I. Executive Summary

Athens Clarke County (ACC) has been significantly affected by the economic crisis. Due to its unique position as the smallest county in Georgia, much of its potential tax base resides in neighboring Oconee county and commutes to work in ACC. These commuters do not pay property taxes to ACC (a relatively stable source of funding in economic recessions), meaning that the majority of ACC’s revenues come from consumption taxes. These revenues shrink dramatically in bad economic times due to the overall decrease in consumption because of average reduced individual discretionary income.

In light of these dramatically reduced revenues and the state balanced budget clause barring counties from operating at a deficit, ACC desperately needs to reduce expenses. Energy costs are a prime target to be targeted to reduce overall costs of providing government services. They are embedded in the costs of providing all services, and can be cut with little if any adverse effect on the quality or extent of services provided. Through the implementation of various types of energy efficient upgrades (i.e. replacing light bulbs with fluorescent lights), energy usage and consequently energy costs decline.

To realize potential energy usage and cost savings fully, these upgrades need to be completed in full measure. The nature of energy efficiency projects is synergistic; different upgrades working in conjunction conserve more energy and money than would seem to be indicated simply by the sum of their individual effects. Hence, if all of these projects are not pursued in parallel and in full measure, maximum potential savings simply cannot be realized. Unfortunately, ACC currently does not realize the maximum potential savings in energy usage and costs due to the current funding method for these projects.

The root cause of the policy failure to properly fund these energy efficiency projects is the short term nature of the political system. Essentially, politicians tend to focus on using the limited funds that they have available in manners that yield tangible results in the short term. These applications with immediate benefits are the most visible to their constituents and please
them the most, thereby increasing the politicians’ likelihoods of getting reelected (which, according to a political science theory, is their primary goal because it is the key form of feedback on their performance that the officials receive). Energy efficiency projects are inherently applications with fairly low-profile, long term benefits that take many years to reach fruition—the opposite of the preferred type of applications. The short term funding currently in place for energy efficiency projects needs to be renewed from year to year, meaning that it can be cancelled at any time. This potential funding fragility deters the pursuit of energy efficient upgrades that are likely to take many years of work (and thus continued funding) to bring about.

ACC should create a $500,000 “Energy Bank” through the issuing of municipal bonds and a process to use this fund for energy efficiency upgrades in public buildings to address these policy failures. This sustainable and stable source of long term funding should allow all economically efficient energy efficiency upgrades to be implemented to achieve maximal cost savings, reducing the cost of providing services and ultimately increasing social welfare through either being able to provide additional services or passing along decreased costs to taxpayers through decreased taxes.

II. Background

Athens-Clarke County (ACC) is a Southern college town with a population of about 115,000 facing major budgetary concerns due to the current weak economic environment and corresponding falling tax revenues. These budgetary problems stem partly from ACC’s unique geography: ACC is the smallest county in Georgia. As a result, many of the people who work in ACC actually live in neighboring Oconee County, finding it cheaper to pay the transportation costs of longer commutes rather than to reside in ACC itself. (Davison 26 Oct 2009) These commuters do not pay property taxes to ACC, meaning that the majority of ACC’s tax revenues are derived from consumption taxes. Property taxes are a more stable source of revenues than consumption taxes in weak economic conditions. (Richardson 25 Nov 2009) Consequently, ACC’s tax revenues fall significantly during weak economic times as workers reduce...
consumption due to reduced discretionary income and concerns about job security. The current economic environment demonstrates this trend: from FY 2009- FY2010, tax revenues are estimated to have shrunk by 60% from about $400 million to $175 million. (FY10 Budget in Brief) (FY09 Budget in Brief)

ACC’s challenging budgetary situation is further compounded by Georgia state laws that prohibit counties to run deficits in their operating budgets. (Davison 26 Oct 2009) As a result of the greatly reduced tax revenues and absolute need to balance budgets, ACC must reduce expenses in providing governmental services.

Energy costs are an ideal target to reduce ACC’s operating costs of providing services. First, they are embedded in the overhead costs of every single service that ACC provides. Furthermore, energy costs are unique in that they can be reduced with little (if any) adverse effect on the quality or extent of services provided. Finally, reducing energy costs would be significantly more politically popular than other cost cutting techniques involving scaling back or eliminating government services provided.

In FY2009, ACC spent about $4.1 million in energy costs (electricity and natural gas expenditures), equal to about one percent of its total tax revenues for FY2009. (Field) Although seemingly insignificant, these energy costs would grow to 2.3 percent in FY2010 even if energy costs stayed the same as a result of reduced revenues. However, in the historical context of ACC’s energy costs increasing by about twelve percent every year from the FY2007 levels of three million dollars to the present projected levels of $4.1 million (despite actual energy usage remaining at about the same level of thirty-five million kilowatt-hours consumed each year in the same time interval), energy costs will almost certainly comprise a significant portion of ACC expenditures in the future. (Appendix II) In fact, if energy costs keep increasing at the same rate that they historically have over the past three years, energy costs will double in only seven years and triple in eleven years. Ultimately, the rapid projected future growth of ACC’s (already high)
energy costs further increases the suitability of energy costs as an ideal target for budgetary savings.

II. Legislative History

The ACC government is aware that energy costs are an area for potential savings, and has already worked towards establishing programs to promote energy efficiency and conservation. (Energy efficiency refers to the adoption of new technologies to reduce energy consumption without changing relevant behaviors. Energy conservation refers to changes in behavior that also reduce energy consumption.) (Oikonomou 2009) Back in 2006, it established the goal to "reduce the Unified Government’s use of all forms of conventional energy resources by 15% compared to consumption during FY06 through an aggressive program of education, policy changes, and facility modifications“ by FY2011. There have been two major methods by which ACC has been pursuing this goal. (FY10 Annual Operating Budget)

ACC had hired an environmental coordinator six years ago to coordinate “[ACC] Unified Government energy conservation/ efficiency initiatives” among other duties (the position is currently in the process of being refilled). (Field) (Hale) The Coordinator had helped with ACC’s recent efforts that culminated in having two police stations declared LEED certified (Leadership in Energy and Environmental Design) to follow a 2004 policy that all buildings eventually achieve LEED certification. Athens Police 2009) (Davison 19 Oct 2009) LEED is a certification system verifying that a building was built in an environmentally sustainable manner (different levels of LEED certification exists indicating different amounts of savings):

LEED is an internationally recognized green building certification system, providing third-party verification that a building or community was designed and built using strategies aimed at improving performance across all the metrics that matter most: energy savings, water efficiency, CO\textsubscript{2} emissions reduction, improved indoor environmental quality, and stewardship of resources and sensitivity to their impacts. (USGBC)
Furthermore, ACC has an “Energy Management Program” in place to achieve further energy savings across the country. As outlined in the Fiscal Year 2010 ACC budget, the program seeks to “[provide] funding for the implementation of proven energy savings measures & audits to identify those measures.” The program is allocated $20,000 (a mere 0.01% of the overall ACC budget) once every two years to provide funding for energy efficiency savings measures. The ACC Environmental Coordinator helps coordinate these initiatives. The project justification notes that the measures funded by this program save an estimated ongoing $17,000 every year after the initial biennial $20,000 investments—meaning that all costs are recouped in just over a year. The justification closes with the assertion that “It is felt that further savings could be realized through a broader program application and additional annual funding.” (FY1010 Annual Operating Budget) It should be made clear that these programs are rather limited in scope. The projects need be short term in nature and of relatively low cost to be completed in the two years of funding capped at $20,000. The set of projects fitting these two requirements are but a small subset of the overall pool of possible economically efficient energy upgrades. More extensive efforts involving projects backed by higher amounts of ongoing financing are necessary to carry out the remainder of this large pool of potential upgrades to achieve maximal cost and energy savings in the long run.

III. Policy Failures

A sustainable long term funding source for energy efficiency is necessary to carry out all potential economically efficient energy upgrades and thereby realize maximum cost savings. The fundamental problem preventing these savings is the absence of a sustainable long term funding source for energy efficiency improvements in ACC.

The structure of the political system encourages a reliance on short term funding. This reliance derives from a mix of factors: any particular government administration has a limited amount of resources to fund projects for the benefit of their constituents. Political science theory suggests that the primary goal of elected officials is reelection because it is the main form of
positive feedback they receive from constituents. Consequently, elected officials direct limited
money to fund projects that they believe will most likely help them win reelection. The sort of
projects that these officials believe function best towards this end are those that pay off in the
short term (during the same election cycle) with concrete highly-visible results. As a result,
funding for policies in general tend to be short term in nature.

Effectively, this means that policies with quickly-realized concrete effects, such as
increased funding for roads and schools (with highly visible results in the form of fixed potholes
in high traffic areas and new textbooks) are readily followed while other venues for action
requiring longer times to see more subtle results may not be as well funded.

Energy efficiency projects tend to fall into the second category; not only do they
generally take a relatively long time to complete and receive the benefits, but the benefits also
tend to be relatively low-profile and slow to accrue. These characteristics result in incumbent
elected officials usually unable to show prominently tangible results from enacting energy
efficiency projects during reelection campaigns, reducing the incentive to pursue such projects.
The only energy efficiency projects pursued tend to be those capable of reaching completion in
the short term at relatively low cost.

The pursuit of only the above quickly completed short term energy efficiency projects in
turn precludes the realization of maximum potential energy and cost savings. Of the total set of
economically efficient energy efficiency projects, only a small subset are likely to be carried out
to completion with the current short term funding focus. The remainder (likely the majority) of
the projects are never carried out, leading to ACC forgoing the potential savings to be gained
from implementing these projects and never realizing maximum potential energy and cost
savings.

IV. Secondary problems

A secondary problem is that there is no powerful incentive to conserve energy or research
and implement energy efficiency upgrades, except to cut costs at the agency level. A theory by
Oikonomoua concludes that although changing small behaviors would result in energy savings, people often do not do so because they do not deem these benefits to be significant enough to change routines. (Oikonomoua 2009) If people do not consider the hassle of changing behavior to be worth the savings, they simply will not commit to energy conserving behaviors. Aggregated across all agencies, this pattern of behavior can be extended to the entire local government. Only in bad economic times in which the government is necessarily cost conscious of every dollar may the returns seem to be worth the efforts required to pursue the energy efficiency and conservation measures. Once the economy improves and tax revenues rebound, cutting costs will not be a significant concern. Thus, the only time when there is a powerful incentive to decrease energy costs by following energy conserving behaviors or research and implement energy efficient upgrades is during bad economic times—precisely when the least amount of funding is available to be diverted from preserving other services.

V. Policy Proposal

The ACC government should create a special $500,000 “Energy Bank” and a process for its use to fund long term energy efficiency projects. The fund would need to be initially voted in by referendum. If passed, the initial $500,000 start-up money would be raised through issuing municipal bonds. The fund would be replenished by the energy savings (the net difference between energy costs before and after completion of the energy efficiency projects per year) attributed to the upgrades financed by the fund.

The process would work in the following manner: a particular department would research a possible energy efficiency upgrade and write a fund request to the Town Manager administering the fund. After approving the project, the Town Manager would authorize the use of Energy Bank funds to finance the project. Once the project is complete, the energy savings (defined as the difference in money spent on electricity and heating before and after the upgrades) would be re-allocated as follows: two thirds of the savings (sixty seven percent) would go towards covering the amount financed by the fund plus the same amount over again to go back to repaying bond
holders plus interest paid on bonds, twenty percent of the savings would go back to the department that had proposed the project as an extra source of discretionary funding to provide a strong incentive to research further potential energy efficiency upgrades, and the remaining thirteen percent of the savings would just be recycled into the general budget stream as additional revenues to be used to further cut the cost of providing services to ACC taxpayers. Once the loan is repaid along with the full repayment of the bond plus interest, only an ongoing one third (thirty three percent) of the savings would keep flowing into the fund to expand it. The remainder (minus the twenty percent being returned to the department) is recycled into the ACC general budget.

To illustrate the above rules for reallocation, a breakdown of the reallocation of a hypothetical $100 per year in energy savings for an initial loan from the energy fund of $250 follows (fitting the historical energy savings rate of 40% that ACC has achieved for the money invested through its Energy Management program in these sorts of upgrades):

○ $67/year would go toward paying back the initial $250 financed by the energy fund plus $250 more for repaying the bond holders plus whatever interest owed on the bonds = $505.63 to be repaid in about 7.5 years. (Assuming an annual interest rate of 3.375% for a 10 year bond as is typical for municipal bonds currently being issued according to Bloomberg.com)
  ● The loan itself would be replenished in about 3.7 years
  ● The bond plus interest would be repaid in the additional 3.8 years

○ Once the above amounts are repaid fully, an ongoing $33/year would go towards expanding the energy fund

○ $20/year would go towards the department that had submitted the project as discretionary spending

○ $13/year would be recycled back into the ACC General Fund to cut the cost of providing services to taxpayers while the loan was still being repaid
This would increase to $46/year once loans were fully paid back.

The Town Manager and his staff would administer the fund as described above. A department of the ACC government would first submit a proposal for an energy efficiency upgrade to the Town Manager. After reading through the proposal and estimating the upgrade’s returns, the Town Manager would approve the use of Energy Bank funds if the project seemed appropriate. The funds would pay the costs of the project. Once complete, the savings could be calculated and reallocated as seen above.

The city of Chapel Hill in North Carolina has an almost exact analogue for the fund proposed above also called an “Energy Bank” that has served as a useful model for the proposed fund above. Established in 2004 by referendum, The Energy Bank finances similar energy efficiency projects and upgrades as the proposed fund (albeit on a more limited scale). A copy of the legislation used to enact the fund is included as an appendix. (Appendix I)

VI. Reasons for adopting this policy

This policy should be adopted to address the two big policy failures discussed earlier: it provides a long term funding source for energy efficiency projects that would not be currently implemented and an incentive for departments to research such potential energy efficiency projects. With the incentive to research projects, departments would bring a steady stream of potential energy efficiency upgrades to the attention of the Town Manager. In turn, the Town Manager would have a source of uninterrupted funding to implement these projects. Over time, the fund would more than replenish itself with the way the savings reallocations are set up, allowing ACC to implement further energy efficiency projects that may not have previously been possible thanks to technological advances.

VII. Policy Benefits
The primary benefit of adopting this policy is that currently unimplemented long term energy efficiency projects would be funded, allowing ACC to reap long term energy and cost savings.

According to Ralph Johnson, director of the UGA physical plant, these types of energy efficiency projects often pay for themselves in merely one or two years. Once a project has been paid off, ACC taxpayers should see the same levels of service as before with significant cost reductions.

Since it would now cost less to provide the same amount of services and thus the same amount of social good, ACC could use some money left over from tax revenues to fund new services, increasing net social welfare. Alternatively, ACC could choose to return these savings to their constituents in the form of lower local tax rates. This in turn would mean that taxpayers would have more money to spend on other goods or services. In either case (under the assumption that the government provides welfare enhancing services), net social welfare is increased.

**VIII. Secondary Benefits**

Although not the focus of this paper, it is important to note that this policy would have the effect of using less energy in ACC and consequently improving the state of the local environment. ACC uses natural gas in its heating systems that release potentially dangerous greenhouse gas emissions during usage. Reducing natural gas usage would reduce greenhouse gas emission levels and thus possibly improve the local air quality. An even larger benefit would be the reduction in actual energy use. As most of the energy used in ACC is generated through the burning of coal; reducing energy use dramatically reduces greenhouse gas emissions and limits many of the other toxic compounds released including mercury.

**IX. Policy Challenges**

The primary challenge to the implementation of this policy is the organizational costs from the added administrative responsibilities of the Town Manager and his or her staff.
However, the savings from the projects financed by the fund would more than be sufficient to pay these extra costs.

Another challenge would be the possible political opposition to ACC taking on debt to issue bonds starting the fund. This should not really be a concern—the fund is completely self-sufficient after the initial bond issuance, and the savings that it should generate through funding energy efficiency projects will more than recoup the initial costs.

Finally, the departments will have a modicum of extra work in researching potential energy efficiency projects and sending them to the Town Manager for approval. If not enough of an incentive existed for them to change their behavior, they would not have done so. (Vanderly 2007) The structure of the policy should guard against this trend. Since a portion of the energy savings come back directly to the departments in the form of additional discretionary spending, they have a personal stake and a strong incentive to cooperate and research and implement potential long term projects fully.

X. Conclusion

In this economic crisis, it is becoming increasingly important to reduce costs of performing government services for ACC, and energy costs are a prime target to be exploited. Due to the short term incentive structure of the political system, funding for long term energy projects tends to be cut in these sorts of economic situations. However, energy efficiency programs have long term cost-cutting potential. With the establishment of a special energy fund a sustainable stable source of long term funding would exist for energy efficiency programs. This should allow all of these energy efficiency programs to proceed to completion, which would reduce the cost of providing services for ACC, thereby ultimately increasing social welfare through either the provision of additional services or decreased costs to taxpayers through lower taxes.
Appendix I.

TOWN OF CHAPEL HILL

ENERGY BANK
POLICIES and PROCEDURES MANUAL

I. Introduction

(a) The purpose of this manual is to publish policies and procedures for the administration of the Town of Chapel Hill Energy Bank.

(b) In the November 4, 2003 bond referendum, the citizens of the Town of Chapel Hill voted in favor of a $500,000 (current balance is $475,000) bond for creation of an Energy Bank. The purpose of these bond funds is to acquire, construct, equip and install energy efficient facilities in certain existing public buildings, including, without limitation, the acquisition of lighting, heating, ventilating, air conditioning and related fixtures, machinery and equipment. It is envisioned that the documented savings attributable to projects completed with these funds will be used to reimburse the fund for the cost of the project.

(c) The physical plant of the Town of Chapel Hill includes about 470,000 square feet in 47 buildings and 336 units of public housing. The total annual cost of the utility bills (electricity, natural gas and water) for these facilities is about $1,538,000 which represents about 57 percent of the Town’s total energy bill. The remaining 43 percent of the Town’s energy bill is for fuel for the automotive fleet and transit buses.

(d) The Town of Chapel Hill recognizes that energy use associated with the operation of its physical plant exacerbates local air quality problems.

(e) The Town of Chapel Hill recognizes that it has a significant role to play in improving local air quality and reducing emissions by improving the energy efficiency of its buildings.
(f) The Town of Chapel Hill recognizes that by improving the energy efficiency of its buildings, significant monetary savings will result in the long term.

(g) The Town of Chapel Hill wishes to exercise its power as a participant in the marketplace to ensure that purchases and expenditures of public funds are made in a manner consistent with the policy of improving local air quality, reducing harmful emissions and conserving public resources. To that end, the Town Council adopted the Leadership in Energy and Environmental Design (LEED) Commercial Green Building Rating System as the Town’s standard for the construction and renovation of Town owned facilities on May 9, 2005.

II. Energy Bank Policy

(a) It shall be the policy of the Town of Chapel Hill to operate and maintain an “Energy Bank” fund with a beginning balance of $475,000 provided by a bond sale subsequent to the November 4, 2003 bond referendum. The purpose of this fund shall be to provide financing for energy efficiency projects on Town owned facilities that meet the criteria set forth herein.

(b) The Town Manager shall establish a three-person “Energy Bank Management Committee” for the purpose of reviewing project proposals and submitting recommendations for project approval to the Town Manager. The members of the “Energy Bank Management Committee” shall be as follows:

(1) Public Works Director (Committee Chairperson) (or designee). The Public Works Director will be supported and assisted by staff members of the Sustainability and Facilities Management Division.
(2) Planning Director (or designee). The Planning Director will be supported and assisted by a Planner with staff cognizance over the Energy Bank Program.

(3) Finance Director (or designee). The Finance Director will be supported and assisted by an Accountant with staff cognizance over the Energy Bank Program.

(c) It shall be the policy of the Town of Chapel Hill that, for projects costing $100,001 or above, the Town Manager shall require an “energy audit” to be performed by a qualified engineering consultant to compare the costs and benefits of the project and to determine the estimated pay back period for the project. For projects of $100,000 or less, the Town Manager may employ an engineering consultant or may elect to have a cost-benefit analysis performed by qualified members of the Town staff.

(d) It shall be the policy of the Town of Chapel Hill that, funds allocated from the Energy Bank shall be repaid by transfers from the beneficiary fund(s) over a period not to exceed seven years. It is anticipated that there would be offsetting reductions in the utility accounts of the beneficiary fund. The repayments schedule will be in a specified number of equal annual payments negotiated at the time of project approval.

(e) It shall be the policy of the Town of Chapel Hill that in order to qualify for project funds from the Energy Bank, a project must meet the following criteria:

(1) The project must be an improvement to existing facilities. Projects for the construction of new facilities are not eligible.
(2) Energy Bank funds must be expended on the design, acquisition and installation of actual energy saving improvements. Energy studies/audits, and energy measuring/monitoring equipment are not eligible expenses.

(3) The payback period for the project may not exceed seven years for those projects approved by the Town Manager, the Energy Bank Management Committee or the Public Works Director. Only the Town Council may approve projects with payback periods in excess of seven years.

(4) Projects with payback periods of one year or less are eligible for Energy Bank funding; however, such projects should generally be funded directly from the operating budget of the affected department.

III. Energy Bank Administrative Procedures

(a) Staff Responsibilities

(1) **Town Manager.** The Town Manager will have overall responsibility for the administration of the Energy Bank.

(2) **Public Works Director.** The Public Work Director shall serve as the Chairperson of the “Energy Bank Management Committee” and shall have staff cognizance over that portion of Energy Bank Management that relates to project development, project management, engineering analysis of candidate projects and measurement of the resultant savings from completed projects. This shall
include providing assistance to other departments in the preparation of project nominations and cost-benefit analysis for projects under $100,000.

(3) Finance Director. The Finance Director shall be a member of the “Energy Bank Management Committee” and shall have staff cognizance over that portion of Energy Bank management that relates to dispersing of project funding from the Energy Bank fund, transfer of payments to the Energy Bank fund, and general budgeting/accounting for the assets of the Energy Bank.

(4) Planning Director. The Planning Director shall be a member of the “Energy Bank Management Committee.”

(5) Applicant. Applicants for Energy Bank project funding shall be responsible for preparing a project nomination memorandum including the information outlined in paragraph III (b) (2) i through v below.

(b) Project Initiation. An Energy Bank Project may be initiated by any of the following means:

(1) Department heads may request Energy Bank funding to supplement facility renovation projects as part of the annual Capital Improvement Budget submission process. A cost-benefit analysis must be submitted with the project budget to support the request. Paragraph II. (c) applies.

(2) Department heads may request Energy Bank funding for specific projects at any time during the year by submitting a project nomination memorandum to the
Energy Bank Management Committee via the Public Works Director. At a minimum, the project nomination memorandum should include:

i. A statement of the scope of work (project description).

ii. A project budget showing all funding sources and indicating what percentage of the project will be paid for using Energy Bank funds.

iii. A cost-benefit analysis and estimated simple pay back period.

   Paragraph II. (c) applies.

iv. A recommended payment schedule. The schedule should be expressed in a specific number of equal annual payments over a period not to exceed seven years.

v. A description of the methodology for measuring and reporting the resultant energy savings attributable to the project.

(3) Any Town employee may nominate a project for Energy Bank funding by submitting a project nomination to their department head. The department head may process employee generated projects by including them in the next regular Capital Improvement Budget submission or by forwarding them to the Energy Bank Management Committee for consideration with a recommendation for approval. The department head also has the option to reject employee generated requests and return them to the originator with a reason for disapproval of the request.
(c) Project Review and Approval Process.

(1) Projects of $5,000 or less. Projects of $5,000 or less may be approved by the Public Works Director. The Public Works Director will notify the requesting party of his approval or rejection of the project by memorandum or e-mail with a copy to the Finance Director and the Planning Director. Upon receiving approval for the project, the designated project manager may proceed to submit the required purchase order requisitions and/or contract documents in accordance with the Town’s purchasing and contracting polices and procedures. The Finance Director will assign project accounting codes to the project as appropriate under existing purchasing and contracting polices and procedures. The Public Works Director will include information on approved projects in a quarterly report to the Council Committee on Sustainability, Energy and Environment.

(2) Projects of $5,001 to $50,000. The “Energy Bank Management” Committee shall meet as needed to consider project applications for Energy Bank projects of $5,001 or greater. The committee may elect to simply review the written project proposal or may call upon the designated project manager to brief the committee on the project. The Energy Bank Management Committee may approve project funding requests of $50,000 or less without further review. The committee’s decision on each project proposal shall be communicated in the minutes of the meeting. A copy of the minutes shall be the project manager’s authority to proceed on approved projects. The Public Works Director will provide a copy of the minutes to the Council Committee on Sustainability, Energy and
Environment and will include information on approved projects in a quarterly report to the Council Committee on Sustainability, Energy and Environment.

(3) **Projects of $50,001 to $100,000.** For project proposal of $50,001 to $100,000, the Energy Bank Management Committee will submit their recommendations for approval or rejection of the project to the Town Manager. The Town Manager may approve requests of $100,000 or less without further review. The Manager’s decision on each project proposal shall be communicated by memorandum to the requesting party. A copy of the memorandum reporting the Manager’s approval of the project shall be the project manager’s authority to proceed with the project. The Town Manager will prepare an information report to the Mayor and Town Council for each approved project prior to initiation of the project.

(4) **Projects of $100,001 or more.** For projects of $100,001 or more, the Energy Bank Management Committee will submit their recommendations for approval or rejection of the project to the Town Manager along with a draft Town Council agenda item when a project is recommended for approval. Upon the Manager’s approval, the agenda item recommending project approval will be forwarded to the Town Council for final approval at their next regular business meeting. If the project is approved, a copy of the minutes of the Council meeting shall be the project manager’s authority to proceed with the project.

(d) **Accounting and Financial Procedures.** It shall be the responsibility of the Finance Director to provide accounting and financial services for the administration of the Energy Bank.
(1) **Disbursement of Project Funding.** Upon approval of an Energy Bank project, the Finance Director shall provide the designated project manager with an account number (organization code, object code and project code) against which approved project expenses may be charged.

(2) **Energy Bank Fund Replenishment.** The Finance Director shall establish an Energy Bank Fund and provide a system to allow funds to reimburse the Energy Bank Fund for the cost of completed projects over a period of no more than seven years. The cost of completed projects will be divided by the reinvestment period to establish how much should be repaid each year. We anticipate that the cost of utilities will decrease by an amount at least equal to the annual transfers.

(3) **Energy Bank Financial Reports.** The Finance Director shall be responsible for including a report of the status of Energy Bank accounts in the Manager’s quarterly report to the Town Council. At minimum, the report will show:

   i. The available balance of the Energy Bank.

   ii. The total amount of funds outstanding.

   iii. A list of outstanding projects with the original project funding amount, and remaining balance due.

**IV. Monitoring Performance of Energy Bank Projects**
(a) **Measuring Results.** In order to evaluate the success of this program, it is essential that each Energy Bank funded project include a plan for measuring energy consumption before and after the project. For projects with a large impact, it may be sufficient to compare the overall consumption of utilities before and after the project for a one year period. This data can be collected directly from utility bills. For smaller scope projects, it may be necessary to install metering devices that isolate the affected area of a building. The utility consumption baseline for projects related to heating and cooling should be established for one full year to account for seasonal differences. For projects where utilities consumption rates are less weather dependent and less variable, the baseline measurement period may be reduced to a much shorter period. In these cases, the data collected over the shorter monitoring period may be used to calculate an estimated annual consumption and an estimated annual savings.

(b) **Reporting Results.** The Public Works Director shall be responsible for including a report on the resultant saving attributable to each completed Energy Bank project in the Manager’s quarterly report to the Town Council. Each report should include a graphical representation of the results and a brief narrative discussion of the results. Each project will appear in five successive quarterly reports beginning with the first report after project completion. At minimum, the report will show:

i. Baseline utility consumption before the project.

ii. Utility consumption after project completion

iii. Measured or estimated savings in Kwh of electricity, CCF of natural gas or gallons of water.
iv. Measured or estimated savings in dollars.

v. Carbon emissions reductions attributable to the project.

vi. Weather related reports will be normalized using heating/cooling degree day data for the period covered.

vii. Reports showing dollar savings will be normalized to account for utility rate changes.

viii. The final report on each project will recommend corrective actions for those projects that do not demonstrate the expected level of savings.

(c) Renegotiation of Project Funding Agreements. At the end of the one-year evaluation period, some projects will meet or exceed performance expectations and some will not meet performance expectations. In those cases where performance exceeds expectations, the Manager may elect to renegotiate the terms of the project funding agreement and accelerate the repayment schedule. In those cases where performance falls short of expectations, the Manager may elect to renegotiate the terms of the project funding agreement and grant relief in the form of extending the term of the repayment schedule or forgiving a portion of the financing.
Appendix II. Past ACC Energy

Expenditures
## ACC Totals

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<th>Total kWh</th>
<th>Total Cost</th>
<th>Month</th>
<th>Total kWh</th>
<th>Total Cost</th>
<th>KW Change</th>
<th>Cost Change</th>
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<td>November</td>
<td>2,502,426</td>
<td>$324,797.21</td>
<td>16%</td>
<td>7%</td>
</tr>
<tr>
<td>December</td>
<td>2,755,206</td>
<td>$239,892.95</td>
<td>December</td>
<td>2,721,027</td>
<td>$288,160.54</td>
<td>2%</td>
<td>6%</td>
</tr>
<tr>
<td>January</td>
<td>2,346,048</td>
<td>$279,693.26</td>
<td>January</td>
<td>3,084,049</td>
<td>$342,648.00</td>
<td>3%</td>
<td>21%</td>
</tr>
<tr>
<td>February</td>
<td>2,184,060</td>
<td>$229,293.79</td>
<td>February</td>
<td>2,758,065</td>
<td>$331,016.70</td>
<td>6%</td>
<td>25%</td>
</tr>
<tr>
<td>March</td>
<td>2,064,205</td>
<td>$255,530.47</td>
<td>March</td>
<td>2,902,205</td>
<td>$297,017.40</td>
<td>-7%</td>
<td>17%</td>
</tr>
<tr>
<td>April</td>
<td>2,000,414</td>
<td>$253,731.35</td>
<td>April</td>
<td>2,068,068</td>
<td>$262,266.07</td>
<td>-6%</td>
<td>9%</td>
</tr>
<tr>
<td>May</td>
<td>2,114,072</td>
<td>$274,248.90</td>
<td>May</td>
<td>2,114,087</td>
<td>$296,218.13</td>
<td>-3%</td>
<td>-5%</td>
</tr>
<tr>
<td>June</td>
<td>2,200,262</td>
<td>$259,719.74</td>
<td>June</td>
<td>2,054,264</td>
<td>$256,279.02</td>
<td>-7%</td>
<td>18%</td>
</tr>
</tbody>
</table>

### First Qtr
- Totals: 9,065,704 | $1,611,831.52
- First Qtr: 3,287,623 | $390,290.29
- Second Qtr: 3,283,429 | $456,093.73

### Second Qtr
- Totals: 6,288,020 | $732,015.93
- First Qtr: 3,284,049 | $340,772.92
- Second Qtr: 3,003,771 | $395,341.01

### Third Qtr
- Totals: 8,026,739 | $758,850.50
- First Qtr: 3,279,313 | $1,000,571.58
- Second Qtr: 2,911,771 | $320,480.53

### Fourth Qtr
- Totals: 9,420,219 | $831,721.32
- First Qtr: 3,141,740 | $255,240.34
- Second Qtr: 2,869,083 | $284,688.74

### FY Totals
- Total: 36,296,510 | $4,074,470.42
- Monthly Averages: 24,215,032 | $2,500,531.40

### Qtr Averages
- Total: 9,145,128 | $793,247.51

---

### Monthly kWh Usage FY 07 - 08

![Graph of monthly kWh usage from FY 07 to FY 08](image-url)
## ACC Totals

<table>
<thead>
<tr>
<th>Month</th>
<th>Total KWh</th>
<th>Total Cost</th>
<th>FY08</th>
<th>Total KWh</th>
<th>Total Cost</th>
<th>FY09</th>
</tr>
</thead>
<tbody>
<tr>
<td>July</td>
<td>2,377,498</td>
<td>239,649.75</td>
<td>July</td>
<td>3,335,854</td>
<td>365,740.55</td>
<td>July</td>
</tr>
<tr>
<td>August</td>
<td>3,482,028</td>
<td>331,535.66</td>
<td>August</td>
<td>2,940,918</td>
<td>334,183.89</td>
<td>August</td>
</tr>
<tr>
<td>September</td>
<td>3,152,708</td>
<td>260,303.81</td>
<td>September</td>
<td>3,120,693</td>
<td>247,294.20</td>
<td>September</td>
</tr>
<tr>
<td>October</td>
<td>2,805,155</td>
<td>270,139.41</td>
<td>October</td>
<td>5,036,490</td>
<td>519,764.33</td>
<td>October</td>
</tr>
<tr>
<td>November</td>
<td>2,942,801</td>
<td>270,657.27</td>
<td>November</td>
<td>3,177,682</td>
<td>317,853.00</td>
<td>November</td>
</tr>
<tr>
<td>December</td>
<td>2,721,262</td>
<td>250,155.54</td>
<td>December</td>
<td>3,274,521</td>
<td>345,003.10</td>
<td>December</td>
</tr>
<tr>
<td>January</td>
<td>3,281,610</td>
<td>342,455.60</td>
<td>January</td>
<td>2,935,830</td>
<td>322,693.26</td>
<td>January</td>
</tr>
<tr>
<td>February</td>
<td>2,975,059</td>
<td>337,093.10</td>
<td>February</td>
<td>2,921,057</td>
<td>332,793.46</td>
<td>February</td>
</tr>
<tr>
<td>March</td>
<td>2,882,261</td>
<td>330,917.43</td>
<td>March</td>
<td>3,129,763</td>
<td>343,051.57</td>
<td>March</td>
</tr>
<tr>
<td>April</td>
<td>2,938,288</td>
<td>262,839.87</td>
<td>April</td>
<td>3,069,690</td>
<td>308,645.96</td>
<td>April</td>
</tr>
<tr>
<td>May</td>
<td>2,114,687</td>
<td>260,718.13</td>
<td>May</td>
<td>3,044,157</td>
<td>323,460.89</td>
<td>May</td>
</tr>
<tr>
<td>June</td>
<td>2,064,464</td>
<td>330,570.83</td>
<td>June</td>
<td>2,950,263</td>
<td>339,891.78</td>
<td>June</td>
</tr>
</tbody>
</table>

### First Qtr
- Totals: 10,987,829 $ 850,003.23
- Monthly Average: 2,958,707 $ 350,718.54

### Second Qtr
- Totals: 8,514,542 $ 670,973.32
- Monthly Average: 2,161,404 $ 217,986.43

### Third Qtr
- Totals: 7,255,212 $ 1,000,471.50
- Monthly Average: 2,416,404 $ 300,098.56

### Fourth Qtr
- Totals: 7,187,286 $ 854,095.29
- Monthly Average: 2,292,171 $ 213,523.81

### Monthly Average FY
- Totals: 34,210,221 $ 3,635,691.42
- Monthly Average: 2,975,057 $ 334,592.27

### Qtr Average
- Totals: 8,937,758 $ 885,937.85
- Qtr Average: 2,292,171 $ 213,523.81

### Monthly kWh Usage FY 08 - 09

![Graph showing monthly kWh usage from FY 08 to FY 09](image-url)
## ACC Totals

<table>
<thead>
<tr>
<th>FY09</th>
<th>Total kWh</th>
<th>Total Cost</th>
<th>FY10</th>
<th>Total kWh</th>
<th>Total Cost</th>
<th>kWh Change</th>
<th>Cost Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>July</td>
<td>3,205,604</td>
<td>$355,740.23</td>
<td>JULY</td>
<td>3,393,398</td>
<td>$360,135.38</td>
<td>-7%</td>
<td>-7%</td>
</tr>
<tr>
<td>August</td>
<td>2,500,918</td>
<td>$334,169.29</td>
<td>August</td>
<td>3,245,464</td>
<td>$351,939.44</td>
<td>16%</td>
<td>5%</td>
</tr>
<tr>
<td>September</td>
<td>2,120,833</td>
<td>$317,251.23</td>
<td>September</td>
<td>3,721,546</td>
<td>$560,817.96</td>
<td>6%</td>
<td>2%</td>
</tr>
<tr>
<td>October</td>
<td>2,695,460</td>
<td>$315,764.23</td>
<td>October</td>
<td>2,069,914</td>
<td>$323,054.44</td>
<td>7%</td>
<td>4%</td>
</tr>
<tr>
<td>November</td>
<td>2,702,150</td>
<td>$317,650.40</td>
<td>November</td>
<td>2,069,914</td>
<td>$323,054.44</td>
<td>7%</td>
<td>4%</td>
</tr>
<tr>
<td>December</td>
<td>3,274,648</td>
<td>$346,265.15</td>
<td>December</td>
<td>2,069,914</td>
<td>$323,054.44</td>
<td>7%</td>
<td>4%</td>
</tr>
<tr>
<td>January</td>
<td>2,600,829</td>
<td>$326,892.20</td>
<td>January</td>
<td>2,069,914</td>
<td>$323,054.44</td>
<td>7%</td>
<td>4%</td>
</tr>
<tr>
<td>February</td>
<td>2,826,027</td>
<td>$325,705.48</td>
<td>February</td>
<td>2,069,914</td>
<td>$323,054.44</td>
<td>7%</td>
<td>4%</td>
</tr>
<tr>
<td>March</td>
<td>3,193,777</td>
<td>$343,561.57</td>
<td>March</td>
<td>2,069,914</td>
<td>$323,054.44</td>
<td>7%</td>
<td>4%</td>
</tr>
<tr>
<td>April</td>
<td>2,680,059</td>
<td>$330,655.86</td>
<td>April</td>
<td>2,069,914</td>
<td>$323,054.44</td>
<td>7%</td>
<td>4%</td>
</tr>
<tr>
<td>May</td>
<td>2,644,167</td>
<td>$338,480.90</td>
<td>May</td>
<td>2,069,914</td>
<td>$323,054.44</td>
<td>7%</td>
<td>4%</td>
</tr>
<tr>
<td>June</td>
<td>2,412,093</td>
<td>$338,854.75</td>
<td>June</td>
<td>2,069,914</td>
<td>$323,054.44</td>
<td>7%</td>
<td>4%</td>
</tr>
</tbody>
</table>

### First Qtr
- Totals: 9,576,375 $1,097,158.62
- Monthly Average: 3,192,126 $335,719.54

### Second Qtr
- Totals: 9,673,321 $977,419.85
- Monthly Average: 2,681,104 $325,705.48

### Third Qtr
- Totals: 5,589,643 $995,520.21
- Monthly Average: 2,066,440 $332,423.44

### Fourth Qtr
- Totals: 9,584,910 $1,052,861.73
- Monthly Average: 2,386,470 $324,650.83

### FY
- Totals: 35,746,280 $4,015,110.54
- Monthly Average: 2,676,614 $342,292.55

### All Average
- 5,935,762 $1,093,177.54

## Monthly kWh Usage FY 09 - 10

![Graph showing monthly kWh usage from FY 09 to FY 10](image.png)
Sources


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Mukhopadhyay 1


