



**Energy and Environment Committee
Regular Agenda
May 16, 2018
5:30 PM
PW Administrative Conference Room
Government Center
300 N New Ballas Rd**

1. Call to Order

2. Roll Call

3. Approval of Minutes

4. Unfinished Business

A. Discussion of Topics for work session with City Council

i. Green Business Certification Proposal

1. Green Business Certification

ii. Propoal for Energy Efficinecy/Sustainable Energy Ordinance

1. City Energy Policy Ordinance

2. Explanation and Clarification of Proposed CC Energy Efficiency Ordinance

5. New Business

A. Proposal to create a sustainability technical assistance program

1. Sustainability Consultant Proposal

6. Report from Chair

7. Business from Council Liaison

8. Business from Staff Liaison

9. Adjourn



ENERGY AND ENVIROMENT COMMITTEE MEMO

DATE: April 16, 2018

TO: Creve Coeur City Council

FROM: Creve Coeur Energy and Environment Committee

SUBJECT: Green Business Certification

This initiative will provide Creve Coeur businesses and not-for-profits with recognition for sustainable practices. These entities have established practices creating a minimal negative impact on the global or local environment, community and economy. The certification will be utilized as a platform for education and social change through increased awareness for various green initiatives like recycling, high efficiency lighting, and the use of solar panels.

As this recognition increases in popularity, Creve Coeur's businesses and not-for-profit organizations will have the opportunity to share the impact each has had not only on the environment, but also through various short and long term cost savings. Furthermore, it will provide an opportunity to make the entities not currently practicing these initiatives become aware of the value it can bring to their industry and community. Criteria for selection will include practicing a minimum of three (3) of the following:

- Recycle wastes
- Primary use of high-efficiency lighting (e.g. LED)
- Use of high-efficiency HVAC system
- Utilizing recyclable containers and/or packaging
- Install or utilize sustainable energy systems e.g. solar panels, geothermal, etc.
- Use of water-efficient faucets, toilets and other water fixtures
- Currently utilizing energy benchmarking
- Other innovative sustainable practices. Please provide examples.

All businesses or not-for-profits must provide documentation and description of the items above currently practicing.

Marketing/Advertising: To initiate awareness of this certification, it will be advertised through the monthly newsletters, the City's website, and will be included in any business license renewal application.

Businesses are self-nominated for review. The nominees will be evaluated on the above criteria by the Creve Coeur Energy and Environment Committee. Nominations will be submitted through the City's website, as well as a PDF/paper application form included in mailers and other communications. The Committee will make a recommendation for the Green Business Certification to the Creve Coeur City Council for recognition of the award. Each awardee will be recognized with a Creve Coeur Green Business Certification decal to place in their front window or door of the business or building, as well as being noted in the City's newsletters, emails and website. The Certification will remain in place for

three (3) years and will automatically qualify the business or non-profit to be nominated for the City of Creve Coeur Green Business Award. Through the recognition process, the City will look to each certified business or non-profit to share their successes, cost savings information, and recommendations for change other entities within Creve Coeur.

Cost to the City of Creve Coeur: \$1,000

- Production of flyers or mailer
- Development and production of artwork for the Green Business Certification decal or emblem.
- Production of the decal

FIRST DRAFT**CREVE COEUR ENERGY EFFICIENCY ORDINANCE**

4/13/18

AN ORDINANCE ADOPTING AN ENERGY EFFICIENCY AND RENEWABLE ENERGY POLICY FOR CITY BUILDING PROJECTS, INCLUDING NEW BUILDINGS, BUILDING ADDITIONS, MAJOR REMODELS, AND RENEWABLE ENERGY PRODUCTION FACILITIES

WHEREAS, energy efficient building techniques and renewable energy production are cost-effective over time, and can save taxpayer money over the useful life of the investment in public buildings; and

WHEREAS, fossil fuels pollute the environment and contribute to climate change when burned; and

WHEREAS, energy efficiency and renewable energy reduce the environmental impacts of power generation, and reduce the need for utilities to expand generating capacity and increase utility rates; and

WHEREAS, the best time to incorporate features that reduce fossil fuel use and promote energy efficiency in buildings is at the planning and design stage:

NOW THEREFORE BE IT ORDAINED BY THE COUNCIL OF THE CITY OF CREVE COEUR, MISSOURI AS FOLLOWS:

Section One: This ordinance constitutes the Energy Efficiency and Renewable Energy Policy of the City of Creve Coeur for new municipal construction and major remodels/renovations of municipal buildings.

Section Two: As used in this ordinance, “Major Remodels” means projects in buildings with over 5,000 square feet of building floor plan which have a reasonable potential for energy upgrades; for example: replacing 25% or more of the building heating or cooling system; replacing 25% or more of the building lighting; involving removal of 25% of the building roof; or involving work on 25% of the building’s exterior walls and/or windows.

The term “major remodels” does not include cosmetic remodels, emergency repairs, or regular maintenance. When regular maintenance includes HVAC or lighting equipment replacement, new equipment to be installed shall conform to Section 3.2 below.

As used in this ordinance, “Renewable Energy Production Facilities,” means any and all equipment, systems or techniques put in service, within or outside the boundaries of Creve Coeur, to generate energy from sources that are not depletable and which effectively reduce or eliminate carbon dioxide in the energy production process.

Section Three: The xxxxxxxxxxxx Department is hereby directed to implement the following Energy Efficiency and Renewable Energy measures for new municipal buildings, major remodels of municipal buildings, and cost-effective opportunities for renewable energy production:

3.1 Requests for Proposals for services or bid documents issued for construction of new municipal buildings and major remodels shall state the high priority of energy efficiency, greenhouse gas reduction, and overall sustainability based on a 20-year life cycle of building operation.

3.2 All projects, prior to approval for construction, will be required to demonstrate that the following analyses support the final project delivered:

- a. Estimate the energy consumption and long-term operating costs of the building built to minimum code requirements;
- b. Propose energy efficiency measures based on current technology and site location that

- exceed current City energy code requirements by a minimum of 30 percent;
- c. Estimate the energy consumption and long-term operating costs from the measures proposed in 3.2b;
- d. Provide a 20-year life cycle analysis of the costs of the measures proposed in 3.2b;
- e. Include all measures proposed in 3.2b that provide the project a 15 year payback or provide a yield greater than or equal to that earned on the City's reserve fund.

3.3 Licensed design professionals providing services for a project and providing energy analyses pursuant to subsection 3.2 will be required to demonstrate capability and experience with energy analyses, or to hire consultants with the necessary expertise.

3.4 The City shall commission all building projects in accordance with the U.S. Green Building Council's enhanced commissioning guidelines for Leadership and Environmental Design (LEED) certification.

Section Four: For the purpose of educating the public on the benefits of energy efficiency, renewable energy production, and greenhouse gas reduction:

- a. Results of energy analyses submitted pursuant to this ordinance shall be documented and made available to the public via the City website.
- b. The energy efficiency and greenhouse gas reduction features incorporated into any project shall be publicized through educational displays during construction and in the completed building project.
- c. After project completion, the City will track cost savings and greenhouse gas reductions resulting from the adopted energy efficiency measures and report them on the City's website.

Section Five: For the purpose of encouraging the development of renewable energy production facilities within and beyond the City limits for the benefit of its residents and businesses:

a. The City will seek out and undertake renewable energy projects that demonstrate an ability to pay for themselves over a 15 year period or provide the City with a yield that is greater than or equal to the yield of the City's reserve fund.

b. The City will develop partnerships with the private sector in the development of renewable energy projects, where and when reasonable (e.g., to monetize tax benefits available to the private sector), so as to maximize the economic benefit to the City.

c. For purposes of public education, the City will document and report on the City's website the amount of energy produced by renewable energy projects and the economic benefit to the City and the greenhouse gas reductions resulting from this energy production.

Section Six: Effective Date: This ordinance shall take effect and be in force from and after its passage as provided by law.

Explanation and clarification of proposed CC Energy Efficiency Ordinance

Purpose of Ordinance

The City has expressed its desire to be a leader in environmental sustainability. A good way to achieve this is by adopting an ordinance that states explicitly that the City will seek out and implement cost-effective energy efficiency (EE) and renewable energy (RE) options for new buildings and those undergoing major renovations. This will make consideration of EE and RE options an explicit part of the construction design and bidding process. In addition to helping the City improve its sustainability performance, an ordinance will publicize and highlight the City's commitment, and hopefully will encourage City businesses, residents, and organizations to consider EE and RE options.

Have Other Cities Done This?

Hundreds of cities around the country have adopted ordinances that require various EE or RE actions. Some of these ordinances impose requirements only on the City government itself, while others impose requirements on owners of all buildings above a certain size. For example, Kansas City, Missouri requires all new city-owned buildings to be LEED Silver certified, and the city is considering raising this to LEED Gold certification. Many cities, including Kansas City, MO and St. Louis, have adopted ordinances that require all owners of large commercial buildings to use the EPA Portfolio Manager Tool to track and benchmark their energy and water use. Several cities in California, and now the State itself, have imposed RE requirements for most or all new buildings, including residential structures (these require structures to be carbon neutral within the next 10 years). A good "extreme" example of an RE ordinance is Burlington, Vermont. That city's electricity supply (to all users - not just City buildings) is now carbon negative; i.e., all electricity is produced from sustainable sources, and the City produces excess sustainable electricity which it sells to users outside Burlington.

The most relevant example for Creve Coeur is University City, MO, which adopted an EE and RE ordinance in 2014. That ordinance was used as the model for the proposed Creve Coeur ordinance.

What Does the Proposed Ordinance Actually Require? What Projects Are Affected?

1. The ordinance would apply only to new City-owned buildings and City-owned buildings that are undergoing major renovation (defined as replacement or upgrading of more than 25% of a major energy-related system in the building, such as lighting, HVAC, the roof, or exterior walls and/or windows).
2. The ordinance would require that RFPs for service or bid documents for covered projects "shall state the high priority of energy efficiency, greenhouse gas reduction, and overall sustainability based on a 20-year life cycle of building operation."

3. The ordinance would require that as part of the project design and evaluation process, energy-efficiency measures would be sought out/identified and evaluated in terms of energy consumption and long-term operating costs. Those EE measures that make a significant reduction in energy use (typically at least 30% below current City code requirements), and are “cost-effective (as defined below), should be incorporated into the project, unless there are compelling reasons not to.

- The actual life of energy-efficiency measures will vary by project, but typically they range from 10-40 years. For projects that last less than 20 years (e.g., lights that may need to be replaced after 5 or 10 years), replacement costs during the 20 year period would be included in the analysis. (The *Whole Building Design Guide* uses a 30 year time horizon for its life cycle analysis of design options, and the National Renewable Energy Laboratory uses time horizons of typically 10-40 years for evaluating EE investments.)

- Two possible ways to define an EE measure as being cost-effective:

(A) The expected payback period for (incremental) initial costs is 15 years or less

(B) The expected net savings from the EE measure provides an investment return of at least that earned on the City’s reserve fund. The idea behind this is that if an EE measure would produce a larger financial return than the City is earning on its reserve fund, then the City would benefit financially by lending itself the money for the EE measure. As an example, suppose the City expects to earn 3% on its reserve fund over the long term. Suppose the City plans to replace a building’s windows, but by making some enhancements that cost an extra \$50,000, net energy and maintenance costs would be reduced by \$3,500 a year. If the City took out a 20 year loan from its reserve fund at 3% interest, the required yearly payments (of principal and interest) for 20 years would be \$3361, which is less than the expected annual savings during the 20-year horizon. (In fact, the EE windows would provide a 3.5% return to the reserve fund.) So this EE measure would be considered cost-effective.

Note that several universities have created internal sustainability funds, whereby they “invest” endowment funds in sustainability projects that are expected to provide a return greater than the expected average return of the endowment’s other investments.

4. The ordinance would require that all projects undergo USGBC enhanced commissioning.

- The rationale is that evidence indicates that enhanced commissioning will identify and correct design, construction, and operational flaws that produce more savings than the commissioning cost.

5. The City will seek out and undertake RE projects that have a payback period of 15 years or less.

- The rationale is that such projects are financially beneficial (a better return than the reserve fund), they will reduce the City’s carbon footprint and help achieve its publicly stated GHG goals, and will provide an example for CC businesses and residents.

Creve Coeur Environmental and Energy Business Sustainability Program Proposal

Purpose

The purpose of this document is to propose a problem-solving market-based partnership, related to energy and environmental sustainability, between Creve Coeur City and business entities residing within Creve Coeur limits.

Scope

The scope of the proposal is limited to business and not-for-profit (NFP) entities within Creve Coeur (CC) limits. The program described below would be managed by the CC Energy and Environment Committee (EEC) with appropriate City Council approvals. All identified roles will be filled by volunteers. This proposal builds on the Green Business Certification initiative currently under development by the EEC.

Background

The EEC is developing a Green Business Certification (GBC) procedure. Businesses self-nominate to qualify. Initial GBC focus is on waste recycling, energy and water efficiency, and sustainability benchmarking. To assist businesses wishing to improve their energy and environment (E&E) sustainability, it is proposed that Creve Coeur sponsor individuals who would provide technical assistance to interested businesses. These individuals would (1) donate their time to directly work with businesses to inform them of the GBC process and available business program resources; and/or (2) donate their time to help businesses identify sustainability opportunities, benchmark alternatives, and suggest implementation approaches.

The EEC would manage and maintain a list of businesses that would be candidates for sustainability improvements, businesses with active sustainability programs or projects, and businesses working toward GBC or that are already certified. EEC would also identify business entities whose sustainability efforts the City may wish to showcase.

Creve Coeur Environmental and Energy Business Sustainability Program Proposal

Organization

The EEC would be responsible for managing and maintaining the Business Sustainability Program. This would include coordinating volunteer efforts and tracking progress relative to GBC and sustainability improvements across the business community. The following new roles would be required.

- **Sustainability Ambassadors - SAs (Role)**

SAs' role/responsibilities would be directed to marketing E&E business sustainability to Creve Coeur businesses and NFPs. These efforts would include:

- Development and maintenance of methods and tools for E&E sustainability promotion. These methods and tools would be standardized, approved by the EEC, and used by all SAs.
- Explaining, promoting, and answering questions concerning GBC and the CC E&E sustainability program and its services.
- Identifying businesses that may improve their E&E sustainability through better methods. These businesses would then be contacted by SAs.
- Assessing and determining if a business would be a good candidate for GBC or E&E program assistance.
- Coordinating with the EEC lead responsible for SA work.
- New SAs would be trained and would be provided with promotional materials and documentation on CC E&E program services. These may include handouts that summarize offerings and could include URL links to program detail.
- Persons filling this role should have good interpersonal skills, organization skills, communication skills and ability to interact with company management. They should be comfortable calling on businesses and developing working relationships.
- Persons filling this role would not be responsible for benchmarking or recommending possible technical approaches.

Creve Coeur Environmental and Energy Business Sustainability Program Proposal

- **Sustainability Consultant - SCs (Role)**

SCs' role/responsibilities would be directed to sustainability benchmarking, business case development, and implementation approaches; including:

- Development and maintenance of methods and tools for E&E sustainability benchmarking and business case development. These methods and tools would be standardized, approved by the EEC, and used by all SCs.
- Consulting directly with businesses to assist them with sustainability opportunity identification, benchmark, business case development and implementation approaches.
- Verifying that businesses meet requirements for GBC.
- Coordinating with EEC lead responsible for SC work.
- New SCs would be trained and would be provided with tools and methods. These may include spreadsheets that help standardize and automate benchmarking or business case development or lists of items to consider when determining possible vendor solutions. These toolsets should build from E&E sustainability industry standards and offerings.
- Persons filling this role should have good analytical skills, organization skills, communication skills and ability to discuss with company management technical alternatives. They should be comfortable working with detail in order to benchmark and help with business case development.
- Persons filling this role would not be responsible for E&E sustainability marketing activities or identification of possible businesses for E&E consulting services.

Program Rollout

The program would be rolled out in a measured deliberate manner. Upon endorsement of this program by City Council, the EEC would develop a starter set of marketing and technical tools, building on previous work by EEC and industry standards. With this starter set in hand, the EEC would identify a small number of businesses to visit with the intent of testing methods and identifying areas for improvement. Once the EEC is comfortable that program processes are stable and there exists a market for the above described services, then businesses would be identified by the SA lead, and SAs and SCs would be recruited and trained as required. The SA and SC leads would work with their respective teams to improve methods and tools and report business sustainability progress and Green Business Certifications.

A list will be maintained that captures the disposition of businesses relative to CC E&E program (potential program candidates, or businesses having E&E sustainability projects in progress or in GBC process). The EEC and the SA and SC leads will coordinate when maintaining this list. A simple spreadsheet could initially be sufficient. This database would be a control tool for the program processes and a vehicle for assessing program progress.

Creve Coeur Environmental and Energy Business Sustainability Program Proposal

Risks

Risks to the E&E business sustainability program include low interest from the business community or an inability to resource the program, if business demand is high. City liability risks would also need to be managed.

- Low interest from business community for E&E business program services; mitigate by including a market research effort in the program pilot phase. If business interest is low then redefine E&E business program to align with identified interest level; or devote program resources to promotion of E&E sustainability only.
- Inability to recruit capable volunteers to meet business demand; mitigate by limiting the program rollout, consider other resourcing alternatives, or redefine E&E business program consistent with resources available.
 - When the E&E business pilot is complete and full program rollout is approved, a plan for recruiting qualified and interested volunteers would need to be devised.
- Program would be managed to eliminate or at least minimize CC City liabilities.
 - No vendors would be recommended by SCs; however, if partnerships with vendors could be established that advance this programs objectives without exposing the city to liabilities then they will be considered during program development.
 - Benchmarking tools would be vetted.
 - Volunteer activities will be subject to normal city liability constraints.