

2-10-23 Submitted by the Alexandria Environmental Policy Commissions by Kathie Hoekstra, Chair

The information below is a compilation of comments from EPC members and various members of the community who elected to include their comments with the EPC's. Our comments consist of four main sections focused largely on the Executive Summary and GHG Emissions and Reduction Strategies organized as follows: 1) Specific questions/requests, 2) Suggestions on what the Plan might have looked like, 3) Comments/Questions/Suggestions on the DRAFT, and 4) Errata – typos, or small errors, etc.

SECTION 1 - Questions/Requests:

- 1) RE: Metropolitan Washington Council on Governments (MWCOG) raw data. Alexandria always released the raw data on GHG emissions for community use and review. It does not appear in this report. Please provide it for all to review.
- 2) The EPC assumes that the basis of nearly all the graphs, tables and substantive areas of this DRAFT (especially Figure ES-3 on page ES-8 and Table 2 on pages 20-21) come from models or other resources, not just opinions of the authors. However, the actual numbers, mathematical formulas and/or factual references/resources do not appear in Appendix C or E or in footnotes or endnotes within the document. Please provide all the EUI numbers used, other data and their sources as well as the math formulas and/or models used to arrive at the numbers used in this DRAFT to create various Figures and Tables and MTCO₂ numbers. The EPC needs all of the math and formulas in order to verify the information provided. All the data used should also have references associated with them to enable verification.
- 3) What was the total of funding to date provided to the contractors/consultants for this report and the timing of the funding?

SECTION 2 - Here is an example of what the EPC believes an Action Plan should have looked like:

First, tell the reader why they should care – cite the Climate Emergency Declaration along with the EAP2040 targets, highlighting that the costs increase the longer we wait (e.g. higher costs to address extreme weather events including flooding, higher temperatures, etc. You might even cite the costs to date to address flooding.) Second, cite the adverse health effects on businesses and residents. Third, cite the heaviest impacts to the most vulnerable including children,¹ elderly, those with disabilities and low income. These could be just summaries of the information provided in the Climate Impacts and Adaption Strategies section.

Next, cite the baseline data and its sources/references that show 1) where we are (updated from the EAP2040) and 2) where we need to get to by the EAP2040 targets of 2030 and 2050. Also, include the math/models and assumptions made to predict the business as usual (BAU) model to show where Alexandria will end up without change. Show the math vs. providing only some of the info and no references in the body of the document and/or in the Appendices.

¹ <https://www.nejm.org/doi/full/10.1056/NEJMr2117706>

Third, cite various options on a path forward to provide all stakeholders including elected leaders, residents, business owners, developers and others the options and rough costs along with their pros and cons that could be taken to address the above including specific, measurable, achievable, realistic, and time bound actions i.e. a SMART Plan. For example:

City Council actions might include:

- 1) **For Existing Buildings (B-2)** immediately invest the time/resources to create a robust EDUCATION AND OUTREACH PROGRAM implemented no later than the end of FY23 and track its quarterly changes. This to educate our residents, business leaders, developers and other stakeholders on the costs of delaying action and include a sample list of the best actions to take to reduce costs and how to get involved with planning future, best-practice actions. See EPC's letter to the City on where to spend the \$1.85M climate funding in letter dated 6-26-22.
- 2) **For New Buildings (B-1)** amend the Green Building Policy for full implementation no later than the end FY2024 to increase the energy efficiency of all new buildings because you cannot solve a problem by adding to it. Strongly encourage developers early on and during the DSUP process to provide information demonstrating the developers' use of all incentives, tax breaks, rebates, grants, etc. available to them from the federal or state government including those from the Inflation Reduction Act, Infrastructure Act, etc. See joint letter from PC/EPC to Council dated 2-7-23
- 3) **For Existing Buildings (B-2)** Create a robust EDUCATIONAL AND OUTREACH ACTION PLAN to encourage and incentivize commercial building owners to use C-PACE to electrify and make their buildings more energy efficient by highlighting local stories from building owners from the Metro area that have retrofitted their buildings and the savings they have achieved. Rollout Plan no later than June 2023. Set up measures to monitor and report quarterly to Council on the results. See EPC's letter to the City on where to spend the \$1.85M climate funding in letter dated 6-26-22.
- 4) **For new and existing buildings (B-1, 2)** Encourage our legislators to submit a bill or co-patron a bill that allows Alexandria and all of northern Virginia to use "stretch codes" or building codes that require increased energy efficiency. Collaborate with other jurisdictions and MWCOG to make this happen.

Community Actions might include

- 1) **B-2** Encourage residents to submit short stories about how actions they have taken reduced their energy costs or improved energy efficiency of their housing units. Promote these stories via eNews and in the local papers or online forums. This could start in March 2023.
- 2) **B-2** Building owners – Encourage business owners to input their data into the free Energy Star Portfolio Manager to determine where their building ranks in energy usage. Use this to determine if they should get an energy audit that could reduce their overall costs in their building. Also, check RMI's new commercial building tool and reference list for new energy equipment list for saving energy. A communication plan to highlight this could start by April.

The Executive Summary should then summarize these metrics and examples so the vast majority of people could read and digest it while the body of the report serves as detailed, reference material for those most interested in understanding all the specifics. This is what the EPC hoped and expected to see in the Action Plan, but did not.

SECTION 3 - Comments/Questions/Suggestions on the Report:

Next, the EPC provides the following broad overall comments not directly connected to a specific page of the document:

- A. **This DRAFT is NOT a true implementation Plan for the EAP2040.** Too many pages are devoted to repeating, broadly the information in the EAP2040 and its Action lists, without providing enough detail and interim milestones to support a hope of meeting the targets. As detailed in EPC’s earlier comments to the Working DRAFT, the EPC **AGAIN** states that a Climate **Action** plan **MUST** not just cite data and general reduction strategies, but an **IMPLEMENTATION Timeline with milestones** for those **realistic, achievable** actions/strategies. To do otherwise is not an effective Action Plan to make change happen and address the Emergency Declaration commitments and EAP2040 targets. Instead, the DRAFT provides requests for more studies, designs, etc. with little likelihood for achieving the required targets. For example, the DRAFT cannot cite “95% of new buildings must be Net Zero Ready” (Figure 6 on page 24) without an **Action Plan** and metrics on how this happens – especially if you never mention updating the Green Building Policy (GBP) to make it require/incentivize net zero, high performance buildings. **The overarching flaw of this Action Plan is that it DOES NOT provide City Residents, elected leaders, business owners, developers and other stakeholders with specific, measurable, time-bound ACTIONS to take to “move the needle.” (Apparently, the box on page ES-6 that includes a priority list was added between the DRAFT released on 1-4-23 and the DRAFT that appears on the ECCAP Website, although it does not include specific, measurable, time-bound actions.)**
- B. **The DRAFT fails to comply with the originating Resolution.** This DRAFT fails to meet the most basic requirements outlined in Resolution 2958 that stated the Task Force mission is to provide feedback and guidance on the update of 2011 plan, **“including specific, measurable, time-bound steps to *implement* the targets of the EAP2040 on climate change, energy and transportation.”** Given the funding cuts, late start and minimal staff resources, the Task Force should have focused on the three areas outlined above. To be blunt, if 96% of GHG emissions come from the community (not the City) with 55% coming from buildings and 36% from transportation, then that should have been reflected in the number of pages/details in this DRAFT. Instead, the DRAFT provides a series of incredible, impossible-to-meet potential actions based on unexplained data and models and future actions that include **LITTLE** information about **HOW** or **BY WHEN** to make these actions happen. **This IS NOT AN IMPLEMENTATION PLAN for the EAP2040 targets or the Emergency Declaration commitments.** The EPC believes this is for two main reasons:
- 1) **Inadequate funding** – Due to Covid, the Task Force was delayed and its funding cut, but when ARPA funding came in, it is unclear whether its funding was restored. In addition, expecting Staff to spend only a tiny amount of their time on this project **without narrowing its scope** made the DRAFT wholly inadequate and unacceptable. It conveys a lack of urgency and seriousness contrary to the Emergency Declaration; and
 - 2) **overwhelmed/inadequate/intractable leadership** – there were many instances where Task Force leadership appeared unaware of Open Meeting law requirements - including:

- a) in-person quorum requirements, see 7/17/22
- b) spotty approval of documents by motion/vote,
- c) lack of transparency when it comes to consultant contract documents,
- d) Workshops meetings with no quorum or other open meeting requirements, (explanation by ECCTF – open meeting law does not apply to Workshops, so these do not qualify as “public meetings?” – the EPC is confused about this.)
- e) inadequate advanced notice of meetings,
- f) no transparent response to community comments, and
- g) late posting of documents to be discussed at meetings, etc.

In addition, here is what some Task Force members requested in their Scope of Work from the consultants; however, it was never included. Some Task Force members tried to engage with City staff on the contents of the scope of work, but received no response.

- a. Overview information, including documentation and references to the methodology(s) used to evaluate the action;
- b. Implementation details, including best practice examples and guidance;
- c. Policy, legal, or other related barriers or considerations, including evaluation of opportunities to overcome such barriers;
- d. Budget or estimated cost requirements, including evaluation of implementation and programmatic needs to include existing or new staffing needs;
- e. Return on Investment (e.g. cost vs benefit including, but not limited to, use of accepted social costs of carbon, costs of inaction, etc.);
- f. Avoided cost of carbon;
- g. Equity considerations, including opportunities to advance City racial and social equity goals such as: recommendations to provide locational and distributional benefits to underserved communities, and support energy and climate justice outcomes;
- h. Implementation timing, scheduling, and sequencing;
- i. Co-benefits, particularly those related to improving public health and community well-being, addressing the needs of disadvantaged and frontline communities, synergies with climate adaptation and resiliency practices, and opportunities to advance economic development;
- j. Evaluation and performance tracking metrics;
- k. Governance models, and education and outreach considerations;
- l. Partnership or coordination opportunities.

C. **No hierarchy/organization with Headings, subheadings etc.** The Table of Contents and the entire document is poorly outlined and organized with no real hierarchy of the contents such as: I, A, 1, a, i, etc. This makes reading and searching for information much more difficult for the

reader. A poorly organized document discourages reading, use and response to it.

- D. **No highlighted discussion of Zero Sum.** The EPC isn't clear where in this document it discusses the important fact that GHG emission reductions and strategies are zero sum, i.e. if the City underachieves in one area – it must overachieve in another, so long as the amounts are comparable or vice versa. For instance, if the City could reduce GHG emissions in new buildings by increasing their energy efficiency and on-site renewable energy support, this may reduce the number of existing buildings that would be required to undergo deep retrofits (savings of 50% energy or better due to retrofit) where costs may be higher. This also applies to transportation strategies: i.e. if milestones for transportation reductions appear to be extremely difficult, then the only other source to “move the needle” is the building sector or the energy sector where the City may have less authority and less influence, except for new building criteria.

- E. **No separate, *FOCUSED* discussion of energy efficiency.** Another major flaw in this DRAFT is the lack of focus on increasing energy efficiency for all buildings. The best and least expensive energy is the one never needed, created, transported or used. ***Thus, a focus on increasing the energy efficiency of all buildings (new and existing) MUST be the highest priority.*** As the community switches from fossil fuels to electricity for heating/cooling buildings, water, and moving vehicles, we will be increasing the amount of electricity required to support all these changes. If the community does not focus on energy efficiency ***FIRST***, we may find our utility cannot build renewable energy fast enough and thus not meet our climate targets. In addition, focusing on energy efficient measures has so many added quality-of-life benefits for health and noise, the benefit/cost ratio is clear. Focusing solely on our utility to decarbonize the grid without paired with energy efficient measures, results in a single point of failure that has had led to disastrous results in the past.

- F. **Overly repetitious material.** Another major flaw in this DRAFT is the number of times the same information is repeatedly unnecessarily especially when it is mainly just a repeat of the EAP2040 data. Information appears in narrative form, **REPEATEDLY**, it appears in graphic form, it appears in table form with more repeated narratives, etc. This makes the report overly lengthy with no added benefit to any stakeholders.

- G. **Not enough info on IIJA and IRA incentives, loans, grants, etc. i.e. the HOW and TIMELINE needed for electrification.** The lack of information provided on the incentives, tax credits, loan and grants from the federal and state government mainly from the Inflation Reduction Act (IRA) and Infrastructure Act is a **major deficiency**. While some of this information is unclear on timing, the amounts and qualifications for whom it applies is not.²

- H. **Too much info on sectors that do not “move the needle.”** Focus should have been almost exclusively on buildings, energy and transportation for the community **ESPECIALLY** when time and funding became an issue. Since the City is only responsible for 4% of all the GHG emissions

² <https://www.rewiringamerica.org/app/ira-calculator> and <https://www.usgbc.org/sites/default/files/2022-12/Inflation-Reduction-Act-Buildings-Aug2022-v5.1.pdf>

– discussing actions taken to address this 4% should take up only roughly 4% of this document. The only time this might change is where the City could undertake something significant to show its “leading by example” through demonstration to the public – such as electric buses, net-zero new schools and public buildings, etc. Severely reducing the rest would reduce the size of the document and would have saved time and money.

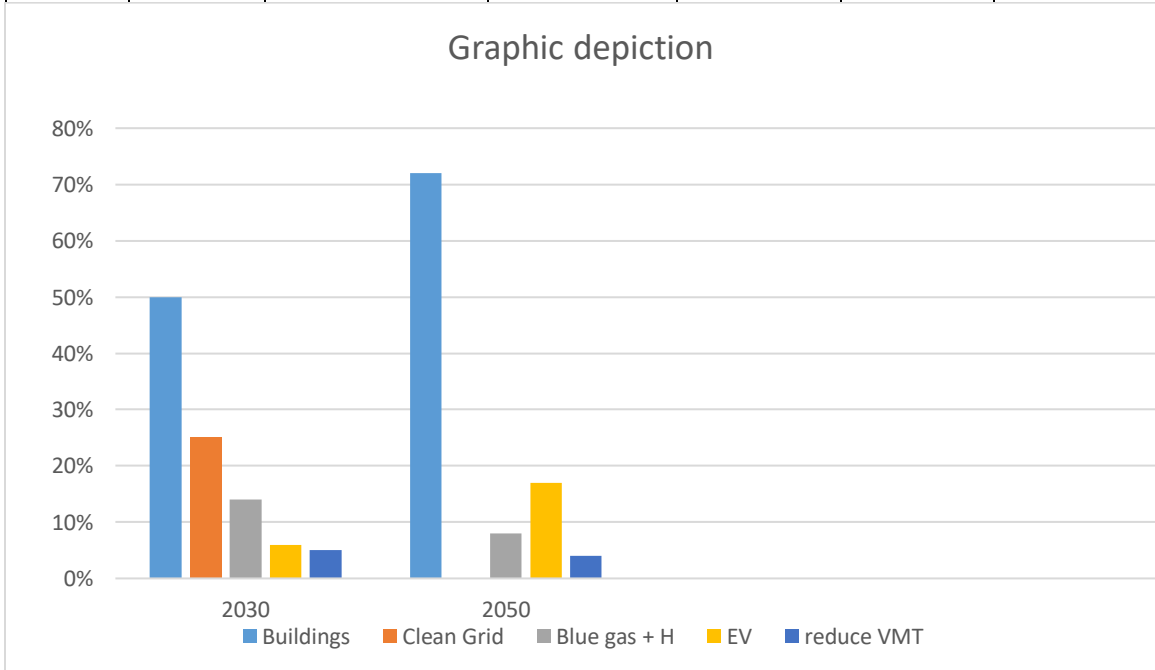
- I. **Suggestion:** To make the report more meaningful for the reader, the EPC suggests that personal story boxes be included to help City residents, business owners, developers and others understand success stories from a wide variety of people who live or work in Alexandria. These might include before and after stories on the installation of rooftop solar, purchase of an EV, house/unit energy-efficiency measures, change in mobility methods, etc. They could be included in the Executive Summary to promote hope and the potential to overcome the negative data. These could have been collected during the Workshops.
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Now the EPC turns to comments/questions on specific sections, pages, figures, tables, etc.

1. **Some Actions - but no milestones.** Within the main body of this DRAFT including the boxes on pages 31 thru 81, under Milestones and Next Steps – there are no specific timelines for implementing these new items from the City – it just says “not implemented. “ **Again, there are no specific, measurable TIME-BOUND steps.** No interim milestones equals failure to achieve the final goal because there is NO accountability or tracking along the way. If you do not track it, it does not count.
2. **Page 20-21 - Table 2 – Alexandria’s priority GHG reduction strategies and actions.** If you re-order the listed items and **focus only** on those that “move the needle” this list follows:

Ranking	Category	Strategy/Action	2030 units=MTCO ₂	Percentage	2050	Percentage
1	B-1&2	Decarbonize Buildings (new & existing)	320,000	50%	1,020,000	72%
2	CE-1	Clean the Grid – support VCEA	160,000	25%	0	0%
3	B-3	Switch to “blue” gas & hydrogen	87,000	14%	116,000	8%
4	T-2	Accelerate deployment of EVs	41,000	6%	240,000	17%
5	T-1	Reduce vehicle miles travelled	30,000	5%	50,000	4%
	Total		638,000 which is 50% of current 1,280,000 MTCO₂	100	1,426,000 or 11% higher than current 1,280,000	~100

Graphic depiction



This type of table/graph is necessary to focus all the stakeholders' attention. The EPC generally agrees (as do most other Metro area Climate Plans) with the priority of this list EXCEPT for the yellow highlighted item. First, neither Montgomery County, nor DC's Climate Plan even mention Blue Gas³ and Fairfax County⁴ only shows it accounting for a 7% reduction by 2050 with the inclusion of hydrogen. Consequently, the EPC believes since the only reference cited is a Washington Gas study (which has an obvious bias) this item is unreliable and unrealistic. The EPC recommends its removal. Unfortunately as stated earlier, since this is a zero sum situation, the DRAFT must find emission reduction actions amounts elsewhere to reach our 2030 and 2050 targets.

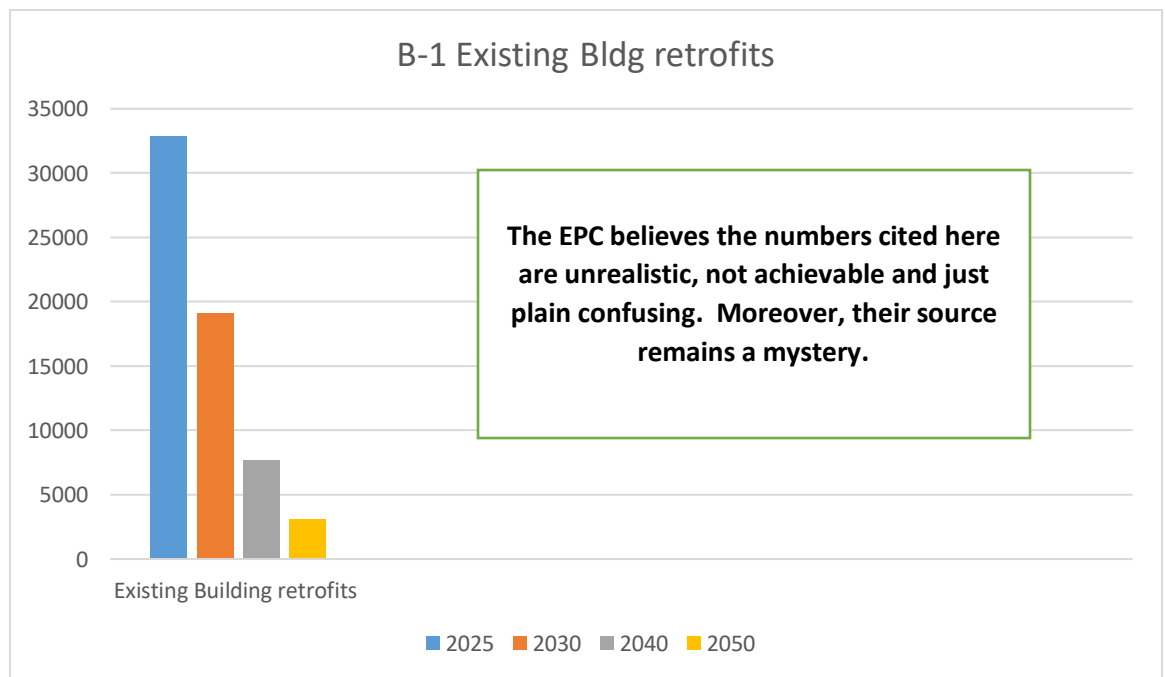
3. **Buildings: Flawed or unverifiable modeling, mismatched info in tables and graphs, nonexistent references to data making it unverifiable.** Pages ES-6-10, 20, 24, 28-41
 - a) **See above regarding our general comments** on the modeling used to create many of the Figures, Tables and data in the DRAFT including Appendix E and lack of specific references for all the facts in this part of the document.
 - b) **Box on page ES-7 –Scale of Action to Reduce GHG Emissions in Alexandria.** This box lists many very specific, measurable, time-bound actions to reduce GHG emissions in the building sector, but there is no discussion about **HOW** an implementation Action Plan meets the numbers within the 2030 and 2050 timelines. **An effective implementation plan should not include unrealistic actions and deadlines with no information on HOW to meet the target or timeline and no interim milestones.**
 - c) **Page ES-10 Figure ES-4 – Key implementation milestones to support Alexandria's GHG reduction pathway.** This figure provides progressive milestones, but it is unclear the origin of the data. In addition, the three strategies for *Existing Buildings* highlighted under B-1 on pages 31-33 are: create a green bank, C-PACE (**EAP2040 Section 2.3.3**) and an incentive program (**EAP2040 Section 3.1.3**). The second and third item do not really add anything new from the EAP2040 list. Thus, the EPC is unclear how the next steps for each would meet the deadlines provided. Next, for *New Buildings*, the two strategies highlighted are: compliance with the existing GBP and design a new program to support more energy efficiency and electrification (**EAP2040 Various sections under 3.1**). Again, the EPC is unclear how these next steps could meet the deadlines provided in this Figure. Also under CE-1, the VCEA sets a clear, annual renewable energy increase by Dominion (3-4% each year) with milestones along the way of 26% by 2025, 41% by 2030, 79% by 2040 and 100% by 2045.⁵ This does not appear to match up with numbers in Figure ES-4 for *Carbon Free Electricity* (CE-1) or the dark blue section representing CE-1 in Figure ES-3 on page ES-9. Since no reference appears for the data, the EPC cannot verify the cause of this unexplained difference.

³ Blue Gas or resource-recovered gas refers to biogas created from decomposed organic matter through anaerobic digestion, thermochemical processes, or gasification. Biogas comes from landfills, poultry and livestock operations, or wastewater treatment plants.

⁴ https://www.fairfaxcounty.gov/environment-energy-coordination/sites/environment-energy-coordination/files/assets/images/cecap%20report%20release/cecap%20draft_designed%20report_sept%202021_release_508.pdf See page 122

⁵ <https://lis.virginia.gov/cgi-bin/legp604.exe?201+ful+HB1526ER>

- d) **Page ES-9 and 10, Figures ES-3 and 4** (repeated on pages 23 and 27) – *A pathway to meet Alexandria’s GHG reduction goals*. It is unclear where the numbers come from displayed here graphically. Do they come from the data in Table 2 or somewhere else? If they come from Table 2, the actual numbers and their display in graphic form do not seem to match up. For example, the highest percentage of retrofits occur before 2025 with decreasing percentages for each milestone thereafter, but the graph does not show the highest reductions before 2025 and then smaller reductions with each succeeding milestone.
- e) **Page ES-10, Figure ES-4** (and page 27 Figure 10) – *Key Milestones – B-1 - Buildings: Existing Home Energy Retrofits*: shows the largest number occurring in the next 2-3 years and then decreasing thereafter. However, the **HOW** strategy for B-1 that the DRAFT references includes: 1) conduct feasibility study for a green bank, 2) establish a working group to identify hurdles, 3) conduct implementation study. None of these includes a proposed, realistic timeline detailing **HOW** these actions could meet the 2-3 year deadline. If the information is displayed in a bar chart here’s what it might look like:



- f) **Page ES-13, Box** – The addition of this box apparently happened in between the approval by the Task Force and publication of the DRAFT on the City’s Website. Unfortunately, the priority list does not match up with the data presented in Table 2 on page 20 as highlighted above in #2 where the priority for 2030 is Buildings (new and existing), Cleaning the grid, then the absurd notion of Blue Gas with hydrogen, followed then by reducing VMT and accelerate EVs and other non-gas powered transportation methods. This contradiction should be addressed.
- g) **Page ES-13** – The EPC does not believe this DRAFT provides a “robust framework and approach that can be monitored, adapted, and managed as needs and risks change.”

The DRAFT lacks implementation actions and interim timelines as well as plans for monitoring, adapting and managing as needs and risks change.

- h) **Figures 3, 4 and 5 on pages 16-17** – The source for this information is missing making it unverifiable as to its accuracy, assumptions, etc. Further, it shows increasing use of gas when the City’s DSUP conditions discourage the use of gas and thus most are only offering gas for restaurants and backup generators. The EPC believes gas usage will slow, not increase over time, especially when the price increases because there are fewer customers buying the gas and supporting the infrastructure to provide it.
- i) **Figure 6 on page 22, GHG reduction strategies organized by GHG reduction potential and City Authority/influence.** According to this figure, the City’s most influence and greatest GHG reduction potential comes from new buildings due to the City’s influence over the GBP, DSUP conditions and other City entitlement policies and process. The Figure also notes that the City has less influence - but a similar impact on emission reductions for existing buildings. Therefore, the EPC believes the new vs. existing building sectors impacts and solutions should be separate. By combining both sectors, it makes it more difficult to implement, track and account for specific, measureable, time-bound actions to reduce emissions from the building sector. However, in Box ES-4 on page ES-10 (and repeated on page 27) they appear separately, so the EPC finds the combine/not-combined strategy confusing.
- j) **Page 24, Figure 8 Alexandria GHG emissions per capita under the BAU and GHG reduction pathway.** This graph might be more useful if it also showed a line detailing the reduction of GHG emissions with full VCEA implementation. The reader could then compare various strategies within the City’s influence/control and those mostly outside its influence/control.
- k) **Page 24, Buildings.** The EPC strongly disagrees with the statement that our current Green Building Policy should be modeled as “highly efficient and almost entirely powered by electricity.” The GBP does not set any Energy Use Intensity (EUI) level (thus not highly efficient) or one according to current best practice used in buildings in New York and Philadelphia with EUIs at 20 or below. Instead according to recent information derived from current developers they can achieve EUIs of 40-45 which they describe as 25% more efficient than our GBP. **In addition, the Planning Commission just approved a new affordable housing building that is committed to attaining a EUI of less than 30.**
- l) **Page 28 – last paragraph** – *The Emission Trends* chart from the EAP2040 (page 17) (preferably updated) if added here, shows the majority of emission reductions is coming from the switch from coal to gas by the utilities, NOT from our GBP or any other City policy.
- m) **Page 32 Increase marketing and promotion of Alexandria’s C-PACE program.** The DRAFT relies on retrofits including the conversion to high performing HVAC systems via C-PACE, but there is little discussion of **HOW** to make that happen, especially when no use of the program has occurred to date in Alexandria and few across the state. There is no reference as to how to change OUTREACH to better market the program as well as no mention of asking the business community how to improve the program.
- n) **Page 34 Cost** – Recent information provided to the City shows that in NY and Philadelphia going from current building codes to near or equal to net zero raised the

costs by only 2-3% **BEFORE** factoring in the incentives from the IRA and IIJA.⁶ This is missing in this DRAFT.

- o) **Page 35 – B-2A** – the EPC notes that **NONE** of the documents cited: ESMP, CSS or CNA include the implementation of specific, measurable, time-bound actions by the developers who authored these reports when it comes to energy efficiency/EUI and other critical actions to reduce emissions. Thus, these are not part of a **definitive** implementation plan to reduce GHG emissions.
 - p) **Page 35 – 2A** Notes that major updates of the GBP should occur on a 5-7 year basis and should be included in the Long Range Integrated Work Plan. However, the City completed the GBP in 2019 with a process that began in 2017. The EPC notes the current LRIWP includes no reference to an updated schedule for the GBP. It should. See PC/EPC joint letter to Council dated 2-7-23.
 - q) **Page 36 – B-2.B** *Design and implement a program to support residential and commercial energy efficiency and beneficial electrification in new buildings.* Agreed, great suggestion – a tool created by the Rocky Mountain Institute (RMI) does much of this, so perhaps the City does not have to design its own, but just supplement it. The link to it should be included in Outreach efforts to homeowners and commercial building owners.
 - r) **Page 39-41 B-3A** *Increase energy supply from resource recovered gas and renewable hydrogen.* Here the DRAFT cites no significant impacts on equity outcomes from the use of resource-recovered or Blue Gas - ignoring the fact that recent reports document a link between gas stoves and asthma rates in children – mostly in minority communities.⁷ The EPC also notes the use of hydrogen **CANNOT** replace gas in stoves or dryers and other uses in buildings since it is not compatible with current gas pipelines.⁸
- 4. Transportation – good start but unrealistic expectations.** Pages ES-6-9, 20, 23, 25-26, 42-64 – The City’s response to transportation electrification and reduction on its dependence on fossil fuels has been the most forward looking of any sector that “moves the needle”. Transportation projects are complex and require long lead times, but the City has moved many along in the last 20 years including a new Metro station, various rapid bus transit lines, transit-oriented developments, free bus service, re-organizing bus service to serve more residents, along with major Plans cited below.
- a) **Pages 42-64** - Overall the City has done a very good job of reducing vehicle miles traveled by championing all those items listed above including also finalizing various focused plans such as Vision Zero, Alexandria Transit Vision and Mobility, Electric Vehicle Charging Infrastructure Readiness Strategy, etc. **The EPC appreciates the effort the City has devoted to this sector and the actions it has taken and continues to take.**
 - b) **Page 42** highlights 2 main strategies to “move the needle” on transportation: reduce vehicle miles traveled and accelerate the deployment of electric and alternative fuel

⁶ <https://buildourfuture.org/lettersandwebinars/>

⁷ <https://rmi.org/insight/gas-stoves-pollution-health/>

⁸ <https://www.azocleantech.com/article.aspx?ArticleID=1603#:~:text=Green%20hydrogen%20provides%20a%20ve rsatile,its%20costlier%20production%20hinders%20it>

vehicles. The DRAFT describes various methods to reduce VMT and to accelerate the deployment of EVs, but there are no metrics, interim milestones or ways to adjust if these methods are unsuccessful.

- c) **Page 43 Box – this contains nearly all the info needed on transportation.** The TPB modeled various scenarios to meet their climate goals and even the most aggressive failed to meet their target of reducing GHG emissions by 50% by 2030. The box also suggests a variety of ways to meet the EAP2040 target for transportation, but does not explain HOW to achieve them or provide interim milestones along the way to measure our progress.
- d) **Page 45** – in order to address equity transportation impacts, the City must improve its outreach to the BIPOC community. The City demonstrates it does indeed know how to do this given the response to its novel guaranteed income pilot program. The City should apply lessons learned from it to all future outreach programs where it is critical to educate and inform all members of our community.
- e) **Page 54 – Cost considerations** – with the incentives provide in the IRA the cost differential between gas powered vs. electric autos has been reduced significantly – this isn't mentioned.

5. Carbon Free Electricity/Energy – Contradiction and no references - see pages ES-7-9, 20,-21, 26, 65-72.

- a) **Pages 65 – 72** - Here the DRAFT cites a reduction of 370,000 MTCO₂ by 2030 and none in 2050, but in the Table on pages 20 & 21, the DRAFT cites a reduction of 160,000 MTCO₂. The EPC is confused about the contradiction. This section should include urging our state legislators to support the existing VCEA, RGGI and Clean Car Standards as others try to weaken or repeal them.
- b) **Page 65** – The only strategy that “moves the needle” here is “support implementation/acceleration of the VCEA by increasing carbon free electricity.” The EPC believes the title here should be “ways the Alexandria community can shift or use more renewable energy” since the strategies identified have nothing to do with the VCEA that applies to Dominion, not Alexandria.
- c) **Page 65 – CE-1** The DRAFT cites the strategy of increasing the deployment of the GBP to increase renewable energy, but does not explain HOW this happens since the GBP has **no requirement** to deploy renewable energy on new buildings. The EPC has struggled over the last years to get any developers to consider and/or deploy solar panels on new buildings with some only agreeing to make the buildings solar ready. Thus, the EPC is confused as to how the GBP would help deploy additional solar.
- d) **Page 65 CE-1C** – the DRAFT cites “consider implementation of municipal/community choice aggregation (CCA) program with no explanation on **HOW** this might be accomplished or when. This idea has been around for years with no progress, thus the EPC is confused at its continued suggestion with no discussion about how to overcome any impediments.

6. **Adaptation and Resilience – Table 4** should provide some kind of priority to help stakeholders focus time, money and energy to achieve results that “move the needle.” In addition, there is no mention of our extreme weather events and actions and strategies to address them. There is a failure of imagination here to consider power outages that last a week, larger and longer rainfall and flooding events like those that have occurred elsewhere in the US and could happen here. As the saying goes, if you are only prepared to fight the last war, you will be unprepared for the next one.
7. **Implementation and Next Steps page 117** – Although there is a list of a series of Alexandria programs there is no data to indicate the success or failure of these programs i.e. how many families have been helped on an annual basis by the Weatherization Assistance Program? How many Alexandrian’s currently have solar panels on their homes?
8. **Next Steps.... Page 121** – “The City made the commitment in its EAP2040 to continuously update goals, programming actions, and plans every five years to meet the evolving needs of the community.” If this is so, why do neither the GBP nor the EAP2040 revisions appear in the Long Range Integrated Work Plan for FY24, since it would be 5 years since 2019 when both were finalized and approved by Council?
9. **Appendix A** – Nearly all of the references here relate to *Adaption and Resiliency* sections and almost none to Mitigation. Where did all the Mitigation information come from? All facts must have references in order to provide transparency and provide the reader with an ability to verify the accuracy of the information.
10. **Appendix E** – This entire Action Plan is largely based upon our understanding of the current GHG emission levels in each sector and then how various actions might impact/reduce those emissions to get to the 50% and 80-100% reductions in 2030 and 2050 targets. Thus, fully understanding the assumptions, data sources and math models used to create the model and the tables and figures is critical. Since this Appendix does not provide the actual math formulas, or references for data used, but just discusses numbers pulled from somewhere, **ALL** of this information is unverifiable and thus its validity is unknown making the Tables and Figures that use the BAU scenario suspect. Then if the BAU is suspect, the reduction numbers to achieve the 2030 and 2050 targets is also unknown. Some of the assumptions appear to contradict each other as well. For instance, when modeling for Buildings – the model excludes energy efficiency measures after 2022, but in the Transportation modeling, cars that are more efficient ARE included in the modeling after 2022. In the Energy section, BAU does NOT include the yearly increases in renewable energy by Dominion (thus reducing GHG emissions at a rate of 3% per year 2021-2030 and 4% 2031-2045. Due to this yearly specific reduction, the weird dark blue shape for VCEA attributed emission reductions in Figures ES-3 and 7 on page 23 are confusing and not verifiable.

SECTION 4 - Errata:

The tables and figures in the Executive Summary are not listed in the list of figures and tables – they should be.

Page ES-10 references Figure ES-5, but there does not appear to be a Figure ES-5 in this document

ES-10 – EPC suggests the eight places you use the word “citizens” you change the word to “residents” or “Alexandrians” to be more inclusive of all of the people in Alexandria

Pg-1 – EAP2040 GHG emission numbers are “targets” not “goals”

Page 7 – “202118” – it is unclear what this number is or is supposed to be?

Page 22 – the DRAFT says, “the City analyzed 13 strategies” if they are referencing B-1, B-2 thru O-2, the EPC only counts 12 strategies.

Page 46, and 50 – the sentence reads: “the effect of these efforts is focused on reducing the Alexandria’s VMT and TOD and its impact on reducing greenhouse gas emissions. The EPC does not think the City means it wants to reduce the amount of transit-oriented development (TOD) in any of these instances so this needs revision to “increasing TOD”

Page 47 – *Risks and uncertainties* – “the City must ensure that new developments “do not have” vs. “have” significant impact on disadvantaged communities....

Page 57 – T-2 Description – “rapid transit routes and “convert” the DASH... not “covert”

Pgs 65-72 – Energy – Here the DRAFT cites a reduction of 370,000 MTCO₂ by 2030 and none in 2050, but in the Table on pages 20 & 21, it appears as 160,000 MTCO₂. Explain the contradiction.

Page 67 – Cost considerations - Energy costs over “time” not “tie”

Page C-2 Risk – “the chance of a climate hazard **with** cause harm” should say “will” cause harm

B-1 Acronyms – ACPS has nothing to do with American Innovation & Manufacturing

B-1 – Acronyms – CBECS = Commercial Building Energy “**Consumption**” Survey – missing word

B-1 Acronyms – Hydrofluorocarbons are abbreviated by HFC, not HCF

Appendix C – should include a definition of “Net Zero ready buildings” used in Figures ES-4 and page 27, Figure 10.

Appendix C – should include a definition and reference to High Performance Buildings – See <https://www.ashrae.org/technical-resources/aedgs>

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