SOLUTION OVERVIEW
Energy and water efficiency projects often compete with other priorities for limited available financing in local governments. King County, however, is determined to provide access to funding to help meet its energy reduction goals without having such projects compete with or delay other critical county work. In response to this need, the County Executive’s 2015-2016 budget proposed creation of the Fund to Reduce Energy Demand (FRED), to provide county agencies with a sustainable financing tool to meet long-term goals for energy reduction and climate change mitigation. FRED is similar to a traditional revolving loan program but isn’t limited in scale and is available for all cost-effective projects for which the debt service (loan repayment) will equal or exceed the costs of borrowing. Under FRED, the county budget office issues bonds and provides loans to county divisions for equipment upgrades to reduce energy use. Energy, water, fuel, solid waste, and other potential projects that can result in a financial payback to the county are eligible for the program. Resulting utility bill savings are then used to pay back the bonds, resulting in a neutral or positive cash flow.

ORGANIZATION TYPE
Large Suburban/Urban, population 2 million

GOAL
Achieve a 20 percent energy reduction in county buildings and facilities by 2020 based on a 2007 baseline

BARRIER
Lack of dedicated financing for some county agencies to implement cost-effective efficiency projects and to meet reduction goals

SOLUTION
Creation of the Fund to Reduce Energy Demand (FRED) to provide King County agencies with a new financing tool to help meet long-term energy reduction and climate goals

https://betterbuildingsinitiative.energy.gov/implementation-models/fund-reduce-energy-demand
For more information, visit https://betterbuildingssolutioncenter.energy.gov
OUTCOME
The first eight approved energy and water efficiency projects began implementation in early 2015 with a $2.5 million total investment, and are projected to result in a combined $250,000 in annual savings, and carbon dioxide reductions of 1,000 tons per year when completed in 2016.

POLICIES
King County Energy Plan
The 2010 Energy Plan set government building energy use goals of a 10% reduction by 2012 and 15 percent reduction by 2015. One catalyst for the FRED program was as a response to the 10 percent reduction goal not being achieved in 2012.

Strategic Climate Action Plan
As of 2015, the county’s energy planning is captured in a broader Strategic Climate Action Plan (SCAP). The SCAP expanded upon the previous energy reduction targets by setting targets of a 5% additional reduction over each five year period, through 2025. The county utilizes a number of tools to help fund its resource efficiency efforts, including maximizing utility rebate support, setting aside funds specific for its carbon reduction efforts and creating FRED.

PROCESS
FRED was an outgrowth of conversations in the county about how to access money to make investments to reduce energy use in the context of limited budgets and a large number of competing critical community priorities. Given the county’s good credit rating, establishing a loan program funded by bonds seemed an effective way to fund resource efficiency projects without delaying other work. With the ability to pay for the debt service out of utility savings coupled with a ten-year cost effectiveness threshold, the impact on the county would be budget neutral and, in most cases, would reduce expenditures as a result of completing efficiency projects.

FRED was designed with an expectation that during each budget development process, county departments would submit proposals for energy and water efficiency projects with a maximum payback of ten years. The ten-year timeframe was established to coincide with payments on ten-year bonds.

A group of county staff met over a nine month period to discuss the framework for FRED, including how to educate and train staff on the use of the financing vehicle. No direct costs were incurred during FRED’s development. Indirect costs included approximately 200 combined hours for six core county staff over the nine months of planning to develop the program. Critical to the process was identifying the key staff competencies, including budget and resource efficiency expertise, needed to make the program function effectively.

FRED was officially rolled out as part of the 2015-2016 biennial budget process. In mid-2014, a workshop was held for county staff to learn more about FRED. The workshop provided an overview of FRED’s program design, what types of projects are eligible, and how the loans work. In addition
to the workshop, county energy staff were made available to support divisions that had specific questions or needed assistance with supporting project proposals.

During the budget submittal process, the county’s budget instructions provided detailed instructions and a proposal form for agencies to identify efficiencies through utility reductions and efficiency investments. Agency budget submittals were asked to address the following, as applicable:

- What are the top five major energy consuming facilities or systems in your agency, in terms of dollars expended to support such facilities or systems?
- How is the agency using energy audits to inform identification and prioritization of energy efficiency projects, and what audits will be completed during the 2015/2016 budget cycle?
- What capital investments will the agency pursue in the next budget cycle to improve energy efficiency and meet energy plan goals?
- What initiatives is the agency implementing to improve energy efficiency of day-to-day operations?
- What energy conservation projects or actions have been considered but are not being included in the 2015/2016 budget due to lack of budget and/or staff resources?

For the development of the 2015/2016 budget, agencies documented their plans to invest in energy efficiency and infrastructure to meet the goals of the SCAP. Examples of key strategies to improve efficiency include operational changes, behavioral changes, and capital projects. Specific to FRED, agencies were asked to propose efficiency projects with a ten year or less simple payback.

As part of the effort to support agencies with identifying cost-effective projects, the county developed a resource life cycle cost analysis tool (rLCCA) to ensure that potential resource investment decisions are cost effective. Key staff then worked with the individual agencies to develop and refine proposed projects and accompanying budget documents.

How It Works

1. After FRED projects are proposed by agencies as part of the budget process, a review committee of budget and technical staff reviews the projects and asks questions to each proposer to gain confidence in the viability and calculations behind each project. After approval by the committee, the proposals are formally presented with each agency’s budget for adoption by the county council.

2. After approval of the county’s budget and refinement of the project scopes and budgets based on available utility rebates, the budget office then secures bond funds for the projects.

3. After the bond funds are secured and released to the agency, the agency is obligated to make loan repayments each year. Each proposing agency is responsible for management and implementation of all aspects of its projects.

4. County accounting staff work to ensure the debt service payments are paid from the appropriate utility budget of each participating agency. They also ensure the debt payments are less than the pre-retrofit estimated utility bills and any savings beyond the debt service, resulting from the
5. Budget tracking takes place upon project completion. Project savings are measured and verified post-completion based on actual consumption data and verification by local utility staff.

**Tools and Resources:**

Resources Life Cycle Cost Analysis Guidance  

**OUTREACH**
The on-going success of the program is contingent on educating county agencies on the availability and benefits of the program, including working with agency staff to build expertise on how to identify efficiency opportunities and bring them to completion while continuously proposing more projects during the next annual budget cycle.

**MEASURING SUCCESS**
The county maintains a robust energy use tracking system for all of its facilities and reports to the executive team quarterly on energy reduction progress. The county is measuring and reporting success to agency and executive management based on:

- Total project budgets and annual estimated savings
- Cost effectiveness of the proposed projects
- Completion of projects
- Actual savings

**OUTCOMES**
In early 2015, after one year of planning, eight energy and water efficiency projects proposed in the 2015/2016 county budget began to be implemented across five county agencies for a total of $2.2 million in loans for project investments of $2.5 million. Combined the eight projects are projected to result in $250,000 annual savings and carbon dioxide reductions of 1,000 tons per year.
For more information, visit https://betterbuildingssolutioncenter.energy.gov