COLLECTIVE IMPACT

Community Energy Planning for Arlington County

XMNR 2020 Assignment 5.1 Collective Impact - Dr. Bruce Hull

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Overview

This document offers an analysis of Arlington County's Community Energy Plan (CEP) and their use of Collective Impact to organize and orchestrate the activities of the many diverse stakeholders involved in the community energy planning process. Drawing on over sixty-five years of combined professional experience—including strategic team and accountability planning, stakeholder management, risk and project management, systems thinking, education, communication, and service—Team 1 has carefully studied the CEP. Our assessment was completed in the context of Arlington County's leadership evaluating the impact of the COVID-19 pandemic on their constituents and reprioritizing previously planned investments to reinforce the community's most essential needs.

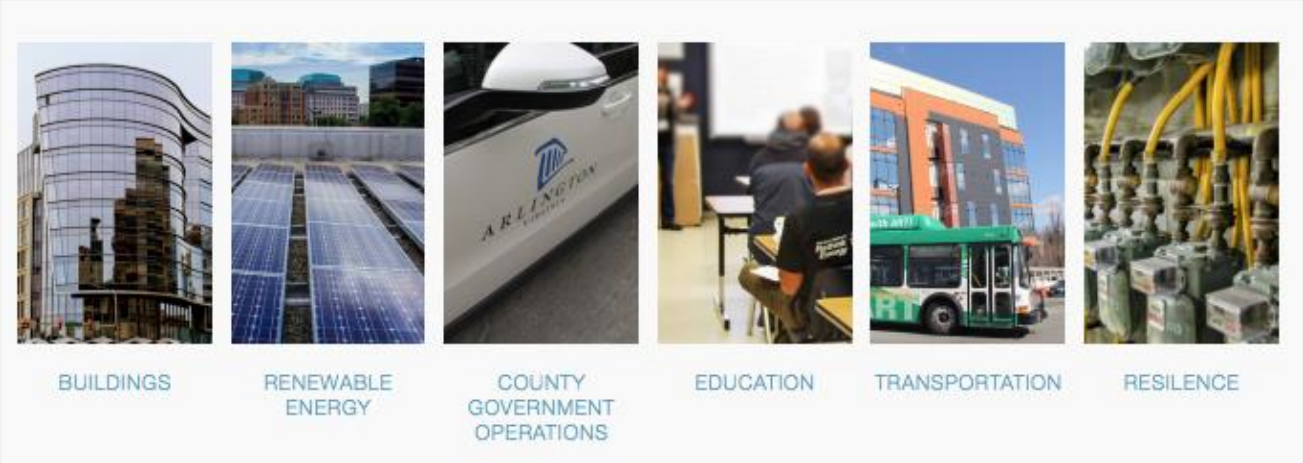
As the nation's first to achieve platinum level LEED for Communities, this vibrant, innovative, forward-thinking county has paused, but not discontinued, much of the work of their Comprehensive Plan, which includes the Community Energy Plan. Under these exceptional circumstances, the CEP has a rare opportunity to moderate their activities to contemplate and focus on strategically and concisely re-mapping the path forward. We offer our recommendations in support of that opportunity and pursuit of maximum alignment with the goals delineated in the 2019 CEP Implementation Framework.

Introduction

Rapid urbanization and population growth have increased energy consumption of fossil fuels, the bedrock of industrial society. Without collective action to reduce our carbon footprint, which is associated with emissions from fossil-fuel combustion in manufacturing, heating, electricity production and transportation, the worsening pollution from energy consumption will threaten to reverse our economic and social progress with great costs. The community energy planning is a process to address energy security (e.g. reduce risk of electrical brownouts and blackouts) and environmental challenges (e.g. climate change, urban flooding, water scarcity). This long-term planning involves community-based partnership and cooperation to integrate energy efficiency, heat recovery, use of a diverse energy mix, grid flexibility, transportation and land uses to create a sustainable community. As York et al. (2015) recommended, "Three overarching trends drive new and expanded opportunities for energy efficiency: technological innovation, systems solutions, and behavior change." The CEP provides a strategic roadmap for stakeholders to work together toward a common vision for maximizing the benefits of energy efficiency and environmental creativity in the community, and for the community.

Arlington County's Community Energy Plan

"Our vision is to distinguish Arlington and create the most desirable and competitive commercial, residential, and retail market in the region or country" (CEP Implementation Framework, 2013). Led by six overarching goals, Arlington County has successfully established a Community Energy Plan (CEP) to "improve economic competitiveness, energy security, and environmental commitment" (CEP Implementation Framework, 2013). With stakeholders of CEP including private, public, and non-profit sector organizations, successful implementation requires developing key partnerships and applying theories such as Collective Impact to remain organized and aligned.



The 2019 framework for Arlington County's CEP is structured into sets of goals, policies and strategies that lay out the method by which they plan to achieve the individual goal and the pathway for implementation.

- Goal One is to increase the energy and operational efficiency of all buildings. Strategies to accomplish this include renovating existing buildings to newer efficiency standards, encouraging new buildings to be designed and constructed for more energy efficiency, and encouraging lower carbon fuel use.

- Goal Two is to ensure Arlington's energy resilience. With a focus on building greater energy security, actions taken for this goal involve creating a local energy supply and storage, establishing microgrids, and setting guidelines to connect to the systems.

- Goal Three is to increase locally generated energy supply through the use of renewable energy options. Strategies include using incentive programs to increase energy resilience generation, eliminating regulatory barriers, and partnering with utilities to optimize energy resilience to create reliability in the power grid.

- Goal Four is to refine and expand transportation infrastructure and operations enhancements to reduce greenhouse gas (GHG) emissions. In order to do so, CEP will support the Arlington Master Travel Plan to integrate transportation with land use, support alternatives to car use, and support federal and state efforts to increase vehicle fuel efficiency.

- Goal Five is to integrate CEP goals into all county government activities. Methods for accomplishing this involve proposing regulatory and legislative remedies at the state and federal levels, funding implementation efforts, and developing financial incentive programs.

- Goal Six is to advocate and support personal action through behavior changes and effective education. The implementation strategies involve raising personal energy literacy, establishing CEP as a trusted source for energy information, and developing energy training and courses. Tools used by the CEP to achieve these goals are financial incentives, community and government partnerships, recognition programs, and building codes/rating systems.

Through their process, Arlington Initiative to Rethink Energy (AIRE), the backbone organization of the CEP, envisioned multiple pathways toward a low carbon future and implemented a multi-pronged approach. To effectively monitor their progress, AIRE established a baseline for their carbon emissions via a GHG inventory in 2013. This helped to create pragmatic, incremental goals for emissions reductions over time. The CEP is also reviewed every five years to ensure its relevance and responsiveness to changes in the market, technological advancements, and policy. This also provides an opportunity to reassess and adapt the plan's goals. These periodic updates serve as guardrails along their multiple pathways to reach carbon neutrality by 2050.

Collective Impact

"The complex nature of most social problems belies the idea that any single program or organization, however well managed and funded, can single handedly create lasting large-scale change" (Hanleybrown, Kania & Kramer, 2012). In other words, tackling big problems requires the cooperative and coordinated efforts of many organizations. One way in which this is achieved is through Collective Impact (CI). CI is a unified process that results in producing change in some way, shape, or form. Key attributes needed for the framework to produce a significant change include having a common agenda, shared measurement, mutually reinforcing activities, continuous communication, and a backbone support organization. This ensures all stakeholders are working toward the same goal, with the same measures, leveraging their individual areas of expertise, and communicating their efforts through the organization supporting the overarching initiative.

Notably, CI serves as an invaluable tool in collaborative efforts because it provides a structure for multi-stakeholders to contribute their individually specialized expertise to catalyze the achievement of a desired change. If done well, the framework aligns the otherwise asynchronous stakeholders to act synchronously—just as an orchestra transitions from the chaos of individually warming and tuning to harmonious performance.

Recommendations for Process

The key attributes of Collective Impact—common agenda, shared measurement, mutually reinforcing activities, continuous communication, and backbone support organizations—are easily identified within Arlington's CEP. From assembling a diverse, 29-member, co-moderated task force to determine mutually reinforcing activities and establish responsibilities of each stakeholder, to identifying a backbone organization in AIRE that would establish metrics and an implementation plan, the CEP is a model for Collective Impact. In fact, the CEP is a system within a system. Becoming embedded within Arlington's comprehensive plan in 2013 secured the CEP's future, shielding it from the volatility of political turnover and making the CEP legally binding. As one of 11 components of Arlington's comprehensive plan, each of which have a role in achieving the county's vision, the CEP has found its common agenda woven into the fabric of Arlington County. To reach a common agenda, politically charged rhetoric was avoided. Terms like sustainability and climate change were not used. Instead the task force settled on goals which would advance energy security, economic competitiveness, and environmental quality, with energy equity added as a new lens for community resilience in 2019.

Creating buy-in with all stakeholders was and remains critical to the success of the CEP. Arlington County has been clear in stating "why" they have a CEP, and the CEP has provided the roadmap for "how" the vision is achieved. Simplicity and consistency of the terminology used in detailing the roadmap is all-important for understanding what is being done and how they are measuring success. Through our evaluation of the CEP's use of the five attributes of Collective Impact, we offer the following for consideration:

I. On Common Agenda
   a. Working toward common goals together raises morale and increases trust among stakeholders and backbone organization. Strengthening goal-oriented communication with a timeline of viability in mind will promote direction, alignment and commitment. We propose adopting a consistently uniform taxonomy that differentiates the components making it less complex, more comprehensible, and engaging to varied audiences (See Appendix 1).

   b. The CEP is comprehensive and has goals, policies, and strategies nested within other goals. This can be confusing to the casual reader (perhaps a new stakeholder). Delineating the hierarchical relationship and consolidating into one master plan might offer better clarity. AIRE staff may consider setting up the most feasible goals annually for ease of interdepartmental communication.

The existing list of 72 strategies can be served as a base reference. Such granularity on an annual basis will ensure successful execution of a strategy.

c. Use uniform language (based on the taxonomy) and incorporate precise and pragmatic shared metrics in the action plan to improve comprehension and engagement. AIRE staff may design infographic one-pagers streamlined for engaging specific, new stakeholders, highlighting how the CEP promotes and supports the potential new stakeholder's agenda. The one-page action plan with annual goals is an effective pitch to potential investors and the curious residents. The can-do spirit in AIRE promotional literature will greatly benefit the cross-sector communication.

II. On Shared Measurement

We propose consolidating key performance indicators for progress tracking with specific, targeted metrics and outcomes to ensure greater clarity and consistency.

Tools you may consider for gathering a more robust dataset:

a. AIRE staff may consider exploring a wider range of data tracking methods through collaboration with such stakeholders as Arlington County Open Data (https://data.arlingtonva.us/home), WRI (https://www.wri.org/resource-watch), and local higher education institutions.

b. AIRE staff may also consider offering credit-based internships for IT undergraduates who help design and implement renewable energy tracking systems. The student-based maintenance and improvement of the tracking systems ensure that new technology will be applied to the existing technological infrastructure. These up-to-date and precise shared measurements will increase stakeholders' participation through knowledge empowerment.

Recommendations for Implementation Post-COVID

I. Education and Outreach

Social distancing and shelter-in-place drive demand for virtual outreach and learning for all ages. We recommend AIRE staff to revisit and prioritize the existing strategies on Education, including numbers 4, 34, 39, 40, 42, 48 and 58. These strategies are low cost and if done well, can offer great PR! AIRE staff may look into these two scopes for expansion:

a. Working with the Arlington County Public Library and Public School Systems to design online activities and lesson plans about energy efficiency. These educational materials could be rolled into classroom curriculum and be scaled to reach learners of all ages.

b. Expanding enrollment in the Green Home Choice Program to promote residential energy efficiency through increasing the public's knowledge of energy conservation as a good money-saving solution, especially on a tight budget during COVID months.

Supermarkets may be a good place to spread the word as well as on social media. Save Energy. Save Money.

II. Energy Security

AIRE staff may look into the following two areas for strategic planning and improvement:

a. Prioritizing no.32 and no.46 will support AIRE's addition of resiliency to their goals in 2019. District Energy and microgrids will also push this initiative forward. Research has shown that the most energy-efficient approach is for city blocks or residential neighborhoods to share community microgrids powered by solar (Temming, 2020). Focusing on strategies no.44 and no.54 is also recommended.

b. Funding places limits on successfully completing these goals so this a good time to develop and secure an Energy Assurance Plan with strategy no. 51. AIRE staff may refer to the CESER resources for county officials as support with forums, web-based training, and planning exercises. (https://www.energy.gov/ceser/state-and-local-energy-assurance-planning). They might also consider using tools such as Texas A&M's automated system to predict system malfunctions and equipment failures or Los Alamos Group's program that identifies critical loads and prioritizes upgrades based on budget.

III. Transportation

Building a robust network of plug-in electric vehicles (EV) for consumers and fleets requires an accommodating charging infrastructure (Alternative Fuels Data Center, n.d.). The network could be expanded by leveraging the Green Building Incentive Plan. Those seeking LEED certification could be encouraged to pursue the Green Vehicles credit, which would result in the installation of Electric Vehicle Supply Equipment (EVSE) in 2% of all the parking spaces used by the project. Companies such as Envision Solar provide deployable EV charging units that would not tap into Arlington's electrical grid, require zero additional construction, and occupy the space equivalent to one parking spot (Envision Solar, 2019). Additionally, with their LEED Platinum for Communities status, they could consult with the U.S. Green Building Council to determine the feasibility of projects seeking LEED certification to place ESVE in an offsite location for use by the county's fleet vehicles.

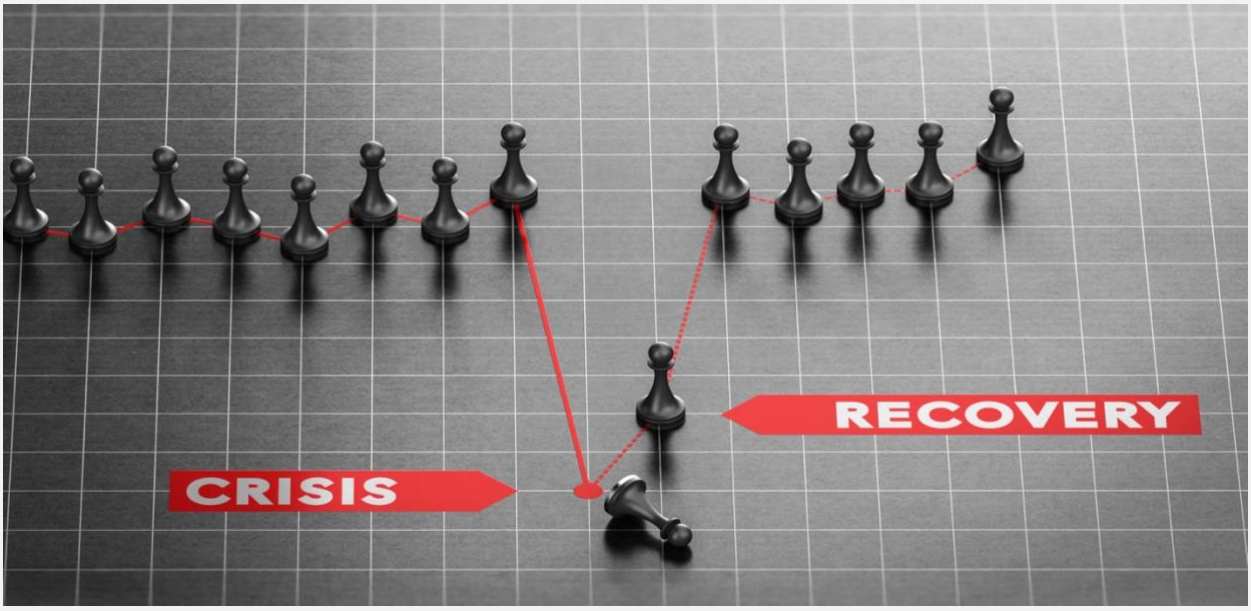
Additionally, a study conducted by a market research company showed a 50% increase in bicycle sales nationwide since the occurrence of the pandemic (Davies, 2020). By expanding the county's bicycle and pedestrian network, this will allow more individuals to permanently shift their mode of travel long after coronavirus effects have receded.

IV. Funding

An opportunity exists for alternative methods of funding that could keep the CEP on track through the issuance of green or environmental impact bonds as a source of capital. Borrowers can take advantage of low interest rates with the Fed rate at 0.25%, while the tax incentives make them attractive to investors. An example is the city of Johannesburg using green bonds in 2013/2014 to finance their energy initiatives (Thorpe, n.d.). The World Energy Investment Report released by the International Energy Agency suggests

a significant decline in global energy investment in 2020 (International Energy Agency, 2020). This lower demand can reduce the cost of renewable energy projects. The US Department of Energy provides many resources for local and State leaders to evaluate bond financing for energy and efficiency projects (Bond Financing, 2018). Low interest rates combined with low development cost make these bonds an effective funding strategy in the current environment.

In addition to issuing bonds, residential energy could be explored for public-private partnership opportunities. Arlington County may deepen diversification in renewable energy investments in partnership with Arlington's recent corporate resident Amazon. We recommend referring to GreenBiz-Energy for opportunity ideas (https://www.greenbiz.com/collections/energy).



Closing

Save Energy. Save Money. Save the Planet. Perhaps this catchphrase will have greater resonance with the more than two hundred thirty thousand Arlington residents and daily commuters in the wake of the domestic crises stemming from economic, social and environmental inequality. With challenges come opportunities. There is no better time than now for every stakeholder to rethink energy under the Arlington Initiative and to act collectively for a sustainable future.

Appendix 1: Recommended Uniform Taxonomy

The approach outlined below is based on the book *Take Back Your Life* by Sally McGhee.

- **Vision**
  [Referred to as Long Term Vision on CEP website homepage]
  - Transforming how we generate, use, and distribute energy in the County
- **Mission**
  [Referred to as primary interests in Dooley PowerPoint, CEP Goals on the CEP Fact Sheet, and CEP Benefits on the Metrics Report]
  This is a long-term statement that is always true of what you're going to accomplish. Think of this as the 'Why'; it inspires an entire organization. This is something that the entire organization can rally behind; if this mission were fulfilled, what would your clients be receiving?
  - Energy security
  - Economic competitiveness
  - Environmental commitment
- **Five and Three-Year Goals** (or 5, 15, 30 for Arlington County)
  [Referred to as CEP Principal Goals in CEP Comprehensive Plan]
  These are long-term goals that are specific and measurable, and in alignment with Mission and Core Values; a stake in the ground, they are inspiring and compel you to action.
  - 2025: Government operations 100% renewable energy
  - 2035: Arlington 100% renewable energy
  - 2050: Carbon neutrality
- **Unifying Goals**
  [Referred to as Prioritization Framework in the CEP Implementation Framework]
  The most important goal(s), for everyone in the Division. All Meaningful Objectives and Supporting Projects cascade from this goal(s). The Executive and Leadership Team are together responsible for this goal; the Executive drives it and the Leadership Team owns pieces of the goal(s). Unifying Goals are collaborative and teamwork is required to make them happen.
  - Energy efficiency
  - Heat recovery
  - Renewable energy
  - Energy distribution

❖ **Areas of Focus**

[Referred to as CEP Goals in CEP Comprehensive Plan and Implementation Framework and Roadmap in Dooley PowerPoint]

Identify the different aspects or areas of your business that will support you successfully completing your Unifying Goal(s); oftentimes they're indicated by a business division. Typically, there are no more than five, and there is a clear assignment of accountability. Essentially, large encompassing areas of business that you want large numbers of people to focus on…

- Buildings
- Resilience
- Renewable energy
- Transportation
- County government activities
- Education and behavioral change

❖ **Meaningful Objectives**

[Referred to as Fundamental Goals in CEP Comprehensive Plan]

Each Meaningful Objective (MO) is specific and measurable with documented metrics, aligned with both the Unifying Goal, and the MOs of the next higher level of Management. Clearly documented MOs support focused decision making – you say 'no' to those activities which do not support your MOs. MOs may be thought of as the 'What', and they serve as your North Star, guiding all that you do.

- Incorporate new strategies for the transition from fossil fuels-based energy resources to cleaner sources of energy
- Promote use and availability of diverse renewable energy resources and models
- Accelerate development of distributed, resilient energy systems, which offer blended options for energy efficiency, renewables, storage, automated building management, vehicle-to-grid behavioral changes, and other system elements and technologies
- Harden key facilities and community resources against power outages and resulting reduction or interruption of vital community services
- Stabilize energy rates and costs simultaneous with expanded energy resource and systems technologies
- Integrate transportation as part of the energy grid (electrification of vehicles), with first-order focus on expanding multi-modalism
- Leverage energy sector developments to support regional economic expansion
- Seek new financing mechanisms that enhance energy equity and expand local sector opportunities
- Expand public-private partnerships to amplify and optimize the local energy sector
- Track and/or pilot alternative technologies, models, and transactional tools that can close any remaining delta to attain Carbon Neutrality

- **Supporting Projects**
  [Referred to as Implementation Strategy Priorities]
  May be thought of as the 'How' – how are you going to achieve the Meaningful Objective? Supporting Projects are directly aligned with Meaningful Objectives – and, by definition, Unifying Goal(s) – and are comprised of plans, resources, funds, etc.

  - 72 strategies and CEP Implementation Framework

- **Metrics**
  The means by which you know you were successful; documented metrics provide a way to measure progress and should include the party or parties responsible for the measured results. Typically, the metrics associated with Meaningful Objectives will apply to Supporting Projects as well, but this isn't always the case; it may be necessary to identify metrics specific to the Supporting Projects. Metrics should be specific, measurable and stored on a shared site.

- **Key Performance Indicators (KPIs)**
  [Referred to as Performance Indicators in Arlington Community Energy Plan Metrics Report]

  - Energy Productivity
  - Fuel Source Diversity
  - Building Energy Efficiency | Energy Use Intensity
  - Energy Intensity of Production
  - Distributed Backup Electrical Generation Capacity
  - Demand Response Program participation
  - Transportation fuel diversity
  - Vehicle efficiency
  - Transportation mode split
  - Transportation: infrastructure energy use
  - Energy efficiency: Public sector & utility programs
  - Solar PV investment

Terminology in Practice – partial example

Step 1 – Begin with the Unifying Goal (UG)
Step 2 – Select the appropriate Areas of Focus (AoF) that support this UG
Step 3 – Select the Meaningful Objectives (MO) that support each AoF under this UG
Step 4 – Select the Supporting Projects (SP) that support achieving each MO
Step 5 – Determine what metrics will be used to measure each SP

1. **Unifying Goal** #1 – Energy Efficiency
   If you don't need it, don't use it | Efficient buildings and vehicles | Urban design for transportation efficiency | Mixed use development for commuting efficiency
    a. **Area of Focus** #1 – Buildings
    b. **Area of Focus** #2 – Transportation
        i. **Meaningful Objective** #1 - Integrate transportation as part of the energy grid (electrification of vehicles), with first-order focus on expanding multi-modalism
            1. **Supporting Project** #1 – Strategy 7: Improve the pedestrian and bicycle network
                a. **Metric -** <enter metric here>
                    i. **Measure -** <enter measure here>
            2. **Supporting Project** #2 – Strategy 15: Facilitate the growth of electric vehicle charging infrastructure within Arlington County, and collaborate with regional partners to make it easier for people to find electric vehicle chargers
                a. **Metric-** <enter metric here>
                    i. **Measure -** <enter measure here>
            3. **Supporting Project** #3 – Strategy 17: Work with partners at the Federal, State, regional and local levels to proactively address transportation and transit issues, including creating regional transportation solutions to decrease emissions attributed to pass-through traffic, and supporting increased vehicle fuel efficiency standards
                a. **Metric-** <enter metric here>
                    i. **Measure -** <enter measure here>
            4. **Supporting Project** #4…
    c. **Area of Focus** #3 - County Government Activities
    d. **Area of Focus** #4 – Education and Behavioral Change

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