEM

Analog
Human-directed, fixed schedules, reactive maintenance.

Digital
Sensor data, basic automation, scheduled updates.

Intelligent
AI-enabled perception, prediction, and real -time adaptation .

EXAMPLE

1. Detect
Computer vision spots a cyclist emerging from behind a parked truck.

2. Predict
System models speed/ trajectory and anticipates a potential collision.

3. Act
Signals AV or smart intersection to brake/adjust phase timing, while alerting approaching drivers.

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THE PROMISE OF AI IN TRANSPORTATION

MACHINE LEARNING

Predictive analytics for transit delays, maintenance, and routing.

- Anticipating component failures.
- Forecasting congestion from historical feeds.

COMPUTER VISION

Detection & monitoring of infrastructure, traffic analysis.

- Detecting faded lane markings, damaged signs, or wrong-way drivers in seconds.

NEURAL NETWORKS

Real-time control in complex environments.

- Adjusting traffic signals based on live intersection camera feeds.
- AV navigation in mixed traffic.

GENERATIVE AI

Simulation, scenario modeling , automated reporting.

- Creating synthetic crash scenarios for AV testing.
- Drafting safety reports from sensor data.

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THE PROMISE OF AI IN TRANSPORTATION

TRUCKING

Route optimization to cut empty miles; predictive maintenance to reduce downtime.

PORTS

AI-coordinated crane operations, berth scheduling, and cargo flow prediction.

EMERGENCY

Clearing signals for ambulances and fire trucks in real time to speed emergency response.

INFRASTRUCTURE

Road condition detection via dashcam uploads; prioritizing repairs.

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AI IN TRANSPORT

AI SYSTEMS ARE ALREADY IMPROVING ROADWAY SAFETY
by reducing human error-related crashes, flagging wrong-way drivers, detecting environmental hazards, and enabling rapid emergency response.

Vehicles equipped with AI-enabled autonomous driving technology have

reduced third-party bodily injury claims by up to

92%

reduced third-party property damage claims by up to

88%

But the value of AI goes beyond safety. AI increases efficiency, reduces costs, optimizes routes, and extends vehicle and infrastructure lifespan.

In the freight industry, AI has **cut empty miles by up to**

20%

Automated routing has **decreased delivery times by**

25%

An AI-based flight path optimization system annually **saves a global airline nearly**

$100M

These benefits make AI in transportation a business imperative, not just a public safety measure.

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"Like most general-purpose technologies of the past, AI will require new infrastructure—factories to produce chips, data centers to run those chips, and new sources of energy to power it all."

- The White House, "Winning the Race: America's AI Action Plan," July 23, 2025, at 14.

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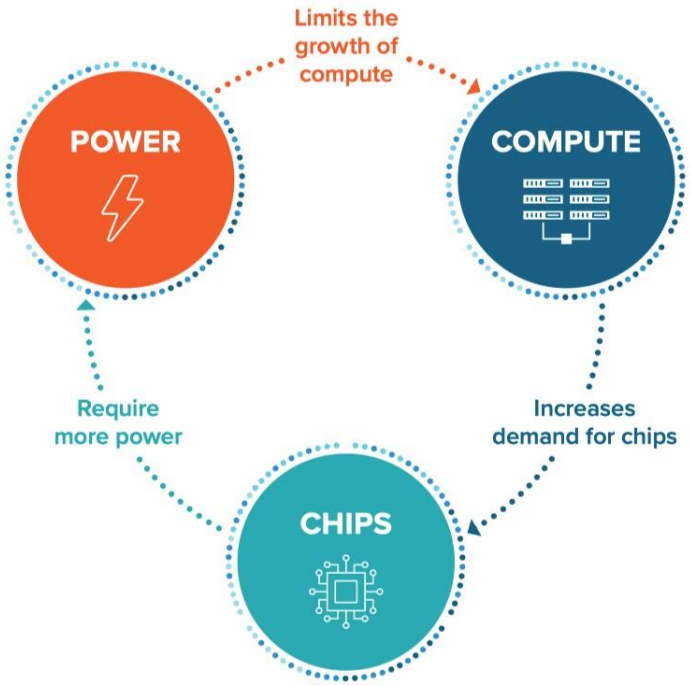
FIGURE 3 · AI capability limits.



THREE CHALLENGES TO SCALING TRANSPORTATION AI

AI-enabled mobility won't be realized through innovation alone — it requires infrastructure, governance, and standards that can scale.

ENERGY INFRASTRUCTURE	FRAGMENTED POLICY AND DEPLOYMENT	THE RACE TO WRITE THE RULES
AI transportation systems need power, chips, and compute at scale.	Patchwork of federal pilots, state rules, and agency initiatives.	The U.S. has a strong innovation edge in AI.
But … Grid limits, slow permitting, and aging infrastructure risk stalling deployment.	***But…*** Inconsistent standards, limited interoperability, and uneven scaling pose risks.	***But…*** Global competitors are setting norms that could shape markets and disadvantage U.S. tech.

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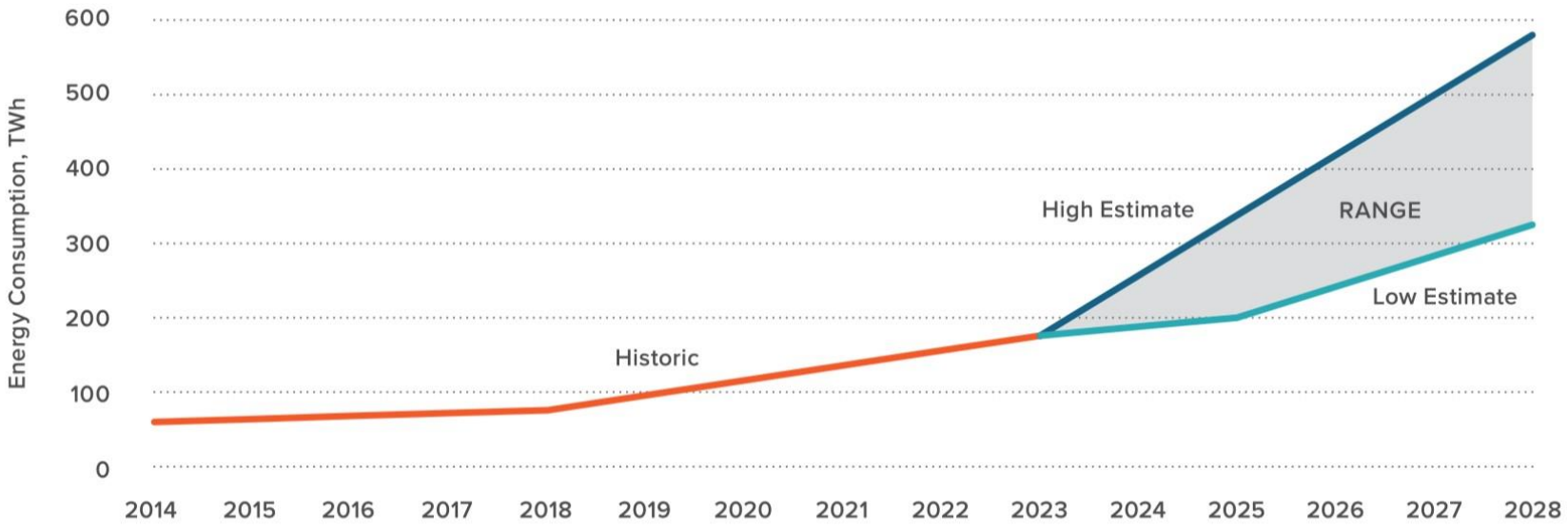
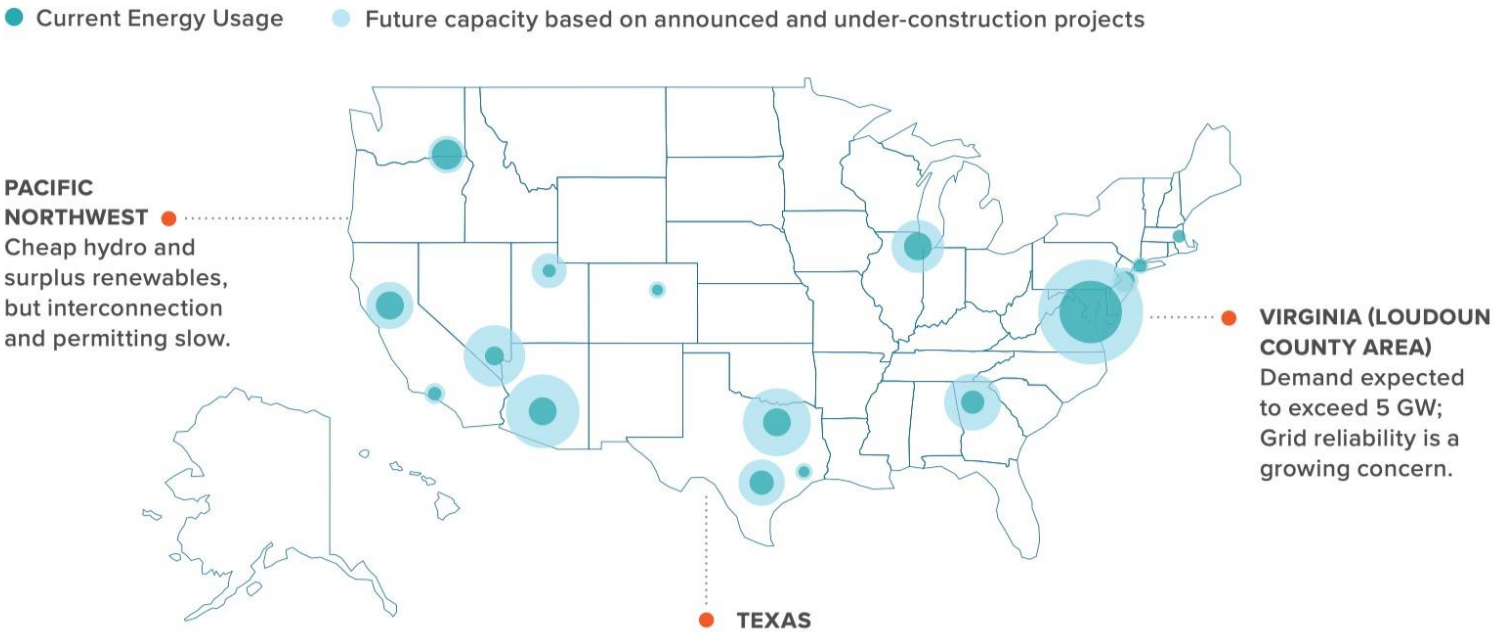
FIGURE 4 · Total U.S. data center electricity use, 2014–2028.



Source: Berkeley National Labs

FIGURE 5 · U.S. data centers energy usage by geography.



Source: SAFE analysis based on data from Upwind Security.

#1: ENERGY INFRASTRUCTURE

POWER

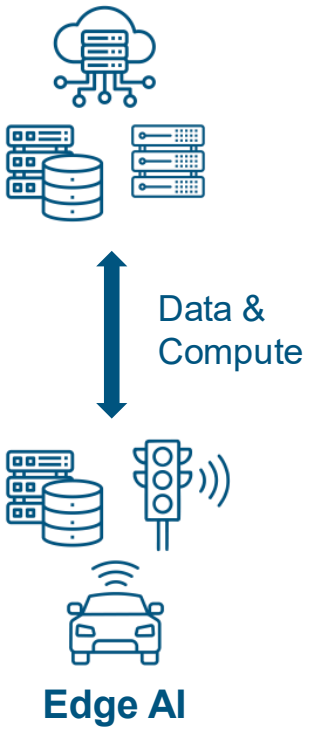
- U.S. data centers consumed 176 TWh in 2023 (4.4% of national demand). **By 2028, LBNL estimates demand could be up to 580 TWh.**
- In VA, data centers already account for **25% of state's electricity demand.**

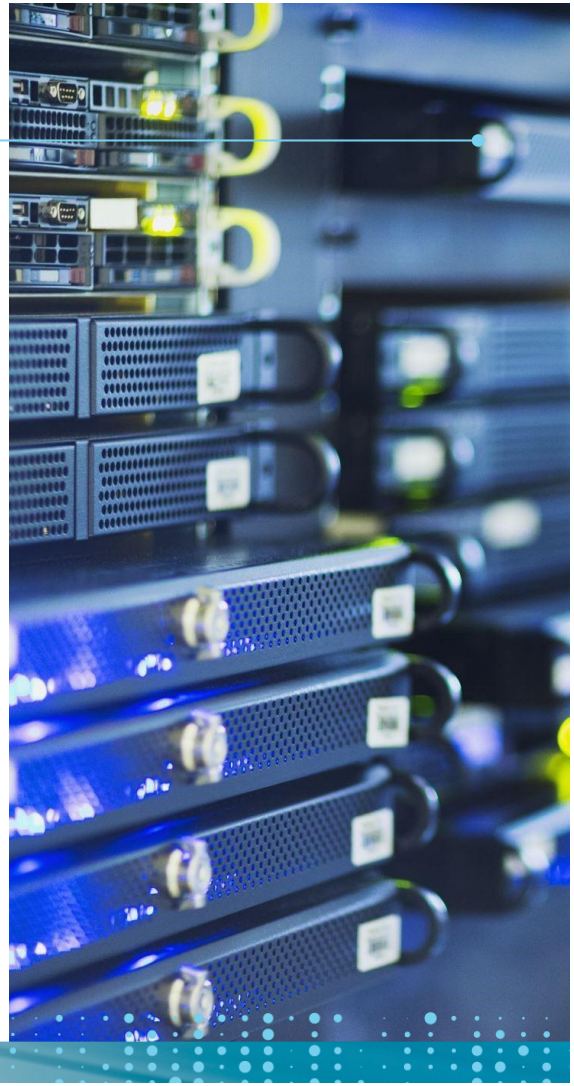
CHIPS

- A modern vehicle contains **3,000+ chips** .

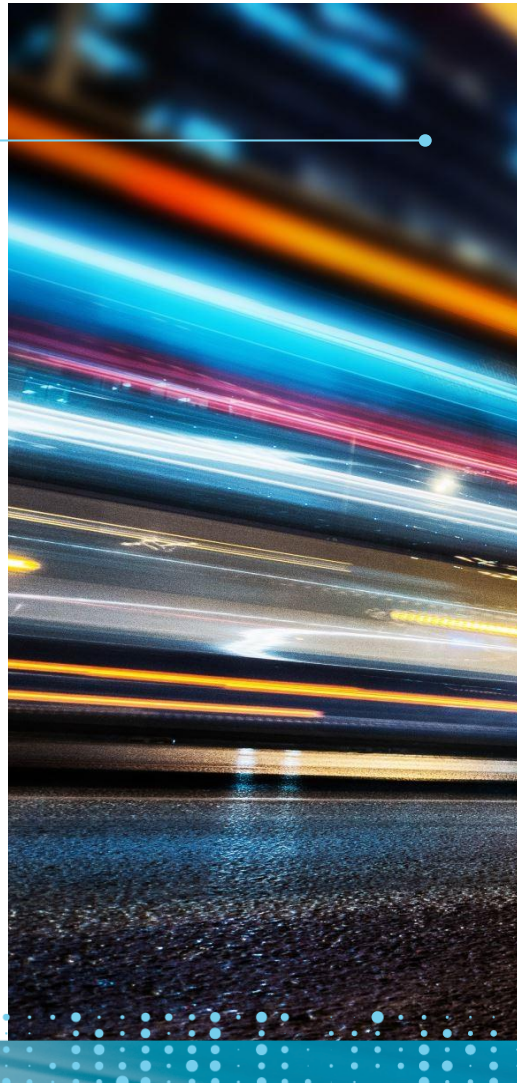
COMPUTE

- Compute demand in AVs could rise from **billions to quadrillions of calculations/sec per vehicle** as they move from Level 2 → Level 5 autonomy.





#2: FRAGMENTED POLICY & DEPLOYMENT



Pre-2025

Risk-based governance, public-sector capacity -building; whole-of-government "trustworthy AI" strategy.

Trump Administration (2025 –)

Acceleration, infrastructure, and geopolitical competition; July 2025 AI Action Plan and EOs.

State Activity

NEARLY

700

AI-related bills introduced in 2024

IN 2024 ALONE

~100

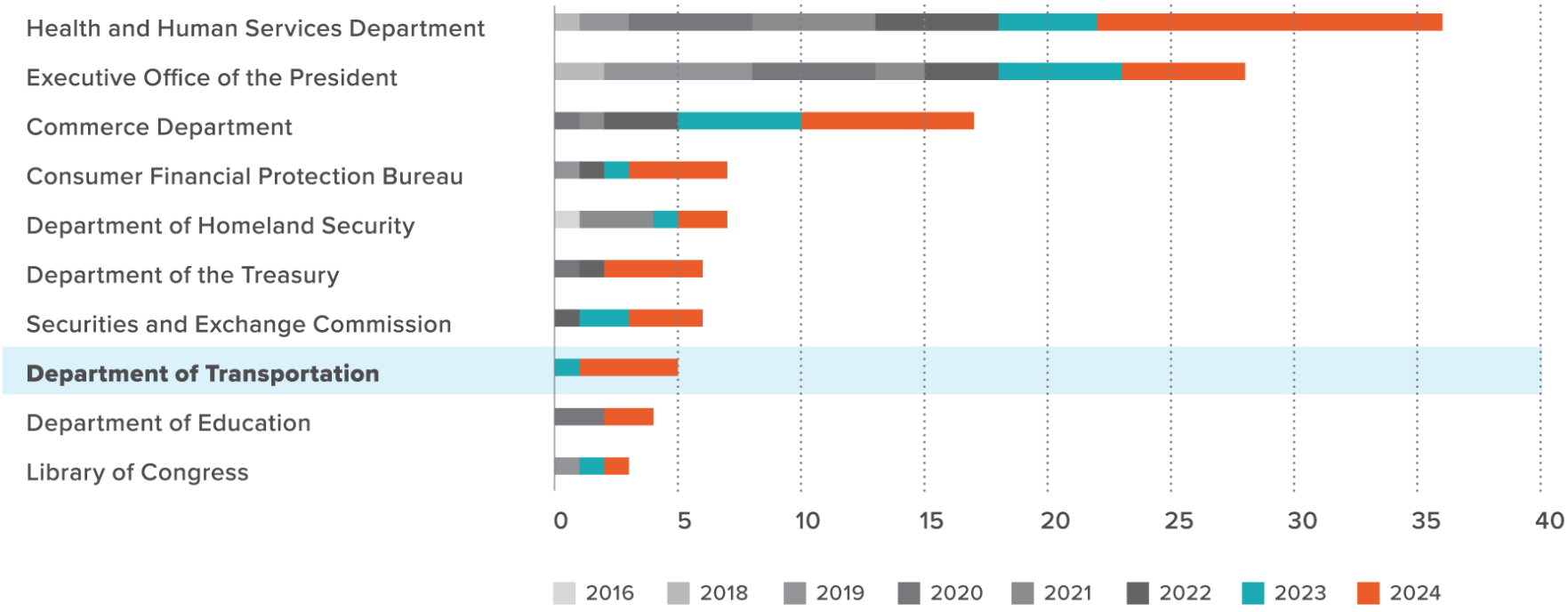
new AI laws enacted across 38 states

MORE THAN

3x

the number introduced In 2023

Federal Agencies with the Most AI Regulatory Actions, 2016–24



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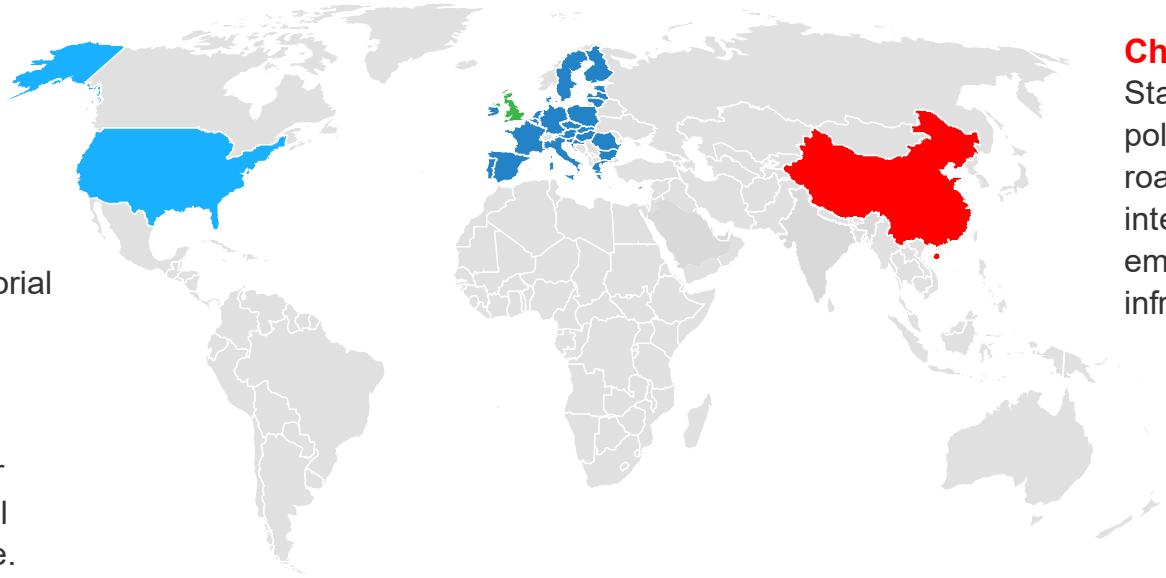
#3: A RACE TO WRITE THE RULES

AI in transportation is evolving alongside a global race to set standards that will shape adoption, market access, and innovation trajectories.

U.S.
Patchwork approach driven federally by EO.

EU
Risk-based regulation (AI Act) with extraterritorial reach; transportation AI = "high risk."

UK
Regulatory sandbox for autonomy; international consensus-building role.



China
State-led industrial policy; "vehicle–road–cloud" integration; embedded AI in infrastructure.

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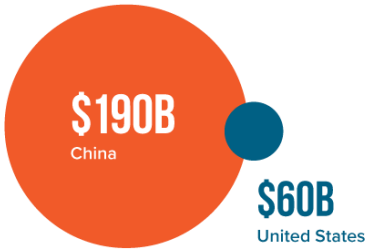
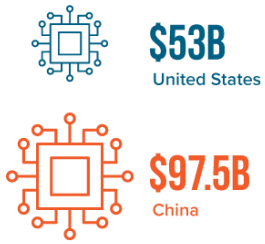
WHERE THE U.S. LEADS

Public Investment in AI



Private Investment in AI

Public Investment in Chips



Global AV Presence

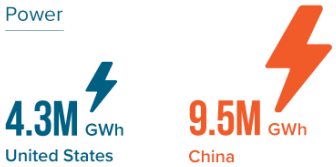
United States
Of 40 U.S. AV companies testing or transporting, **only one (Waymo) operates outside the U.S.**

China
At least 6 out of China's 20 AV companies are testing outside of China, in the U.S., Europe, and the Middle East.

Available AI Compute Power

2.8M TFLOPS
China

Power



AI Journal Publications

193,400
United States

319,960
China

AI Patents Granted

54,122
United States

170,756
China

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POLICY FRAMEWORK: AI DEPLOYMENT IN TRANSPORTATION

The United States leads in AI innovation, including AVs, logistics, and intelligent transportation services, but global influence will be determined by deployment at scale.

Leadership in AI requires action to:

Modernize Deployment Pathways

Update procurement to scale proven pilots nationwide.

Earn Public Trust

Build transparency, explainability, and accountability into systems and governance.

Compete Through Democratic Governance

Lead with safety, rights, and rule of law to offer a global alternative to authoritarian models.

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Thank You

QR Code to the Report

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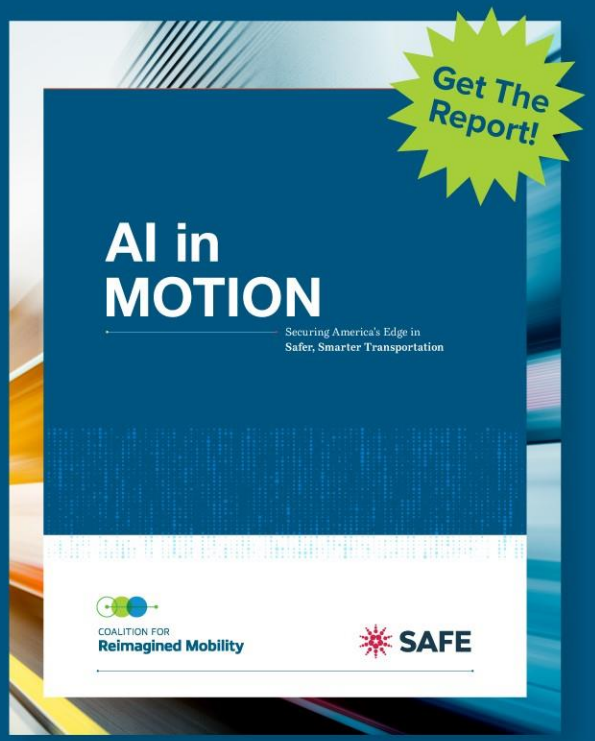

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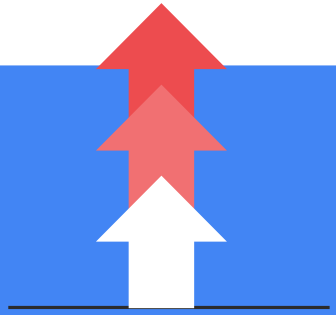
Home Electrification

Solving the Energy Affordability Crisis

David Friedman

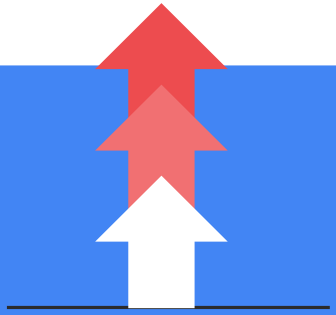
Energy bills aren't adding up for American households



Energy prices up **43 percent** over the past 5 years.

1/3rd of households sacrifice necessities for energy.

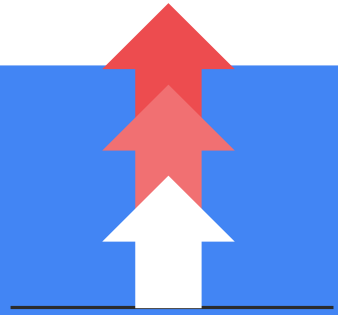
Source: U.S. Bureau of Labor + Statistics Analysis of U.S. Census Bureau Household Pulse Survey data. https://www.lendingtree.com/personal/energybills-s



$1 billion per day spent on household energy.

78% of Americans are **stressed** about **energy bills**.

Sources:
https://fred.stlouisfed.org/graph/?id=DEGFRC1A027NBEA,DELCRC1A027NBEA,DGHERC1A027NBEA,DFULRC1A027NBEA
https://www.cnet.com/personalfinance/banking/advice/cnetsurvey-78-percent-of-americans-are-stressed-out-about-high-energy-bills/



It's **hitting hard** and **getting worse**.

15% increase in energy prices possible by 2026.

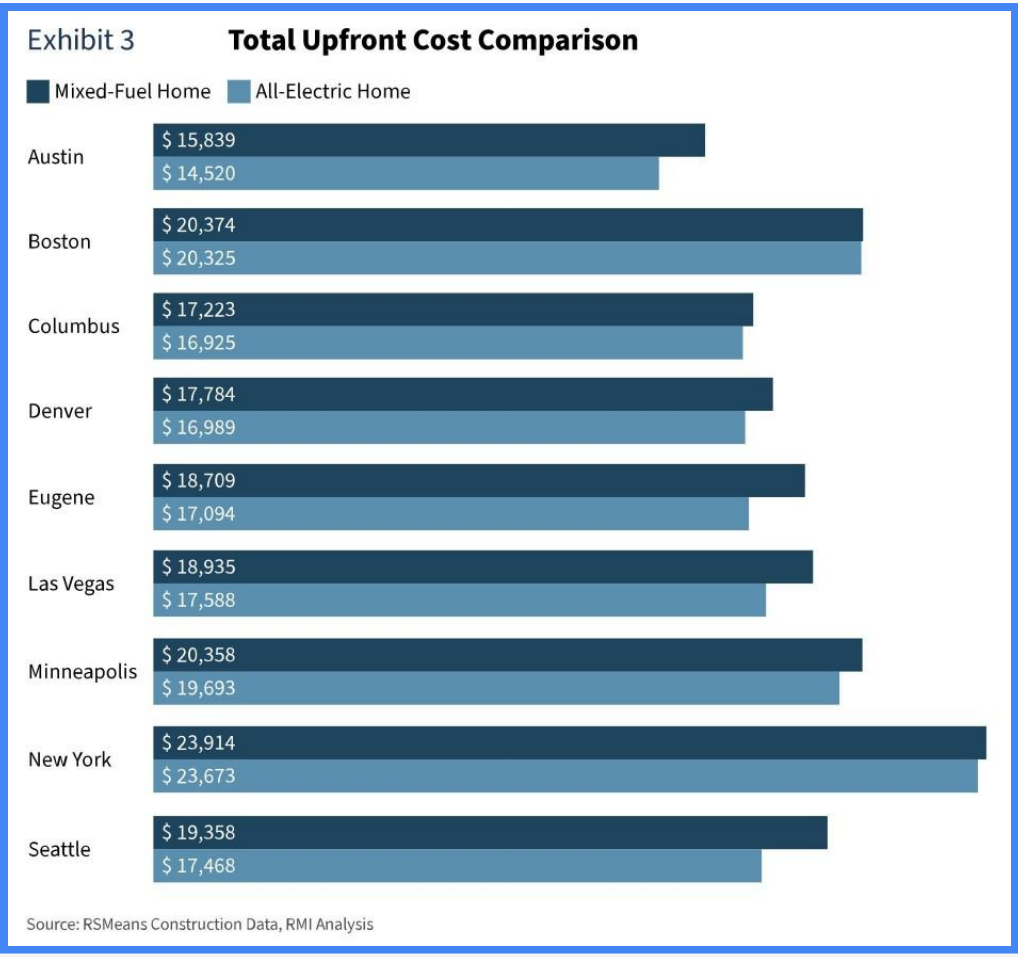
Sources:
https://www.rewiringamerica.org/research/tax-credits-relief-every-congressional-districtudy/

Source and credit: Rewiring America

Electrifying new construction is a slam dunk

Don't waste money on a natural gas hookups

Source and credit: RMI

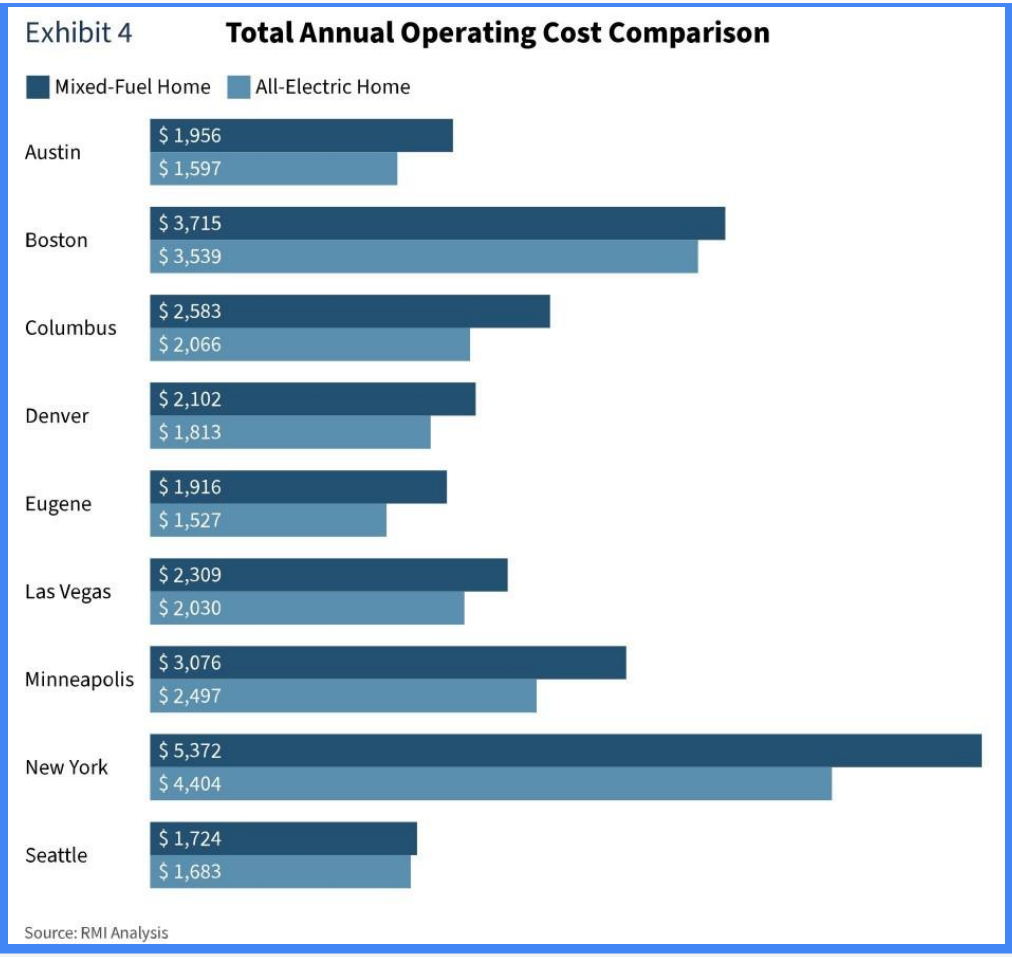


Electrified energy bills go down

VA:15.9 cents per kWh

National: 17.5 cents per kWh

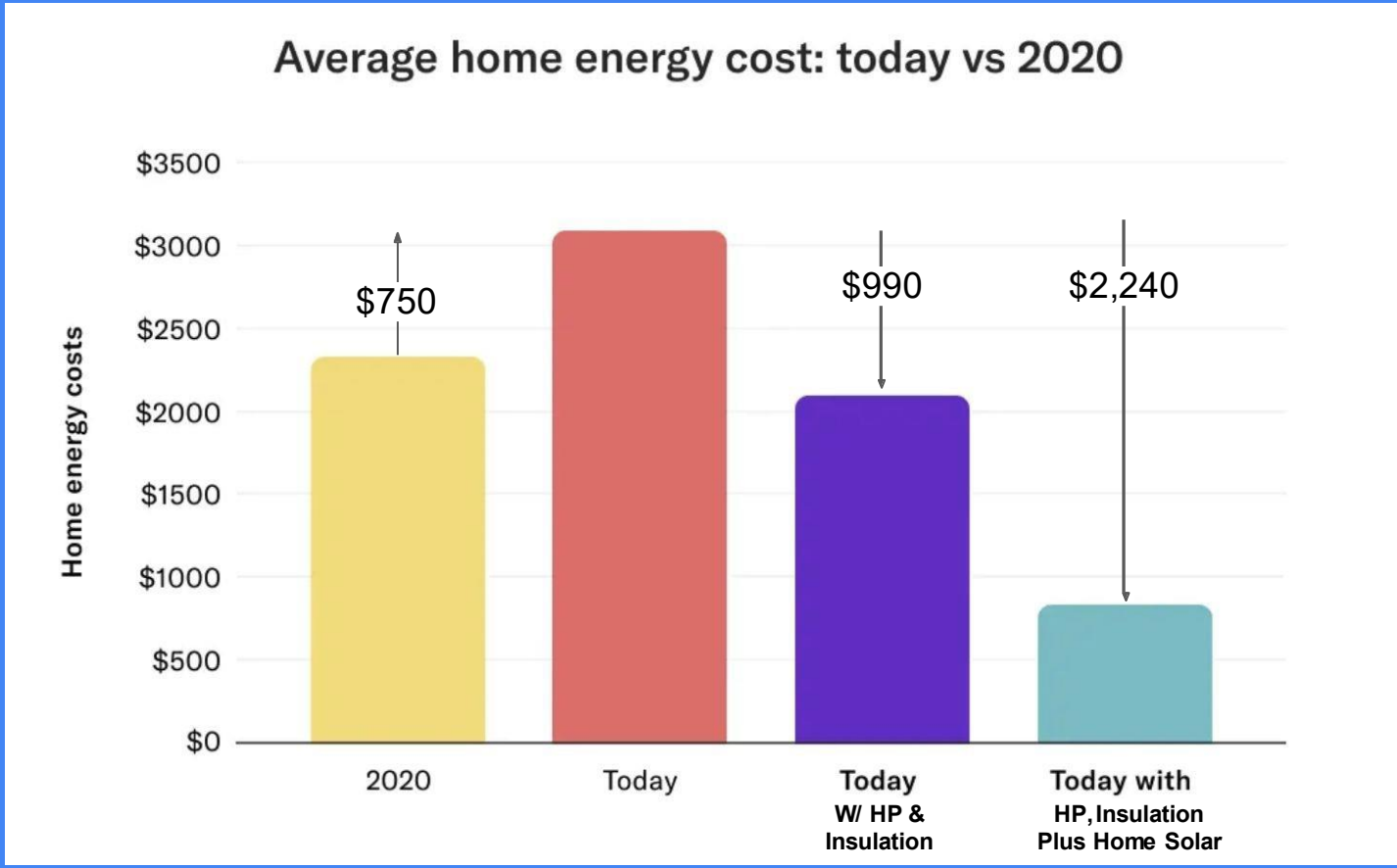
Source and credit: RMI & EIA



Big savings for existing homes nationwide

VAis even better

Home solar shines



Source and credit: Rewiring America

Why Else Electrify?

- **3 million US jobs in 2035** (Rewiring America)
- **45-72% global warming pollution reduction** today (UC Davis)
  - up to 100% in time
- Save lives and improve public health
  - **3,400 fewer premature deaths**, 220,000 fewer asthma attacks, and more, **saving $40 billion a year** (Rewiring America)
- **Offset 5 years of projected data center growth** (Rewiring America) and support a **more reliable/resilient grid**

Where Do We Stand?

- The market will drive progress, but not fast enough
- Great federal tax incentives gutted as of end of year
- Great federal rebates are not yet available but could be game changers for lower income single and multi-family ($188M allocated to VA)
- Some Dominion incentives are available
  - EV charger rebate
  - Heat pump water heater rebate

What can Arlington do?

Thank you!