Supporting Documentation

Supporting Document 1: Data demonstrating a 0.81% decrease in energy reduction from the baseline year of 2008 for the City of Winston-Salem.

Figure 1. Our total energy emissions (tons of CO_2; y-axis) show a 0.81% lower emissions in 2021 (blue line) relative to our baseline year of 2008 (red line).

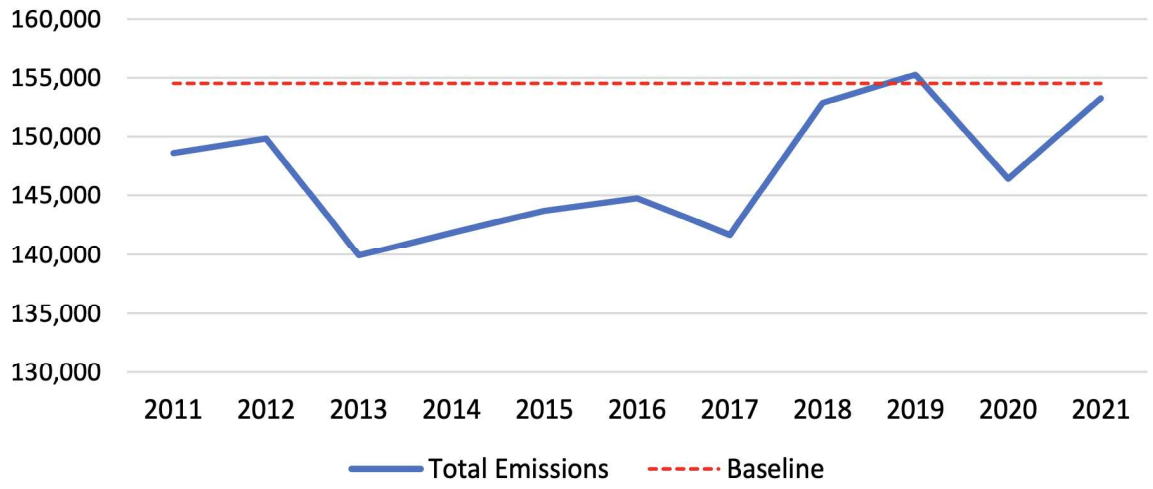

Table 1. Year by year total emissions (tons of CO_2) separated out into electricity, natural gas, and vehicle fuel use. Natural gas and vehicle fuel emissions have increased since the 2008 baseline. While some increased efficiencies have occurred in electricity, the recent (2020 & 2021) depressions were mostly due to reductions in use from COVID.

YEAR	ELECTRICITY	NATURAL GAS	VEHICLE FUEL	TOTAL EMISSIONS (tCO_2)
2008	*131,897*	*3,625*	*19,015*	***154,537***
2011	121,291	6,800	20,507	**148,598**
2012	122,000	6,980	20,853	**149,833**
2013	114,786	6,065	19,075	**139,926**
2014	116,032	6,392	19,409	**141,833**
2015	118,902	5,775	19,010	**143,687**
2016	118,727	6,312	19,717	**144,756**
2017	114,911	6,969	19,800	**141,680**
2018	125,832	7,721	19,320	**152,873**
2019	127,604	7,626	20,052	**155,282**
2020	120,038	7,240	19,156	**146,434**
2021	123,555	10,127	19,599	**153,281**

Supporting Document 2: Sustainability Solutions need to be Equity-Centered

Sustainability Issues are Equity Issues. **Low income populations and communities of color** are more likely to be affected by the **problems that stem from environmental issues.**

Therefore, **any plan from a consulting company should be equity- centered. They should prioritize** projects that focus on **areas with the greatest need** and consider how the benefits from any project are **allocated equitably.**

Supporting Document 3: Analysis of the sustainability approaches of comparable cities

Our analysis of comparable cities demonstrates that:

1. Hiring an **external consultant is a critical first step** to creating a comprehensive action plan to achieve climate goals.
2. Many other **comparable cities** in the region h**ave already done what this resolution proposes to do.**
3. When financial data is available, there is a **clear positive return on investment** when cities choose to invest in comprehensive sustainability plans.

Durham, NC

- Potential return on investment: **Cost $195,000 with a lifetime savings of more than $47 million.**
- Hired a consulting firm: **Yes**
- Developed an interdepartmental leadership team: **Yes**
- Consulting firm hired: **GDS Associates and Diane Cherry Consulting**
- Plan name: **Carbon Neutrality & Renewable Energy Action Plan, passed October 2021**
- Implementation of the Plan: **The General Service Department is the primary responsible party for management and execution of the CNRE Action Plan. However, it will take many departments working together to attain the City's goals. The Sustainability team, made up of individuals from key departments will collaborate on the prioritization and implementation of the action items. This team will also involve external stakeholders and create community partnerships to gain insights and feedback to inform the implementation process. The action items are expected to evolve over the next 30 years based on technology advancements, financial viability, policy reforms and environmental justice considerations – among others.**

Greensboro, NC

- Potential return on investment: **Cost ~ $30,000 and no return on investment was calculated at that time.**
- Hired a consulting firm: **Yes**
- Developed an interdepartmental leadership team: **Yes**
- Consulting firm hired: **Energy and Sustainability Solutions**
- Plan name: **Strategic Energy Plan, passed December 2022**

- Implementation of the Plan: **The primary focus of the Sustainability Office is to implement the Strategic Energy Plan. They also prioritize working closely with their Community Sustainability Council to implement the components of the plan.**

Richmond, VA

- Potential return on investment: **The plan passed in 2023 is expected to create $3.6 billion dollars in net benefits, create 11,000 new jobs, and save $231 million in health costs.**
- Hired a consulting firm: **Yes**
- Developed an interdepartmental leadership team: **Yes, with many different teams that focus on different components of sustainability**
- Consulting firm hired: **VHB/Vanasse Hangen Brustlin, Inc. (2012)**
- Plan name: **Roadmap to Sustainability, passed 2012**
    - **Based on the foundation of the 2012 plan, an updated action plan passed in February 2023 called the Climate Equity Action Plan**
- Implementation of the Plan: **By hiring a consulting firm in 2012 to develop a comprehensive action plan, the City of Richmond has made significant progress towards sustainability goals. They have already reduced greenhouse gas emissions by more than 20%, created numerous tools that increase climate resiliency for the community, and launched an extensive public outreach campaign (RVAgreen 2050).**

Wilmington, NC

- Hired a consulting firm: **No, they instead organized an "Ad Hoc Clean Energy Policy Task Force" that included the Mayor, Mayor Pro Tem, 4 Council Members, 5 other city staff, and 30 community members with specific expertise in relevant fields**
- Developed an interdepartmental leadership team: **Yes**
- Plan name: **Ad Hoc Clean Energy Policy Task Force Report, approved January 2021**
- Potential return on investment: **No ROI was reported**
- Implementation of the Plan: **The plan organized recommendations into "First Step" and "Future Step" recommendations. This has allowed the Sustainability Office, the Citizen Clean Energy Advisory Committee to prioritize and implement multiple projects over the last 2 years.**

Supporting Document 4: Examples of consulting companies that perform the type of work proposed in this resolution including their services, general fees, and return on investment

Supporting Document 3 provides financial estimates for what it would cost to develop a comprehensive sustainability roadmap for the city of Winston-Salem. On the following pages, we provide examples provided to our committee by three different companies: WSP, Kimley Horn, and Cenergistic.

They highlight that each company provides a wide range of services that will cater to the needs of the City of Winston Salem. They also reinforce that a wide range of services with up-front investments lead to long-term return of value.

WSP

WSP kindly provided an unofficial summary of services for planning purposes. ***Each service ranges from $50K - $200K. Without knowing the details of Winston-Salem these conservatively would save the City millions of dollars.*** *These services are outlined below.*

WSP: WSP's Sustainability, Energy, and Climate Change (SECC) team includes experts in supply chain engagement and goal setting, greenhouse gas (GHG) accounting and science-based targets, sustainability and energy strategy, climate resiliency, and product sustainability. Team-wide, we hold key positions in these fields, including: serving on the technical advisory group of the Science Based Targets Initiative (SBTi); having served on the technical working group of the World Resources Institute/World Business Council for Sustainable Development GHG Protocol's Scope 2 and Scope 3 GHG accounting standards; serving as a voting member of the Green-e Renewable Energy Certification Advisory Board; having participated in a CDP panel focused on realizing ambitious supply chain goals in past CDP US Workshop; and serving on multiple GHG protocol steering and advisory committees, including as a contributing author to the Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (GPC). In addition, we have supported multiple U.S. EPA programs since 2002, providing technical assistance such as updating EPA's tools and guidance documents related to Scope 1, 2, and 3 GHG accounting and management and supported numerous municipalities in building and expediting their climate action strategy, including GHG inventories.

Municipalities Services

1. **GHG Inventory Calculation and Reporting ($50k – $200k, depending on the boundaries of (government operations under the control of City of Winston-Salem vs community-wide) and level of effort to acquire activity data and scopes included. For example, government operations would be a lower level of effort compared to a city-wide inclusion) -** The basic approach to conducting a Greenhouse Gas (GHG) inventory will be similar for both the government operations and community inventory components. Our general approach is designed to achieve five primary goals for a municipalities inventory: relevance, completeness, transparency, consistency, and accuracy. The figure below illustrates our standard GHG inventory approach. The effort and time needed to develop community and government operations GHG inventories are highly dependent on the availability and condition of relevant activity data. Our approach and cost proposal assumes that the most relevant activity data will be available through introductions provided by City staff. Where needed, WSP will model or scale activity data to fill gaps in data availability, following the guidance of the GPC and LGOP and appropriately documenting all methodologies and assumptions.

2. **Road mapping – ($75k – $200k, depending on the complexity required)** A polished deliverable that provides time-bound implementation effort (e.g., funding, staffing, other inputs) of levers that, in the aggregate, illustrate a pathway to achieve an outcome (target or otherwise)
    i. Target achievement roadmap - Same as above, but the outcome is specifically a target achievement
    ii. Emissions reduction model - A system (usually quantitative created in Excel or other software) that allows for varying inputs of emission reduction levers combined with assumptions (e.g., business as usual pathways, the impact of levers per unit input, cost of lever per unit input, etc.) to develop a hypothetical pathway for reducing emissions and achieving an emissions reduction target. Models can be designed for client use or internal use, but the results of models are typically cleaned up and organized in a more polished format (e.g., Word, PPT, etc.) for inclusion in a roadmap
3. **Climate Action Plans (CAP) – (Can't develop cost without an RFP, but it would be >$200k most likely - Depends on the scope of community engagement with the plan)** – A more thorough approach that can include multiple workstreams such as inventory calculation, impact forecasting, target setting, road mapping, disclosure (CDP, TCFD)) that builds toward an implementation strategy and materials related to emissions monitoring.
4. **Task Force on Climate-related Financial Disclosures (TCFD) Reporting – ($75k – $200k – depending on various factors such as type of assessment (qualitative or quantitative, and the number of assets for physical assessment)** – Integrated disclosures related to climate change considerations for capital planning and budgeting, aimed at decision-makers within municipalities who need reliable and consistent climate-related information.

Kimley Horn

Kimley Horn provided a proposal that would focus on grant writing opportunities to find the funding to support sustainability projects. Below is a summary with an additional document they provided on the following pages. ***Kimley Horn has successfully obtained $128 million in grant funding while being paid $200K from clients for those grants****. This represents a 63,900X return on investment. A massive return for a small investment.*

Kimley Horn: Thank you for taking the opportunity to consider Kimley-Horn for Winston-Salem's grant writing needs. Attached is a qualifications package, highlighting our firm's experience with grants on a national level. While there are a few different grants highlighted on this package, we have technical experts in offices around the country who specialize in environmental and sustainability-focused grants. Additionally, new programs for federal funding are being created this fiscal year through the Bipartisan Infrastructure Legislation (BIL), which we are researching and working closely with our federal partners to be ready for those Notice of Funding Opportunities.

Our goal would be to review your proposed projects and create a tailored approach to maximize federal funding to support your initiatives. From roadway to stormwater, sustainability to utilities, we operate seamlessly in the public sector to leverage conceptual projects into a federal or state funded reality.

AT A **GLANCE**

Kimley-Horn is a full-service engineering, planning, and environmental consulting firm providing services to both public and private sector clients nationwide. Since our founding in 1967, Kimley-Horn has grown from a small group of traffic engineers and transportation planners to a firm of more than 7,000 employees across 100 offices nationwide, including 15 throughout the Southeast. Today, we are one of the largest engineering, planning, and environmental consulting firms in the United States. In 2022, *Engineering News-Record* ranked Kimley-Horn 10th of the top 500 U.S. design firms. Our continued growth and stability throughout the past 56 years is the direct result of our commitment to integrity and dedication to providing quality services to our clients.

PROVEN HISTORY OF SECURING GRANTS

Our team has played a key role in both researching and finding project funding through state and federal grant programs. Our grant writing expertise has helped our clients secure more than **$1 billion** during the past 5 years, including more than **$82 million** won or pending response.

MULTIDISCIPLINARY RESOURCES

Kimley-Horn offers a multidisciplinary team that brings the needed expertise to work with clients on your different as-needed tasks. We are a "one-stop-shop" for a variety of grant writing services, including federal, state, and local grant applications; data analysis, environmental justice, and traffic modeling; graphics and editing support; and more.

DEPTH OF **EXPERIENCE**

Kimley-Horn has a robust team of technical experts who work collaboratively across our firm to support our clients and continuously strive to provide the best products. With grant cycles, local governments may only apply for a grant once every few years. Our team creates multiple applications nationwide for clients, allowing them to become more adept at the specific needs of each grant opportunity and tailoring your grant to be the most competitive. From inception to program oversight and all the way through to content development and submission, we are with you each step of the way to provide guidance, lessons learned from previous submissions and data-driven supporting documents to make a compelling case for your grants.

RETURN ON **INVESTMENT**

Not all grants are the same and Kimley-Horn has a dedicated staff that understands the complex and nuanced nature of grant writing, tailoring their approach to the merit criteria and objectives of each program. Our local Virginia Beach office received approximately **$200,000** in fee from clients which resulted in more than **$128 million** in awarded grants.

Cenergistic

Cenergistic conducts energy audits and provided information for how they help organizations save energy and money through the operation of more efficient buildings. ***They have helped more than 1,500 clients save more than $6.5 billion.*** *The following documentation provides an overview of their work and their approach to saving energy.*

Cenergistic®

Healthier, More Efficient Buildings With Cenergistic

Who are we? We're Cenergistic – the nation's pioneering energy conservation technology company. We've been around 37 years. We've helped 1,500+ clients save $6.5 billion in energy costs. We've earned the ENERGY STAR® top award every year since 2009.

What do we do? We help you operate healthier, more efficient buildings to save energy. A lot of energy. That helps you save a lot of money.

When do we do it? Year 'round. Nights, weekends, holidays. Business hours. Closed hours. When people are using your facilities, we work to make them comfortable while conserving energy. When people are not using your facilities, we work to ensure no energy is wasted. We report our findings to you. We collaborate on an action plan.

Where do we work? In your facilities, on your grounds. In schools, auditoriums, offices, kitchens, athletic complexes, laboratories, museums, health care – wherever energy is used, we conserve.

Why do we focus on conservation? Conserving energy is the foundation of the energy pyramid. When you properly control energy use and needs, you make better decisions for efficiency, equipment, procurement and renewables.

How do we do it? Here's the thing – it's complex. And at the same time, completely straightforward:

- We send in a rotating team of engineers and experts who work with your staff members – this on-site presence "boots on the ground" is unique to Cenergistic
- We embed one or more Cenergistic Energy Specialists in your organization for continuity
- We apply our proprietary technology and hundreds of years of combined experience to review and analyze everything in your organization that uses energy – systems and people
- We optimize your systems so they work as efficiently and effectively as possible
- We train your people so they use energy wisely – as much as they need – without waste
- We measure and verify your savings and identify further savings opportunities using our patented Cenergistic GreenX® software platform
- We focus on helping you operate healthier, more efficient buildings
- We address your comfort issues, freeing up your staff for proactive work, preventative maintenance, and repairs

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