At the Community Energy Plan (CEP) Forum Breakout Session, participants discussed a variety of topics related to the CEP. Each table focused on a different topic area. Below are summaries from those discussions. County staff are reviewing the CEP Forum’s notes and incorporating changes to the CEP based on the Forum feedback and comments received from others during the past year.
Table #1: Net-Zero Energy

BACKGROUND
A net-zero energy building produces enough energy onsite to cover its annual energy usage. Constructing a net-zero building requires a combination of onsite renewables and smart design to ensure the building’s energy usage is low.

There are several net zero energy buildings in Arlington today, including Discovery Elementary school, the first net-zero school in Virginia.

DISCUSSION SUMMARY

Question: How much time and resources should the County commit to zero energy buildings?

- There are many priorities included in the Community Energy Plan. The County may not be able to fund all of them every year. We may have to rotate the priorities.
- Do we know what the cost premium is for zero energy buildings?
- Should we instead try to build buildings that are very efficient and ready for renewable energy?
- Are zero energy buildings truly “zero” energy, or do they make up the difference with Renewable Energy Certificates (RECs)? A: Yes, zero energy buildings are truly zero and are not using RECs.
- Net zero should be the foundation of energy efficiency, with this approach:
  - Building envelope
  - Siting of building
  - Daylighting
  - Geothermal or solar ready
- How did the aquatic center get approved with no solar?
- The CEP is a community guidance document, but is not required.
- Power purchase agreements are important.
- Challenge of not being able to ride construction contracts.

Question: What can government property owners and contractors do to get more zero energy buildings?

- Provide incentives for net zero – not currently a requirement
- Discovery could go net zero because the design team was committed as well. There was a set budget for the school and the design team said it was achievable within that budget. The design team was involved in the construction phase as well (which is not typical) because they were committed to the success of the project.
- Need buy-in from the private sector. The County is updating the Green Building policy regarding net zero.
Table #2: Financing Mechanisms - Commercial sector

BACKGROUND

Arlington launched Virginia’s first Property Assessed Clean Energy (PACE or C-PACE) program to help commercial building owners improve their buildings’ value and cut their energy bills. The program allows building owners to finance energy efficiency, renewable energy, and water conservation projects over 20 or 25 years so that energy savings usually offsets the financing payment so the investment pays off from day one. For new construction, developers qualify for the financing by designing their projects to exceed the state code by a minimum of 15%.

QUESTIONS:

- How would you pitch the PACE program to a building owner? What aspects of the program might be appealing to them? What doubts might they have about the program?
- What buildings or building types are the best candidates to use the PACE program? This could consider factors like age, usage, etc.
- PACE programs usually target projects costing at least $100,000. Is there a market need to create another financial incentive program for existing building energy projects costing less than $100,000?

DISCUSSION SUMMARY

- Barriers to PACE are the complexity of financing.
- The main driver for people using PACE are in the economics.
- The fact that there isn’t monitoring and verification as part of this program is a plus.
- The environmental impact of PACE programs is less of an interest for PACE users.
- The complexity of the financing can be a barrier.
- The property owner’s determination as to whether to treat PACE financing as on-balance or off-balance sheet will depend on the property owner’s tax advisor’s and/or accountant’s input.
- The residential sector should also receive incentives to use energy efficiency.
- In addition to PACE, commercial properties should also receive incentives for energy efficiency.
- An interesting data point will be the number of buildings that are owner-occupied.
- Education and messaging should be targeted to the PACE users’ interests/viewpoints.
Table #3: Partnerships

BACKGROUND

Arlington has a rich history of working together with many organizations to help our community reach its goals and to address a variety of issues. For instance, the Solar Co-op program involved Solar United Neighbors, a non-profit, leading the way and Arlington and EcoAction Arlington providing support to achieve success. More than 100 new solar photovoltaic systems were installed on homes through this program! The nexus of dynamic advances in the energy sector and aggressive new goals, legislation and funding in Virginia offers us a unique opportunity to expand the County’s collaborative initiatives and partnerships.

QUESTIONS

• Let’s talk about some examples of potential partnerships and areas for collaboration that could help our community reach our energy and climate goals. How can we expand the County’s collaborative initiatives and partnerships?

DISCUSSION SUMMARY

• Multi-modal collaboration, that is, try a lot of different kinds of partnerships to create a dynamic outcome.
• Use an entrepreneurial and forward-thinking approach to help address “wicked problems” with a "lab" approach. Example: Partner with Arlington Public Schools to pair job training with solar installations, EV charging station installations.
• County leadership should be about planning or stimulating ideas in the community to reach goals, to create the structure without getting in the way. Simplify code and make the permitting process easier and easier to implement projects.
• Conduct community outreach and education at all levels to facilitate green energy adoption.
BACKGROUND

We’re hearing more and more about electric vehicles these days. Arlington’s overall approach to transportation is a multimodal approach. That is, one that provides multiple ways to get from point A to point B. In addition to providing people options, we also want to help lower each person’s carbon footprint. Recognizing that there are times when people must drive a car, electric vehicles (EVs) now have average greenhouse gas emissions equal to an 80 MPG car. In addition, some localities are buying and operating electric buses in their fleets.

QUESTIONS

- Should the Community Energy Plan include the use of electric vehicles as one of the strategies to reduce greenhouse gas emissions in the transportation sector?
- What are the barriers to greater uptake in the EV market for residents in Arlington?
- What could businesses and the private sector do to help increase EV usage?
- What ways could the County help increase EV usage – cars and buses – in Arlington?

DISCUSSION SUMMARY

- County government is limited with the Dillon’s Rule and building code
- Focus on the now; transportation electrification
- Yes, implement electric vehicles (EV) (equivalent to 80 MPG)

Barriers

- Upfront purchase cost; model availability
- Infrastructure (especially non-homeowners/multifamily); access to fast-charging equivalent to gas fill-ups (speed and access)
- Increased education/visibility to show the achievability of EV
- Low-cost gasoline; total lifetime cost (dramatically cheaper EV vs. gas)
- Economics of gas vs. electric (cleanliness?) cost per “fill-up”; no oil changes
- Solar charging? How clean is the grid?

Private Sector

- Fleet (Uber, taxi) vs. private ownership (tailor to ride share)
County

- School bus and 100% EV
- Municipal buses, state incentive, collaboration (joint purchases within region)
- Sales tax on County personal vehicles? Incentives?
- Financing (leasing) options for own fleets
Table #5: Resilience

BACKGROUND

Because energy is so vital to modern life, it is important to ensure that Arlington’s energy infrastructure is resilient and secure. The grid and other infrastructure are vulnerable to disruptions from weather events, deliberate attacks, climate change, and other shocks.

Local energy generation, energy storage, microgrids, and energy efficiency measures ensure buildings are more resilient by making them less reliant on the grid.

QUESTIONS

- How do power outages affect your home and/or business? What are you willing to pay to ensure the power never goes out, either by investing in your home/building or as a premium on your energy bill?
- What would you like to see the county, utilities, or others do to make Arlington more resilient?

DISCUSSION SUMMARY

- The group explored the history of critical infrastructure, microgrids, storage, and energy security. To date, the County has not placed a heavy emphasis on energy security.
- Primary suggestion is to perform a risk assessment and analysis study of critical infrastructure to determine facilities and businesses that are susceptible to grid failures – including financial losses and opportunities for saving life and property. This infrastructure could be prioritized for microgrids and resilience efforts, and technological innovations should be explored, including in nearby jurisdictions like Montgomery, MD.
- Examples of critical infrastructure include safety-net facilities such as nursing homes, grocery stores, hospitals, traffic lights, & small businesses. Many of these have limited or no diesel backup generation.
- The “cost of doing nothing” needs to be assessed to determine risks to business and government.
- Evaluate costs of transition, and climate risk modeling should be incorporated to determine long-term impacts.
- We should assess the risks and over-reliance on diesel. Diesel can be supplemented by other resources such as solar and storage. Usually, only a few days’ supply available and resupply
transit can be impacted. At facilities like Reagan Airport, diesel supply is a very significant cost that could be reduced.

- At the Pentagon, mission critical resources need to stay online during emergencies. DoD has invested heavily in energy security, microgrids, and renewable energy to ensure resilience.
- Outreach efforts can be made to inform local businesses about the risk projections and the actions that others are taking to address resilience. A participatory community initiative to ensure that best practices are being shared. Residents are often unaware of the critical infrastructure and resources available.
- Many companies worldwide are focusing on resilience and climate planning to hedge against financial risks. For example, Mars (the candy company) is focusing on resilience of cocoa farmers to a changing climate.
- There are many corporations and nonprofits available to partner on the research and implementation of resilience efforts. For example, Fluence is a new energy company headquartered right here in Arlington.
- Some further questions to explore:
  - How do outages and resilience affect residents and businesses?
  - What should the county be doing and improving?
  - Is there a willingness to pay more from residents to improve resilience or microgrids?
Table #6: Renewable energy

BACKGROUND

Arlington’s Community Energy Plan sets the goal of 160 MW of solar by 2050, enough to power 40,000 homes. Solar adoption started off slowly in Arlington, with just 81 systems in 2014. However, solar PV system prices continuing to drop and these solar co-ops, Arlington’s launch of Virginia’s first commercial PACE (C-PACE) program, and contractual or virtual power purchase agreements (PPAs) offer new ways to make solar happen. C-PACE allows building owners to finance renewable energy projects over 20 or 25 years so that energy savings usually offsets the financing payment so the investment pays off from day one. Contractual/Virtual PPAs allow building owners to sign a contract for offsite solar to offset their emissions.

QUESTION

- What strategies, policies, or actions would result in more solar installations in Arlington?

DISCUSSION SUMMARY

- Push to be more renewable by 2035.
- What do we have today in solar? A: 118 homes have solar, 30-40 more in next 6 months
  - Each home generates 75% of these energy needs
  - Example: Discovery Elementary generates all the energy they need; should we put solar panels on buildings, or invest in ways to design buildings more energy efficient?
- New low of how excess energy is used → different for individual homeowners
- What legal barriers exist on renewable energy? Residential size, size of solar panels, cost?
  - Policies and building codes dictate how renewable energy can be used
- Can only get solar for the current size of residence, e.g., if you choose to add on to house, you cannot add solar to the house addition
- 2-way connection vs. in-home storage?
  - Batteries are becoming more economical

QUESTION

- What do you think of the 160 MW target, is it too ambitious or not ambitious enough? 160 MW is enough to power 40,000 homes, and would represent almost half of Arlington’s electricity usage by 2050.
DISCUSSION SUMMARY

- There’s an on-site goal of 160 MW solar PV by 2050. Are there opportunities for other types of renewable energy?
- The Intergovernmental Panel on Climate Change is pushing to be carbon-neutral; renewables + efficiency is how to reach that goal
- End-point 160 MW, 78% of Arlington’s energy, we want it closer to 100%
- How many roofs must be covered to meet our goals? A: 1 MW=8 acres. 1,000 acres of land and rooftop space; need 1,000 acres + to meet goals
  - Only one way now to get renewable energy in Arlington. Other options to pursue: community solar, ability for County entities to buy renewable energy through contracts (PPAs).
  - Pilot tests - Dominion is committed to 3,000 MW of solar by 2022, push for solar to be built, just need to find suitable rooftop space and land to build
  - Vertical solar technology → parking lots
  - Wind energy: Dominion 12 MW off shore VA beach, $300 million
  - Biogas from waste – collecting methane; backup to other options?
  - Compost program

QUESTION

- What should the focus be for the next five years?

DISCUSSION SUMMARY

- Solar? Energy efficiency? Agreement * both? Technology is there and it's cost-effective.
- Net zero renewable focus in short-term goal through offsets
  - Example: a community center is solar-ready, but there are budget constraints to install solar now. Apartments around community center will have solar; heat-pumps are efficient.
- District heating and cooling? A: Not financially feasible, infrastructure underneath roads, no room for piping, cannot put pipes above ground
- Micro-grid, smaller systems tied together
  - One owner of many buildings
Table #7: Job creation and Economic Stimulus

BACKGROUND

Research shows that policy decisions at the Federal, state and local levels can help drive job growth in the energy sector. For example, there were more than 300,000 Americans working to manufacture Energy Star products last year, an increase of 26,000 over 2016 numbers. It takes skilled individuals to specify the use of those products and others to correctly install the products.

Also, keep in mind the energy sector changes: battery storage is improving, there is increased interest in vehicle-to-grid technology, solar PV installations, and net-zero buildings.

QUESTION

- How should the updated CEP include a new focus on the potential for economic stimulus and job creation under the energy sector?

DISCUSSION SUMMARY

- How can we support entrepreneurs and small businesses?
  - 90% of startups are failures- why is that?
  - What can we do to minimize risk for people who are really taking initiative?
  - Some universities tie local businesses to entrepreneurial programs
  - We need more to help financially support students who are in these programs
  - Can we try to help people provide income while they are getting started?
  - Bottom-up stimulus growth
- Venture capital funding could be used here
  - Is there a way that the County can help support venture capital firms who may be able to support entrepreneurs?
  - There may be a way to make the resources, programs, and funding contingent upon each other
  - We could open an RFP process to structure a way to support and foster ideas
    - A model for that is how affordable housing funding is structured
- Philanthropic capital funding focused on climate change technology
- Analysis from the Virginia Foundation found that it would take 50,000 jobs to meet 10% of the state’s energy needs
- Energy Efficiency
Building energy efficiency in affordable housing/multifamily housing to help get overall health costs down; there could be similar models for homeowners

- In rental properties, people ask how much rent is, but they do not ask about utility costs. The landlords don’t really care much about utility costs since the renter pays for them.
  - Rebates are just going to single family homeowners. As for renters, landlords are external to the process.
  - Perhaps there should be a site plan condition that on every lease, there is a metric on how much energy utility bills would cost
  - Offering bonus densities to encourage energy efficiency in multi-family buildings

- Help developers incentivize energy efficiency initiatives that result in lower energy use intensity in multi-family buildings.

**QUESTION**

- What role do places like the Career Center and universities have to help increase the skilled workforce to ensure energy efficiency and renewable energy projects are done right?

**DISCUSSION SUMMARY**

- A big plug for some of the programs that we have at Arlington Career Center and Arlington Tech; should be expanded.
  - Some students come out with certifications and internships with companies
  - Giving kids the opportunity to earn money right out of high school
  - All students don’t necessarily think about going to college

- Are the programs structured to address issues in the energy program?
  - Closed the Arlington tech program - helped
  - There are so many programs, some are oversubscribed. We should consider linking the program up with NOVA to get college credit
  - Programs are tied to auto dealerships - become parts managers etc.
  - Some students go back to school for something related
  - Businesses get trained/skilled workers.
  - The more Arlington businesses that do it, the better
  - Internships are required.

- DC government has a subsidy programs to help subsidize the employers of the internships
- What does it mean for a business to take in an intern and make it a meaningful experience?
  - It takes a lot of hard work.

- It is meaningful that students can go into the workforce with strong background
- Circular economy, renewable energy, green products, sustainability, green economy
- The auto industry is a model of how we work with local employers.
- The head of NOVA came from programs like that in South Carolina and Germany, so he supports programs like this.
Table #8: Energy equity

BACKGROUND

Energy equity ideals: Residents and owners of affordable multifamily buildings and underserved populations should have equitable access to the resources and help they need to improve the efficiency of their homes. The benefits of energy efficiency should not be exclusively available to higher income families and businesses.

The lack of energy efficient multifamily housing has consequences for low-income families and their communities. When families with limited financial means are saddled with high energy bills that they cannot afford, they face the prospect of losing their utility services or, worse, being evicted from their homes. To the extent that high energy costs drive up building operating expenses, building owners have limited means to invest in their properties while keeping rents affordable, threatening the continued availability of good quality affordable housing.

QUESTION

- Equity means different things to different people, what does it mean to each of you?

DISCUSSION SUMMARY

- Equity means having a smaller delta between those who can afford energy and those who are unable to afford energy. In particular, comparing energy costs to other basics, e.g., housing, clothing. A person should not have to choose between heating their house or powering your apartment and other needs. They shouldn’t have to choose between paying power bill or buying groceries or prescription drugs.
- Equity is also getting access to renewables and being able to affect the rate and pricing structures of the renewable industry, and that goes beyond all borders.
- There’s a huge issue in Commonwealth about the interpretation of mean income and what utilities consider equitable …. this is a variable in the equity equation.
  - Regarding mean income, when you start talking about percentages, there’s a huge difference between Arlington and the rest of the state. We want a low to moderate income (LMI) definition to be something that makes sense in Arlington.
QUESTION

• Do you think LMI should try to achieve a relatively high bar, i.e., “Energy Neutral”? Or, should LMI households instead focus on energy efficiency or reduction first?

DISCUSSION SUMMARY

• Can there be a triage that’s successful that just looks at existing buildings and sees where low hanging fruit there is— energy audits? Can County go in and facilitate energy audits with existing building to try to incentivize improvements?
• If there’s any new housing being built, not sure why they shouldn’t be Net Zero or Passive Energy, particularly Affordable Housing units that the County is helping to be built via AHIF financing.
• AIRE and Affordable Housing work very closely together and Energy Neutral is an important part of that framework.
• Arlington is out in front — believe it or not this is one area where VA is a leader. The Virginia Housing Development Authority that the County uses for loans, has in their criteria that a project’s green component scores the project much higher, so that’s an important part of their calculations. The VHDA Green Component is certainly not Net Zero — that’s a good aspiration and we can push more in that direction, but normally these new Affordable Housing projects are only LEED Certified.
• Eco Action Arlington’s Energy Masters is a huge program that goes into people’s apartments and lets them know what renters can do, and goes into buildings and lets property managers know what they could do to improve things. Energy Masters is coupled with the weatherization program, so they’ll evaluate and they’ll also implement weatherization technology.

QUESTION

• How do we further integrate "energy equity" into the CEP?

DISCUSSION SUMMARY

• Ownership stake can be done in different ways:
  o member owned coo-ops that do distribution for instance.
  o coops that do installation of solar.
  o Cleveland has workaround cooperative that is doing solar installation of weatherizing technology. But it’s owned by the employees who are doing the installation and that includes people who are formerly incarcerated etc.
• In Arlington, procurement can provide justification for going a different way that lowest bidder, if it fits with vision or policies priorities.
  o In VA if it’s a non-profit you can ask for things other than lowest bidder
  o See if there is a mechanism where procurement can go outside of Virginia
• See if we can add On-Bill Financing as an option for homeowner energy projects. Consider legal requirements and regulations in VA. We have Dominion which is its own issue. Green Mountain Power in Vermont is a great model; a B-Corp so they have the triple bottom line structure. They do have On Bill financing but all equipment they install they lease to homeowners so they’re keeping the access to batteries so they can move the power that is
generated around but they aren’t really producing it. One thing about Vermont is that they have a single utility for the entire state.

• Some people have talked about public utility model so you can have a “green bank” that will help finance. Arlington might want to join national movement to create a Public Bank & avoid Wells Fargo.
  o It might be a good idea to start a Public Bank. Can Credit Union be given CDC development mission and start to expand? Can we consider it?

• Something the County has done well is using density as its currency. Are there ways to use that same concept and expand upon it to address energy equity?

QUESTION

• What about financial incentives to building owners? What stimulators around financing can we do to expand ownership of energy?

DISCUSSION SUMMARY

• What about an incentive that would give partial payment to pay for a building audit, coupled with helping to finance the opportunities?
• Should there be incentives for kickers or incentives for bringing upgrades beyond code, or focus on specific equipment and offered to finance that? Investments are going to require an ASHRAE Level 2 audit at some point. What if you have incentives coupled with financing?
• Don’t underestimate the importance of making more understandable these incredibly technical, complex terms and dense language that is incomprehensible in layman’s terms and elevates the fear aspects. That’s true of the technology and it’s true of the financial processes. If we can find a way to communicate these issues better, then that will help.
• Do you think people think PACE is too expensive? A: I don’t think people know what PACE is at all to be honest and that’s part of the problem.
Table #9: Legislative

BACKGROUND
Community members have advocated for numerous legislative changes in the Commonwealth to help Arlington reach its energy goals. Examples include: 1. Permanent Power Purchase Agreements (replace pilot with permanent program with no restrictions); 2. Enact a mandatory renewable portfolio standard (RPS); 3. Net Metering: Prevent any additional hindrances to existing net metering laws; remove the 1 percent cap on the total amount of solar that can be net-metered in a utility service territory; 4. Community Solar: Allow ratepayer subscriptions for electricity from solar-produced power for all rate payers (do not limit to utility-sponsored programs), including community net metering. Any legislation permitting community solar subscriptions should not foreclose other PPA options; 5. Establish statewide Green Bank.

QUESTIONS

- Assuming Arlington took a more active and rigorous role in legislative matters (cap and trade) and regulatory matters (the 2018 VA Energy Plan): Which issues are the most important to you in the legislative and regulatory arenas, e.g., allocation of potential cap and trade revenue, State assessment and approval of energy efficiency programs?

DISCUSSION SUMMARY

- Building Codes and Building Efficiency Standards
  - The state sets the adoption of the national standards, and Virginia often lags behind in adopting the standards, i.e., VA’s standards are less stringent than other states’. There is opportunity to advocate at the state level
  - Buildings use two-thirds of Arlington’s energy
  - Dillon’s Rule prevents Arlington from going beyond the state’s energy code. We can incentivize, but density becomes our currency. We can’t require builders to meet stricter standards

- Increase and focus density around Metro stations
  - Being able to match higher density with multimodal transportation options helps makes living more affordable; people don’t have to drive for their commute to work.

- Seek Ways to Replicate Net-Zero Discovery Elementary
  - Discovery Elementary benefited from legislation that allowed for surplus energy to be attributed for credit elsewhere. However, the legislation was school-specific, which limits the County
  - Seek legislation on the County side that would allow surplus energy in County facilities to be attributable elsewhere and help reduce energy bills.

- Reduce energy demand
- Look at residential PACE (R-PACE) so people can fund energy improvements in their homes. We need state legislation to do it, and we also have a federal barrier in that Fannie Mae and Freddie Mac won’t back mortgages with PACE.
- PACENation in talks with HUD and others, but until Freddie and Fannie change their policies, advancing R-PACE faces a big barrier. At the state level, lots of groups, including Realtors, rebuff the R-PACE idea.

- Power Purchase Agreements (PPAs)
  - Pursue legislation to broaden allowances. Currently, PPAs are only available for nonprofits, they are limited in time as well, as pilot projects not permanent. PPAs also have caps on size.

- Virginia Gas Tax
  - It’s been a long time since it’s been increased. If raised, the question becomes: What do we do with the proceeds? Should they be channeled into energy programs and power programs?

- Additional Funds Potentially Available to VA
  - Grid Transformation Act: Dominion has $870M to use over 10 years. That averages out to $87M/year, which is good, but it is a small amount compared to the amount other states commit to energy efficiency program investments.
  - Regional Greenhouse Gas Initiative: VA looking to join
    - How should the above monies be used? Interest rate buydowns for energy efficiency and renewable energy projects?
  - Decouple use and rates to incentivize Dominion. Dominion already producing more energy than it uses.
  - Build an electric vehicle infrastructure
    - Drawback to people owning electric cars is there aren’t sufficient places to charge them (“range anxiety”)
    - Reduce barriers to sell electricity
    - Allow non-Dominion providers to provide infrastructure
    - Companies have gotten around it by calling access to chargers “memberships” but that’s not sustainable

- Federal Level: Carbon Tax
  - Cap and trade, or some kind of fee
    - This covers power plants – we need something that covers other emitters, e.g., industry and transportation

- Improved Transportation Infrastructure
  - The road system
    - Eliminate idling cars which wastes gas and increases pollution
  - Non-controversial
  - Arlington’s issue is land availability
    - Having a train system that is more efficient would help. People drive because they can’t rely on train or bus. We need full state funding of Metro.

- On-bill Financing
  - The cost of a project is put on a utility bill
  - It’s a matter of getting the utilities to do it/no legal or state barrier to that
BACKGROUND
An area of increased interest is the availability and use of energy data for homeowners and businesses. For instance, hardware and software for real-time monitoring and analytics of home electricity production and consumption through the electric panel is a growing industry. Homeowners who have real-time access to energy data can use it to increase comfort in their homes while effectively managing their energy bills. Businesses can optimize their operations, identify and fix or replace faulty equipment, and keep their tenants comfortable and happy with access to real-time energy information.

QUESTIONS
- How will people use energy data if it is easy for them to access?
- What data would be most meaningful to gather, or to which people could have easy access?
- How many people have heard of Green Button? How many people have used it? Why did you choose to use it, or why did you choose not to use it?

DISCUSSION SUMMARY
Energy usage data should be made available to residential and commercial users.
- Benefits include behavior change/reduced consumption as well as identifying inefficiencies in the grid.
- But this apparently remains a “minority opinion” in the industry.

Utility companies continue to fight public disclosure of energy usage data.
- Largely because utilities stand to “lose business” from the behavior change and reduced consumption that often follows public disclosure of usage data.
- Dillon Rule makes it hard to mandate public disclosure of energy usage data.

Tools like Green Button are good, but don’t go far enough.
- Standardized reporting is critical to make public disclosure successful, but data needs to be in a more usable format, or third-party services need to help consumers interpret the data.
Table #11: Split incentives - rental market

BACKGROUND

Many communities throughout the country have put in place aggressive plans to address climate change and energy issues. Those same communities struggle to overcome the “split-incentive” that prevents wide scale adoption of energy efficiency upgrades in renter-occupied properties.

In rental housing, the “split incentive” is a market-failure whereby neither the property owner nor the property occupant (renter) has a financial incentive to implement energy efficiency upgrades, even where those upgrades would quickly pay for themselves through energy cost savings. The property owner lacks a financial incentive because they do not pay the cost of utilities and therefore does not recoup their capital investment in energy efficiency through the utility cost savings. Conversely, the renter lacks a financial incentive to make energy upgrades to a property that they do not own, as oftentimes even cost-effective energy efficiency improvements would not pay for themselves during a one or two-year lease. Since Arlington has a large amount of rental housing, it has been a long-standing priority to overcome this split incentive.

QUESTIONS

- How could Arlington County address the split incentive problem?
- Some utilities have tried to address the issue via an on-bill financing program where energy efficiency upgrades are paid through a utility bill. Let’s discuss how that could work with Arlington’s electric and natural gas utilities.
- Another on-bill financing example had a locality’s water utility doing on-bill financing of homes’ energy upgrades. Discuss whether Arlington’s Water Utility could or should pursue such an option.

DISCUSSION SUMMARY

- A lot of rent includes energy in rent
- Single vs. multifamily homes
- Law to have owner pay energy bill?
- Do not do anything that would disincentive renter energy conservation
- Make energy bill marketed for renters
- Apartment companies vs. Craigslist renter
- Subsidy for energy upgrades for landlord?
- Regulations for <4 stories, > 4 stories
- Renter responsibility vs. landlord responsibility
• How can Arlington encourage leases to have R-PACE style improvements?

• Arlington County government could provide a template for supplement for residential lease
• DCSEU Model – Residential Rebates
• How to do it, is under the Dillon Rule?
• How do we get the State of Virginia to institute programs that offer incentives for renewable installations?

• DC’s regulatory structure that requires % of renewal production of its utility. It achieves those goals by offering credits to investors through a merit system. The result is a robust solar market. Results in over 6500 homes with solar plus lots of businesses.

• Energy resilience staff with overhead power lines. How can we do it and address this problem?

• What can we do and change DVP’s business model from selling as much energy possible, and being a service provider focused on using as little energy as reasonably possible?

• It would be great if Forum #2 could be help in the evening or on a weekend, so that others can participate.

• Resiliency: Could the County work with non-profit and faith community to turn their assets into resiliency centers, continue to operate doing a disruption?

• Question: Catherine Hamilton mentioned Energy Storage – how long can it be stored? Is it new technology, what is it?

• Is carbon pricing part of “energy equity?”

• Why isn’t recycling included? Gray water, composting? James Murphy

• Arlington needs to get back to leadership on energy issues. Hopefully, we will be setting new goals to do this. Commit to 100% renewables in 25 years. Net zero for all new County buildings. All new business can purchase by County should be EV.

• EV ready ordinance (ex, Atlanta) ordinance that requires all new construction to have wiring and conduit for EVSE at 20% of spaces (electrical vehicle charging). Require new fleet purchases to be ZEV (zero emission vehicles) when feasible.

• Use VW Appendix D state funding to electrify transit buses.

• Existing commercial building incentives for low-cost energy conservation measures ECMS under $100,000 (target business tenants). Funding for ASHRAE level 3 audit.

• Solar commercial rooftops (resilience measures).
• Is there a tie between Amazon’s potential relocation and Arlington’s CES?

• (Retrofit and new). Why not have net zero goals for buildings owned by APAH, AHC, NOVA, Sequoia Center? APS school buildings? What element of Discovery School is not important to making it net zero? Can I sell my solar panels for an upgrade?

• Legislation. Abolish limits on individual solar installations (currently 10 MW until additional charges apply). Re-RPS – include mandatory levels of renewables to include offshore wind with penalties for not achieving in-state production goals. Legislation that requires the State Corporation Commission to consider total impact of energy choices rather than only the per KW cost to the customer i.e., health impacts, environmental impacts. Green tech jobs bill – state/private partnership to incentivize training of workers in industries losing jobs (coal for ex.), to be re-trained in EE & renewable jobs (in public high schools + community colleges) accompanied by state/local incentives for those types of incentives.