



# Energy & Environment Innovation Priority Action Plan Supplement

December 2023



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# Introduction



## CITY OF FORT SMITH PRIORITY ACTION PLAN SUPPLEMENT

The Energy and Environment Innovation (EEI) Priority Action Plan (PAP) Supplement for the City of Fort Smith was collaboratively crafted by City Administration, with instrumental support from the Western Arkansas Planning & Development District (WAPDD). Valuable input from the Fort Smith Climate Lobby and The River Valley Green Energy and Education Program (RV-GEEP) further enriched the planning process.

In September 2023, the City of Fort Smith formalized a Memorandum of Agreement (MOA) with the Arkansas Department of Energy and Environment, Division of Environmental Quality (DEQ), for regional Climate Pollution Reduction Grant (CPRG) planning. The designated Fort Smith Metropolitan Statistical Area (MSA) encompasses five counties, including three in Arkansas and two in Oklahoma, with Fort Smith anchoring this vital region. Boasting a population exceeding 300,000 citizens, this area includes key cities like Van Buren, Ozark, Poteau, and Sallisaw, all strategically positioned under the umbrella of Fort Smith in the western part of Arkansas.

### **GROWTH**

Fort Smith has garnered prestigious recognition as the chosen location by the Department of Air Force for the Foreign Military Sales Pilot Training Center at Ebbing Air National Guard Base, marking a significant milestone in the city's trajectory. The establishment of this center solidifies Fort Smith's role as an international hub for aviation excellence, with Singapore maintaining a permanent mission for F-16 and F-35 training. Notably, Poland, Finland, and Switzerland will also partake in F-35 training in Fort Smith, establishing the city as a global center for military aviation instruction.

This strategic initiative is not merely a short-term undertaking; it represents a generational project with far-reaching implications for Fort Smith's growth and prosperity. The anticipated influx of up to 1,500 military staff and their families from diverse countries is poised to create a vibrant and diverse community within Fort Smith. This population growth is not only a testament to the city's appeal but also an opportunity for cultural exchange and community enrichment.

# Introduction



## CITY OF FORT SMITH PRIORITY ACTION PLAN SUPPLEMENT

Economically, this initiative is a game-changer, injecting close to \$1 billion in economic activity into Fort Smith and the broader River Valley region. The positive ripple effects are multifaceted, encompassing increased job opportunities, a stimulated local economy, and heightened community vibrancy. Fort Smith's designation as a hub for international military training not only underscores its strategic significance but also positions the city for sustained economic and demographic growth. In essence, this undertaking is not just about aviation training; it symbolizes Fort Smith's ascent as a global player with enduring positive impacts on its population, economy, and community fabric. Along with the extension of I-49, the Fort Smith MSA is on course to grow substantially in the coming years, and therefore sustainability priorities have increased.

### **PUBLIC ENGAGEMENT**

The City of Fort Smith fostered community involvement by conducting six public meetings dedicated to engaging citizens in discussions about the priorities for energy and environment innovation measures. Recognizing the importance of community input, these public forums served as a platform for open dialogue, allowing residents to share their perspectives, insights, and suggestions on the crucial topics of energy and environmental sustainability. Through these inclusive gatherings, the City sought to ensure that the priorities set forth in its innovation measures align with the aspirations and concerns of its diverse citizenry. By encouraging active participation and valuing community input, Fort Smith aims to cultivate a shared vision that reflects the collective aspirations for a more sustainable and resilient future.

The City actively engaged in a comprehensive state-wide survey, gathering valuable data for priority measures. Input from public meetings and the survey played a pivotal role in guiding the City toward crafting potential measures that resonate with the community's aspirations. This inclusive approach ensures that the City's initiatives are not only informed by objective data but are also shaped by the collective ownership and vision of the community. By actively involving residents and aligning priorities with public input, the City underscores its commitment to transparent and community-driven decision-making, fostering a sense of shared responsibility and pride in the initiatives designed for the betterment of the community.

# Measure One



## Public Clean Transportation Refinements & Choices

### **MEASURE SYNOPSIS**

Cities can help drive the adoption of aggressive policies and increase political pressure for policy action at higher levels (state, national, utilities, other cities, and international city platforms). Local commitments to 100% (or nearly 100%) vehicle electrification for both government fleets and privately owned vehicles can galvanize strong policy action and send essential market signals. Cities can aim to commit to reaching 100% new EV purchases up to five years earlier than statewide and national targets, meaning cities can aim for 100% by 2030 for buses, light-duty fleets, and taxis and by 2035 for heavy equipment trucks.

Cities play a pivotal role in steering the global transportation paradigm toward sustainability, with a specific focus on promoting environmentally friendly choices in public transportation. By adopting aggressive policies and leveraging their influence, cities can not only instigate change locally but also exert pressure on higher levels of governance, including state, national, utility, inter-city, and international platforms.

A strategic emphasis on public transportation is key to achieving significant reductions in greenhouse gas emissions. Local commitments to 100% (or nearly 100%) vehicle electrification for both government fleets and privately owned vehicles serve as powerful catalysts for policy action and market transformation. This commitment not only addresses the environmental impact of private vehicles but also emphasizes the critical role of public transportation in the broader context of sustainable urban mobility.

Cities, as pioneers of change, can set ambitious targets to expedite the transition to electric vehicles (EVs) in public transportation. By committing to achieving 100% new EV purchases up to five years earlier than statewide and national goals, cities can lead the charge toward a cleaner, more efficient future. This forward-thinking approach translates to a tangible timeline, with cities aiming for 100% electrification in buses, light-duty fleets, and taxis by 2030, and extending this commitment to heavy equipment trucks by 2035.

# Measure One



## Public Clean Transportation Refinements & Choices (continued)

In promoting widespread adoption of electric public transportation, cities not only contribute significantly to local emission reductions but also serve as exemplars for broader societal change. The impact of such commitments resonates beyond city limits, influencing transportation choices regionally and inspiring a global shift towards sustainable and eco-friendly mobility options. By championing public transportation electrification, cities position themselves as leaders in the pursuit of a greener, more resilient urban transportation landscape.

City projects and planning concepts include:

- Public Transit Expansion, 24/7, service expanded into MSA
- EV Transit Bus Expansion, CNG possibilities
- Light Rail Transportation connecting Fort Smith MSA
- Smart Intersections
- Public EV Charging Infrastructure
- Complete Streets with expanded E-Bike LIRC Programs

### **MEASURE RATIONALE**

Fort Smith Transit provides transportation to the public within the City limits. Fixed-route services consist of a bus network that runs through main roads, the downtown area, and several residential areas within the city. All fixed-route buses are equipped with lifts for mobility devices. There are currently 7 new CNG buses and 13 bi-fuel buses (CNG/unleaded) with each bus running 200 miles a day. The City of Fort Smith plans to expand the fixed routes to service Low Income and Disadvantaged Communities (LIRC) and highly populated urban areas within the entire MSA.

Fort Smith Transit directly benefits from Section 5307 Urbanized Formula Funds, leveraging sufficient accrued federal funds to cover the majority, or 85%, of the costs associated with procuring electric vehicles. Securing a grant to serve as a matching contribution not only supports the City's electric bus acquisition efforts but also proves advantageous for the grant provider, enabling them to facilitate a

# Measure One



## Public Clean Transportation Refinements & Choices (continued)

substantial purchase with a comparatively smaller funding allocation. Presently, the department is actively pursuing the addition of electric buses to its existing fleet. However, challenges arise as electric vehicles are not currently featured on Arkansas Department of Transportation (ARDOT) state bid list. Despite multiple transit agencies expressing interest in electric vehicles, the process has temporarily stalled pending the appointment of a new division head in early January, following a recent change in administration of the public transit division.

In addition, the City intends to increase hours of operation to 24/7 that would provide an enhanced service to the community for citizens that work over night and would connect communities in all counties of our MSA. This expanded public transportation service choice would service additional LICAC areas in the MSA with a population of over 11,000 citizens.

While the impact of GHG reduction or equity benefits is measurable, the pursuit of policies that accelerate charging infrastructure development is one of the most impactful first steps needed to uptake EVs across all vehicle classes. The City of Fort Smith will put forth efforts to reduce the barriers in creating a robust infrastructure network that is foundational for all citizens and businesses, ultimately leading to transportation electrification across the entire MSA. Additionally, it will enable consumer confidence and support public and private sector fleet transition to EVs.

A municipality can accelerate electric vehicle adoption by establishing a comprehensive plan to increase the availability of charging infrastructure, or electric vehicle supply equipment (EVSE). Local government agencies should develop charging infrastructure plans with charging locations optimized to address all vehicle types and population segments. The City plans to provide a public EV Charging infrastructure that will positively impact LIRC areas and further encourage all citizens to purchase EV vehicles in the near future. Planning for and building out a network of charging infrastructure is critical for a just and equitable transition to transportation electrification. Equitable charging means ensuring EV charging infrastructure is installed in a way that addresses a spectrum of needs. Examples include planning for, requiring, and/or

# Measure One



## Public Clean Transportation Refinements & Choices (continued)

installing charging infrastructure at workplaces and businesses, in the public right-of-way, at multi-unit dwellings, and across neighborhoods. The City plans to work with local business leaders and the public to begin planning the City EV charging infrastructure.

In 2022 and 2023, the City of Fort Smith enacted projects and programs to enhance complete and green streets. In 2023, the Streets and Traffic Control Department is proposing 2.72 miles of new sidewalk construction and 0.95 miles of sidewalk repairs. In 2022, the City enacted the Slow Streets Project and Ride4Smilies Bike Share.

The City intends to expand the Ride4Smilies Bike Share Program but lacks the funding to facilitate infrastructure upgrades that allow safe and extended means for EV Bike transportation. The planned expansion of this program would positively impact over 20,000 citizens within the City based on Census tracts that are overburdened and underserved areas. It has the added benefit of transpiration choice that would reduce the need for low-cost vehicle purchases with high GHG emissions. During our public and stakeholder outreach period, over 50% of public input strongly recommended the City enhance and enrich the Complete and Green Streets in our MSA with community connectivity.

The City of Fort Smith Traffic Control is continuously researching and installing the latest technology in traffic signal control and communications. The City is currently constructing a Traffic Management Center (TMC) to help monitor traffic patterns and analyze data that affect overall traffic flow. This TMC will allow access to real-time traffic data and adjust traffic signal timing more efficiently. This will result in fewer traffic delays throughout the City. Traffic Control also raises awareness of the City's pedestrian traffic with additional signage, crosswalks, and Rectangular Rapid Flashing Beacons (RRFBs).

Ongoing and upcoming Traffic Control improvements will help Fort Smith move closer to Vision Zero; the goal to achieve zero roadway fatalities and serious injuries by the year 2050. In addition, the City is seeking additional funding for Smart Intersections to reduce vehicle idling time and quick routes to decrease overall driving time.



# Measure One



## Public Clean Transportation Refinements & Choices (continued)

### **WORKFORCE NEEDS**

Climate adaptation is now a well-documented need in the transportation sector, and there are strong conceptual frameworks for the adaptation process. Since climate adaptation is an emerging field, the pathways for developing the skills and competencies for adaptation careers are not well established. The increased value placed on adaptation-related expertise by state departments of transportation and regional transportation agencies, as well as the emergence of new educational and training opportunities in climate adaptation available in higher education and professional organizations, is indicative of the potential for rapid growth in this area.

Engineering, design, and implementation services will be required if an implementation grant is pursued for one or more of the concepts listed. Additional staffing within the City will be required to maintain the expanded public services and to properly maintain newly implemented programs

### **AUTHORITY TO IMPLEMENT**

In the pursuit of an implementation or planning grant to support this initiative, the City of Fort Smith is empowered to enact impactful measures through ordinance and/or resolution, sanctioned by the City Board of Directors. This strategic approach, backed by substantial and accessible funding, ensures that the city exercises its authority effectively to bring about meaningful progress in the implementation of this measure. The program design prioritizes granting authority to the eligible municipality or coalition, empowering them to directly implement one or more components of this initiative.

Fort Smith City Administration has the capability and sanction to work with county representatives and tribal leaders in the MSA to implement measures within this plan. This approach ensures that the municipal body and collaborating MSA entities exercise authoritative control over the program.

# Measure One



## Public Clean Transportation Refinements & Choices (continued)

### **POTENTIAL FOR EMISSIONS REDUCTION**

Reducing reliance on private automobiles and encouraging public transportation options overall will reduce GHG emissions. Initial experience in US cities has shown that between 5%-25% of bike share trips replace a motor vehicle trip (either personal vehicle or taxi). Based on recent reporting, the City of Fort Smith Ride 4 Smiles bike share program, over 1,300 users took advantage of bikes (some of which were e-bikes) for 8,152 total miles since inception in May 2022. Based on the program survey, 36% of users indicated that bike trips replaced a personal vehicle trips. Therefore, approximately 1,700 miles of personal vehicle trips are eliminated annually within the current program.

Electric buses have the advantage of not producing any pollutant emissions directly from their operation, and their emissions are entirely “upstream” related to the fuel production of electricity. National averages show significant GHG from public transit with .32 pounds CO<sub>2</sub> less per passenger mile compared to private auto. Expanding the public transit with EV buses will further decrease the GHG in the City of Fort Smith MSA including tribal areas.

Smart Intersections lessen carbon emissions by reducing the amount of time vehicles idle at red lights, a significant source of greenhouse emissions that generates up to 30 million tons of carbon dioxide each year, according to the U.S. Department of Energy.

# Measure Two



## Waste Management & Recycling

### **MEASURE SYNOPSIS**

Over the past 10-20 years, the City has prioritized waste management as a crucial strategy for environmental protection. Waste management plays a vital role in reducing pollution, preserving resources, and safeguarding ecosystems. As the City of Fort Smith continues to expand, there is a growing demand for landfill and recycling services to accommodate the public and sustain a green initiative in the MSA.

This proposed measure includes the following concepts:

- City-owned and operated Materials Recovery Facility
- Expanded recycling and vegetative composting
- Upgrades and expansion of Biomass Gasification

### **MEASURE RATIONALE**

The City of Fort Smith Department of Solid Waste Services' landfill is a regional landfill that accepts debris from select counties in Arkansas and Oklahoma. Every year, on average, the landfill accepts 240,000 tons for disposal in an environmentally friendly manner.

The City of Fort Smith Landfill accepts debris from the following counties:

Arkansas: Sebastian, Crawford, Franklin, Logan, Scott, and Washington

Oklahoma: LeFlore and Sequoyah

The municipality also offers a comprehensive recycling program, encompassing both pickup services for a wide array of recyclable items and drop-off services tailored for E-Waste, White Goods, and Glass. Fort Smith's strategic vision extends to the establishment and management of a municipally operated Materials Recovery Facility (MRF). This facility, under city administration, would play a pivotal role in the meticulous sorting, separation, and storage of plastics, thereby facilitating the integration of new recyclable products and materials into an expanded recycling initiative. The implementation of the MRF is

# Measure Two



## Waste Management & Recycling (continued)

poised to optimize resource utilization, mitigate emissions, and concurrently stimulate job creation and economic prosperity across the MSA. The operational processes within the City MRF are anticipated to yield substantial improvements in recycling rates, particularly through the efficient segregation of plastics from the heterogeneous waste stream, mitigating contaminants and diverting a noteworthy volume of plastics from landfill disposal. Furthermore, the adoption of recycling practices within the city-operated MRF is anticipated to curtail greenhouse gas emissions linked to the production of specific materials, specifically virgin polymer.

The City of Fort Smith recently solidified an agreement, by Board of Directors approved Resolution, with Sloan Vazquez McAfee (SVM) for waste management consulting services in order to complete a strategic master planning document for the Solid Waste Services. This agreement will provide a waste composition study that will provide the material makeup of the recycling program to assist in the feasibility study and development plan of a MRF and/or future RFPs for recyclable processing. It will include a rate study for refuse collection for two different models; pay-as-you throw versus all-inclusive current system. SVM will work with SCS engineers to ensure landfill rates are inclusive of the findings. SVM will also develop a departmental 20-year strategic plan that develops a roadmap for the Department's operations; this differs from SCS's plan in that SCS provides a site planning strategic document.

The City collects landfill gases (LFG) and then turns the biogas into a renewable fuel, compressed natural gas (CNG) fuel. The LFG is made up of roughly 50% methane and 50% carbon dioxide, but there are trace amounts of water, nitrogen, oxygen, and hydrogen. The methane is collected and treated for pipeline injection while excess gas is flared or burned. The City's partnership with Morrow Renewables generates approximately \$1 million in annual revenue that the city uses to sustain the landfill operations, fund future expansion, and replace associated equipment.

The City intends to upgrade, improve, and expand the current Biomass Gasification process. The expansion will ensure the City is able to continue its efforts on methane capture at the landfill as the City continues to grow.

# Measure Two



## Waste Management & Recycling (continued)

### **WORKFORCE NEEDS**

The measure for expanded waste management and recycling will require multiple skillsets and specializations to operate a City-owned MRF. It will require engineering, design, procurement, and construction services to bring a fully operational MRF to the City of Fort Smith Landfill. The opportunities for expanded workforce will benefit the River Valley, providing diverse jobs within waste management.

### **AUTHORITY TO IMPLEMENT**

Financial viability is a critical challenge for a City owned and operated MRF. Establishing and operating the facility involves high initial investment and upfront costs for infrastructure development and equipment installation. Moreover, the operational costs of running an MRF can also be influenced by various factors such as maintenance costs for machinery used, labor expenses, energy consumption, etc. These expenses can be substantial, and if not managed efficiently, they can impact the facility's financial viability and performance.

In the pursuing an implementation or planning grant to support this initiative, the City of Fort Smith is empowered to enact impactful measures through ordinance and/or resolution, sanctioned by the City Board of Directors. This strategic approach, backed by substantial and accessible funding, ensures that the city exercises its authority effectively to bring about meaningful progress in the implementation of this measure. The program design prioritizes granting authority to the eligible municipality or coalition, empowering them to implement one or more components of this initiative directly.

Fort Smith City Administration has the capability and sanction to work with county representatives and tribal leaders in the MSA to implement measures within this plan. This approach ensures that the municipal body and collaborating MSA entities exercise authoritative control over the program

# Measure Two



## Waste Management & Recycling (continued)

### **POTENTIAL FOR EMISSIONS REDUCTION**

Municipal Solid Waste (MSW) poses a notable environmental concern due to its predominantly degradable composition, leading to a substantial increase in GHG emissions. The presence of readily biodegradable organics in MSW significantly contributes to the release of GHG. Notably, municipal solid waste landfills stand as the third-largest source of human-related methane emissions in the U.S., accounting for approximately 14% of methane emissions in 2021. Of particular concern is the substantial contribution of wasted food, responsible for a staggering 58% of landfill methane emissions.

To address this environmental challenge, the City of Fort Smith is strategically positioned to make a significant impact through the implementation of a City-operated Material Recovery Facility (MRF) and a robust Composting Program. These initiatives hold immense potential for the removal of greenhouse gases within the River Valley region. By diverting organic waste away from landfills and into composting programs, the City aims to curtail the release of methane and other GHG associated with decomposing organic matter. Additionally, a well-operated MRF can enhance recycling efficiency, further reducing the overall environmental footprint of MSW.

This comprehensive approach aligns with the city's commitment to environmental sustainability and positions Fort Smith as a proactive contributor to the reduction of GHG emissions. Through the effective management of MSW, the City not only addresses immediate environmental concerns but also sets the stage for a greener and more sustainable future in the River Valley.

# Measure Three



## Carbon Removal Measures

### **MEASURE SYNOPSIS**

Reducing emissions that result from local government activities is critical to meeting state and federal obligations for reducing greenhouse gas. In the short to medium term, there will still be some emissions that are very challenging to reduce or avoid. The City of Fort Smith proposes concepts and initiatives in this measure to face and overcome these challenges and produce better results for long-term outcomes.

Proposed concepts and initiatives for this measure:

- Watershed management expansion
- Land conservation easements
- Expanded trail system
- Dam Hydroelectric Power upgrades and expansion
- Port operation enhancements for energy efficiency

### **MEASURE RATIONALE**

The Water Utilities Department's Environmental Quality program is comprised of three distinct sections: Analytical Laboratory, Environmental Monitoring, and Watershed Management. The Watershed Management division, a cornerstone since its integration, is tasked with the strategic oversight of critical watershed areas, aligning with municipal priorities to safeguard water resources and maintain ecological balance. This tripartite structure underscores the department's municipal commitment to environmental stewardship and the delivery of high-quality water services to our community.

Established in 1987, the Environmental Quality program stands as a cornerstone in our commitment to safeguarding public health and the environment through the application of environmental forensic practices. At its inception, the program's primary objective was to guarantee adherence to environmental regulations, conduct responsible environmental management, and advocate for these principles among our citizens. Over the years, the program has evolved to encompass critical facets such as Watershed Management and Environmental Monitoring. The Watershed Management section, initiated in 1990 in

# Measure Three



## Carbon Removal Measures (continued)

tandem with the Lee Creek Project, holds responsibility for overseeing both the Lee Creek Watershed and the Frog Bayou Watershed. This program, rooted in environmental stewardship, continues to play a pivotal role in upholding the highest standards of environmental quality and ensuring the well-being of our community..

The City of Fort Smith remains dedicated to enhancing the quality of life for its residents by prioritizing initiatives that not only preserve the environment but also contribute to the overall well-being of the community. The ongoing efforts to acquire land easements for watershed management around River Valley water sources are integral to this commitment. Expanding the Watershed Management Program is envisioned not just as a conservation measure but as an investment in the long-term protection of water sources, ensuring a sustainable and high-quality water supply for current and future generations. By safeguarding these areas, the City aims to create an environment where residents can enjoy clean water resources, fostering a healthier and more vibrant community.

Recognizing the direct impact of land conservation on residents' quality of life, the City Administration places a significant focus on land conservation easements. The fact that this initiative ranked as the top priority in public surveys and engagements underscores the alignment of community values with the preservation of natural areas. These easements play a vital role in protecting woodlands and other natural landscapes, contributing to the overall aesthetic appeal of the region and providing residents with access to green spaces for recreation and relaxation.

Moreover, the emphasis on avoiding excess greenhouse gas emissions associated with low-density residential development through land conservation aligns with the City's commitment to environmental sustainability. By prioritizing smart growth and limiting the conversion of farmland and woodlands to low-density residential use, the City aims to create a more energy-efficient and ecologically balanced urban environment. This holistic approach not only contributes to a higher quality of life for residents but also positions Fort Smith as a community that values sustainability, resilience, and the well-being of its citizens.



# Measure Three



## Carbon Removal Measures (continued)

The Fort Smith Parks & Recreation Department developed a trails and greenway master plan in order to facilitate the actual construction of as many trails and greenways in Fort Smith as possible. There are currently 21 miles of paved trails within the City of Fort Smith. The City intends to continue its efforts in providing additional trails within the City, but also trails that connect to surrounding counties. Greenways protect important habitats and provide corridors for people and wildlife. They also help improve air and water quality. For example, communities with trails provide enjoyable and safe options for transportation, which reduces air pollution.

The Lee Creek water treatment plant is equipped with a hydro generator that can produce up to 1500 kW of electricity. Repairs and expansion costs have increased and funding can be difficult for the municipality to allocate for operation. Hydropower provides benefits beyond electricity generation by providing flood control, irrigation support, and clean drinking water. Hydropower is affordable. Hydropower provides low-cost electricity and durability over time compared to other sources of energy. The City is inclined to further research the benefits, cost, and expansion at Lee Creek with the addition of Lake Fort Smith.

The Port of Fort Smith is located at the confluence of the Poteau and Arkansas Rivers, the Port of Fort Smith is a 28- acre facility with access to rivers (Poteau and Arkansas), roads (Interstates 40 and 540 and highways 71 and 64) and rail (UP, BNSF and KCS). Predominant cargo handled at the Port is steel, including coiled plate, coiled wire rod, and bars. To reach efficient, sustainable, and coordinated port performance the practitioner and local governments need to dedicate resources and funding for upgrades.

The City intends to collaborate with the Port Authority and Five Rivers Distributions to prioritize energy efficiency measures and sustainable practices for potential port upgrades and expansion initiatives. Recognizing the inherent efficiency of maritime transportation, the focus is on maximizing the potential of barge transport, which can significantly outperform traditional truck-based logistics. A single barge has the capacity to transport volumes equivalent to approximately 60 trucks, depending on the nature of the

# Measure Three



## Carbon Removal Measures (continued)

cargo. This transition aligns with the City's commitment to energy-efficient and environmentally conscious operations.

The envisioned clean energy transformation of the Port of Fort Smith involves upgrading operational machinery to incorporate state-of-the-art technologies that enhance energy efficiency. Furthermore, the implementation of small-grade port shore power represents a tangible step towards achieving additional energy gains. This initiative not only promotes sustainable practices but also contributes to the reduction of carbon emissions associated with port operations.

Beyond the environmental benefits, these enhancements to the port infrastructure are anticipated to yield significant economic advantages. Job creation is a direct outcome, as the implementation of energy-efficient technologies and the expansion of distribution capabilities will require skilled and diverse personnel. Moreover, the increased efficiency in distribution and transportation is expected to stimulate commerce in the River Valley region, fostering economic growth and prosperity. The commitment to energy efficiency not only positions the City as an environmental steward but also as a driver of sustainable economic development in the local community.

### **WORKFORCE NEEDS**

In the existing workforce structure of the City, there are designated roles such as Land Acquisition, Project Management, and Environmental positions, which can be strategically leveraged to support carbon removal initiatives if the necessary funding and opportunities are made available. These specialized positions play a crucial role in coordinating and executing measures aimed at carbon removal, aligning with the city's commitment to environmental sustainability.

Additionally, the successful implementation of carbon removal measures may necessitate the engagement of consulting services and other contractual arrangements, particularly in areas like port and hydro-electrical infrastructure. These external services would bring expertise and efficiency to the

# Measure Three



## Carbon Removal Measures (continued)

implementation process, ensuring that the measures are not only environmentally effective but also economically viable. As these carbon removal efforts progress, a positive byproduct will be the creation of diverse job opportunities. The establishment and maintenance of carbon removal infrastructure, including ports and hydro-electrical measures, will give rise to a range of employment opportunities spanning various skill sets.

This infusion of new jobs into the local economy has the potential to significantly benefit the job market in the River Valley region. The diversified employment landscape resulting from these carbon removal initiatives can contribute to economic growth and resilience, fostering a more sustainable and prosperous future for the community.

### **AUTHORITY TO IMPLEMENT**

In the pursuit of an implementation or planning grant to support this initiative, the City of Fort Smith is empowered to enact impactful measures through ordinance and/or resolution, sanctioned by the City Board of Directors. This strategic approach, backed by substantial and accessible funding, ensures that the city exercises its authority effectively to bring about meaningful progress in the implementation of this measure. The program design prioritizes granting authority to the eligible municipality or coalition, empowering them to directly implement one or more components of this initiative.

Fort Smith City Administration has the capability and sanction to work with county representatives and tribal leaders in the MSA to implement measures within this plan. This approach ensures that the municipal body and collaborating MSA entities exercise authoritative control over the program.

### **POTENTIAL FOR EMISSIONS REDUCTION**

The concepts encompassed within this measure are strategically designed to yield both immediate and long-term reductions in greenhouse gas emissions. One key facet involves the preservation of natural-based areas, which serves a dual purpose. Firstly, these preserved areas act as carbon sinks, effectively

# Measure Three



## Carbon Removal Measures (continued)

sequestering carbon dioxide from the atmosphere and contributing to the reduction of overall greenhouse gas emissions. Secondly, by championing the conservation of natural spaces, the community is not only enhancing its environmental resilience but also encouraging collective efforts toward sustained emission reduction. This approach goes beyond a singular focus on emissions, extending to the broader goal of cultivating a community that values and prioritizes environmental stewardship. As a result, the intersection of greenhouse gas reduction strategies and the preservation of natural areas fosters a higher quality of life for residents, creating a healthier and more sustainable living environment in Fort Smith.

# Measure Four



## Solar & Net-Zero Buildings

### **MEASURE SYNOPSIS**

In 2021, the City of Fort Smith initiated efforts for municipal net-zero buildings. This included a Energy Benchmark Study on City facilities and an Energy Master Plan that was adopted by the City Board of Directors in 2023. Net-zero-carbon buildings are more efficient, cheaper to run, and increase resilience to extreme weather events and the reliability of electricity supply in cities with unreliable or overloaded power grids. In addition, a municipal focus on net-zero building and introduction to solar, could encourage and incentivize residential and commercial solar and energy efficiency.

The building sector measure would include:

- Large scale City solar plant
- Upgrade Municipal facilities for energy efficiency
- Low Income Solar & Weatherization Programs
- City Parks and Parking Lot Solar Awnings/Canopies

### **MEASURE RATIONALE**

The City of Fort Smith is presently working to bring a solar plant to the River Valley region. Large, off-site projects tend to offer scale and help make a measurable difference towards locally defined renewable energy goals. Decreased emissions and cleaner air is the main goal for a City solar plant, but this local solar project endeavor is to achieve broader community benefits and align with other priorities. These include saving money, creating local jobs, expanding renewable access to low-income residents, and advancing local resilience.

The City Energy Master Plan was executed to significantly reduce cost and improve energy efficiency in municipal facilities. Energy costs are an enormous expense for our municipality and is a large line item in the City budget. In addition, our facilities are a major contributor to the MSA carbon footprint, especially the water and waste water treatment plants, convention center, and Parrot Island Water Park. The plan outlines goals to improve the City's focus on energy efficiency, reduce energy expenditures, boost the local economy (through upgrade projects), and enhance community relations.

# Measure Four



## Solar & Net-Zero Buildings (continued)

The City of Fort Smith is actively working with OG&E and CLEAResult to implement our master plan through the SAGE Program. The program provides technical and financial assistance for efficiency upgrades. Whether the City retrofits an existing building or incorporates energy efficiency technologies into new construction, the program will identify and implement cost-effective projects that allow the City to use energy more efficiently. The program offers incentive-based credits based on energy efficiency grades, but these funds can be limited and small making it difficult to afford needed upgrades and replacements to meet our efficiency goals. The main goal within the master plan is to reduce energy use by 10% by the end of 2026.

In addition to the Energy Master Plan and SAGE Program, the City is actively seeking resources and planning ventures for all facilities to reach net-zero and powered by solar energy. Attention to operation and maintenance provides the most rapid means of reducing consumption and costs in most buildings. Once each facility is at a certain grade of efficiency, the City will work to provide solar at each site for net-zero goal achievement.

The City is currently working to draft a program that will provide funding, support, and/or incentives for solar power, winterization, and weatherization of residential homes for LIRC areas within the MSA. There are current federally funded programs, such as Solar for All, that provide avenues for LIRC homeowners to receive solar panels. It can be difficult for homeowners to apply and feel comfortable seeking support from these programs. The City intends to adopt a program that assists and ultimately provides residential solar and weatherization directly through the City or through partnerships with reputable vendors and agencies.

Recent concepts and ideas have motivated the City to incorporate solar awnings and canopies at local parks and public recreational areas along with adding solar awnings in public parking lots that hosts public events such as the local farmers market and annual festivals. These small solar projects will provide energy in our parks and public areas and encourage community adoption of future solar projects in the MSA.

# Measure Four



## Solar & Net-Zero Buildings (continued)

### **WORKFORCE NEEDS**

The City would require specialized consulting and planning services for proper planning and implementation of concepts and projects in this measure. Needs for this measure would be large and diverse. Partnerships with industry organizations and specialists will be crucial in providing valuable feedback and direction to ensure the apprenticeship process, mentor training, and end-to-end materials are as inclusive and equitable as possible.

This measure will create numerous green energy jobs and bring opportunities for local education programs within our schools and local university. Solar workforce research and development at the U.S. Department of Energy (DOE) Solar Energy Technologies Office (SETO) supports efforts to prepare and sustain this skilled and diverse clean energy workforce. Workforce development initiatives funded by SETO include online and in-person training and education programs, work-based learning opportunities such as internships and apprenticeships, collegiate competitions, certification programs, and support services such as career counseling, mentorship, and job readiness. These programs and services, along with others, will be utilized to support the City's Solar & Net-Zero Buildings initiative.

### **AUTHORITY TO IMPLEMENT**

In the pursuit of an implementation or planning grant to support this initiative, the City of Fort Smith is empowered to enact impactful measures through ordinance and/or resolution, sanctioned by the City Board of Directors. This strategic approach, backed by substantial and accessible funding, ensures that the city exercises its authority effectively to bring about meaningful progress in the implementation of this measure. The program design prioritizes granting authority to the eligible municipality or coalition, empowering them to directly implement one or more components of this initiative.

Fort Smith City Administration has the capability and sanction to work with county representatives and tribal leaders in the MSA to implement measures within this plan. This approach ensures that the municipal body and collaborating MSA entities exercise authoritative control over the program

# Measure Four



## Solar & Net-Zero Buildings (continued)

### **POTENTIAL FOR EMISSIONS REDUCTION**

A municipality embarking on initiatives related to solar and net-zero buildings is poised to significantly reduce greenhouse gas emissions, marking a pivotal step towards environmental sustainability. The integration of solar energy systems into municipal infrastructure directly contributes to a reduction in reliance on conventional, fossil-fuel-based power sources. This shift towards renewable energy inherently curtails carbon emissions associated with traditional energy production. Simultaneously, the pursuit of net-zero buildings, characterized by energy-efficient design and sustainable practices, ensures minimal energy consumption and waste generation. The combined impact of solar adoption and net-zero building strategies results in a substantial decrease in the municipality's overall carbon footprint. By actively investing in and promoting these initiatives, the municipality not only embraces cleaner and greener energy solutions but also becomes a proactive contributor to the global effort to mitigate climate change and enhance environmental quality.

The Solar for All initiative, as outlined in the Federal Program, emphasizes the role of solar energy in significantly curbing greenhouse gas emissions and mitigating air pollutants. Of particular relevance to municipal considerations, the program is dedicated to delivering the advantages of greenhouse gas and air pollution reduction projects to American communities, with a specific focus on low-income and disadvantaged communities. The municipal perspective aligns seamlessly with the priority action plan measures outlined in the CPRG NOFO and other IRA grants. In pursuit of the goal of Solar & Net-Zero Buildings and a concerted effort to diminish the carbon footprint throughout the Fort Smith MSA, the City is proactively seeking competitive grant funding and alternative financial resources to advance these environmentally impactful objectives.



# Measure Five



## Education & Workforce

### **MEASURE SYNOPSIS**

The Municipal Education & Workforce initiative focuses on fostering knowledge and skill development in the areas of green energy, low-income solar, and weatherization. Through targeted educational programs, the initiative aims to empower individuals with the expertise needed to actively participate in the burgeoning green energy sector. Specifically designed to be inclusive, the program emphasizes low-income solar solutions, ensuring equitable access to renewable energy resources. Additionally, the initiative provides comprehensive training in weatherization techniques, equipping participants with the know-how to enhance energy efficiency in homes and buildings. By addressing both educational and workforce needs, this initiative strives to create a skilled and diverse workforce capable of driving sustainable practices and making a positive impact on the community's environmental and economic resilience.

The City Education & Workforce measure initiatives are as follows;

- Partner with Peak Innovation Center and UAFS for education
- Offer apprenticeships and internships for workforce development
- Conduct public education events for LIRC

### **MEASURE RATIONALE**

The City of Fort Smith is embarking on a transformative collaboration with the University of Fort Smith, PEAK Innovation, and Fort Smith Public Schools to spearhead initiatives in energy efficiency, green energy adoption, carbon emission reductions, and education in the field of sustainable energy. This pioneering partnership seeks to leverage the collective expertise of these institutions, pooling resources to implement innovative programs that advance environmental sustainability. The University of Fort Smith will play a crucial role in providing cutting-edge research and academic insight, while PEAK Innovation will contribute technological expertise and incubate sustainable energy solutions. Simultaneously, Fort Smith Public Schools will facilitate educational initiatives, fostering a curriculum that prepares the next generation for careers in sustainable energy. Through this concerted effort, the collaboration aims to not

# Measure Five



## Education & Workforce (continued)

only make Fort Smith a regional leader in sustainable practices but also to create a robust foundation for job education, ensuring the community's active participation in building a greener and more resilient future.

The City of Fort Smith is committed to fostering workforce development and skill-building within the community by introducing comprehensive apprenticeship and internship programs aligned with the Priority Action Plan. These initiatives will provide invaluable hands-on experience and training opportunities for individuals seeking to engage with each measure outlined in the plan, from energy efficiency and green energy initiatives to carbon emission reduction strategies. By offering apprenticeships and internships, the City aims to cultivate a skilled workforce equipped with the practical knowledge and expertise necessary to contribute actively to the successful implementation of the Priority Action Plan. This proactive approach not only supports individual career growth but also bolsters the overall capacity of the community to address pressing challenges and drive sustainable change.

The City of Fort Smith, in collaboration with the Arkansas Advanced Energy Foundation, is poised to launch a comprehensive initiative aimed at enhancing public education and workforce development within our community and schools. This strategic partnership will facilitate the implementation of educational programs that focus on advanced energy, covering topics such as energy efficiency, renewable resources, and sustainable practices. Through workshops, seminars, and community outreach, the initiative seeks to raise awareness and impart essential knowledge about advanced energy solutions. Moreover, with a dedicated focus on schools, the program aims to integrate advanced energy education into the curriculum, ensuring that students are well-versed in the principles of sustainable energy from an early age. By empowering both the public and future workforce with a deep understanding of advanced energy, this collaborative effort aims to fortify Fort Smith's position as a hub for innovation and environmentally conscious practices.

# Measure Five



## Education & Workforce (continued)

### **WORKFORCE NEEDS**

The initiation of an energy efficiency education and workforce program within a municipality necessitates a thoughtful consideration of workforce needs to ensure its success. This comprehensive program requires skilled professionals in various domains, including energy management, green technologies, and sustainable practices. Trained educators are imperative to impart knowledge and expertise, while specialists in energy efficiency auditing and implementation play a crucial role in executing practical measures.

Workforce development initiatives should encompass training for technicians capable of installing and maintaining energy-efficient systems, as well as professionals adept at conducting energy assessments and providing tailored solutions. Furthermore, outreach coordinators and community engagement specialists are vital for connecting with residents and local businesses, fostering understanding, and encouraging participation. By addressing these multifaceted workforce needs, a municipality can lay the groundwork for a successful energy efficiency program that not only enhances sustainability but also cultivates a skilled and empowered workforce capable of driving positive change within the community.

### **AUTHORITY TO IMPLEMENT**

In the pursuit for an implementation or planning grant to support this initiative, the City of Fort Smith is empowered to enact impactful measures through ordinance and/or resolution, sanctioned by the City Board of Directors. This strategic approach, backed by substantial and accessible funding, ensures that the city exercises its authority effectively to bring about meaningful progress in the implementation of this measure. The program design prioritizes granting authority to the eligible municipality or coalition, empowering them to directly implement one or more components of this initiative.

Fort Smith City Administration has the capability and sanction to work with county representatives and tribal leaders in the MSA to implement measures within this plan. This approach ensures that the municipal body and collaborating MSA entities, exercises authoritative control over the program.

# Measure Five



## Education & Workforce

### **POTENTIAL FOR EMISSIONS REDUCTION**

Public education holds immense potential for emissions reduction within our community by fostering awareness, instilling eco-conscious practices, and inspiring collective action. Through targeted educational campaigns and initiatives, residents can gain a deeper understanding of the environmental impact of their daily choices. This heightened awareness often translates into more sustainable behaviors, such as energy conservation, waste reduction, and the adoption of eco-friendly practices.

By equipping individuals with the knowledge to make informed decisions, public education becomes a catalyst for positive change, influencing a widespread shift towards lower-emission lifestyles. Moreover, informed citizens are more likely to support and advocate for community-wide initiatives, policies, and investments that prioritize emissions reduction, creating a ripple effect that extends beyond individual actions.

In essence, public education becomes a potent tool in shaping a community culture that values sustainability and actively contributes to mitigating the overall environmental footprint.

# References



American Cities Climate Challenge. (2021, August 30). Electrifying Transportation in Municipalities: A Policy Toolkit for Electric Vehicle Deployment and Adoption at the Local Level.

Federal Transit Administration (FTA) & Federal Highway Administration (FHWA). (2022). Complete Streets Transformations - Six Scenarios to Transform Arterials using a Complete Streets Implementation Strategy:

Federal Transit Administration (FTA) & Federal Highway Administration (FHWA). (2009). Public Transportation's Role in Responding to Climate Change.

Dowds, J., & McRae, G. (2021). Workforce Development Needs of Transportation Sector Climate Adaptation Professionals.

TULSA BIKE SHARE STRATEGIC BUSINESS PLAN

Yaman, C., Anil, I., & Alagha, O. (2020, August 10). Potential for greenhouse gas reduction and energy recovery from MSW through different waste management technologies.

Fitzgerald, G. C. (2012). Greenhouse gas impact of dual stream and single stream collection and separation of recyclables.

Water Power Technologies Office, Department of Energy. (2021). Benefits of Hydropower.

Waste Management, Inc. (2022). Climate Change 2022.

Environmental Protection Agency. (2023). Greenhouse Gas Reduction Fund (GGRF): Solar for All.

Meikle, P. (2023). The River Valley Green Energy and Education Program (RV-GEEP).

WRT. (2014). Future Fort Smith Comprehensive Plan. Prepared for The City of Fort Smith.