

**A RESOLUTION FOR ACCEPTING THE STAFF REPORT AND
APPROVING THE RESIDENTIAL DESIGN
FOR THE ENERGY EFFICIENCY PROGRAM**

Draft Resolution No. 148/2010-11

WHEREAS, an ARRA grant application has been submitted to and accepted by the US Department of Energy (USDOE) Retrofit Ramp Up/Better Buildings program by the Southeastern Energy Efficiency Alliance (SEEA) in collaboration with the Town of Carrboro, the Town of Chapel Hill and other southeastern jurisdictions to pursue community scale energy efficiency retrofits; and

WHEREAS, the Town has accepted a grant award of \$75,000 and negotiated an agreement with the SEEA, and developed a Memorandum of Understanding with Chapel Hill to share administrative and monitoring and verification costs and make all necessary arrangements to implement a first year budget; and

WHEREAS, the agreement with SEEA and the Memorandum of Understanding with Chapel Hill through the first half of 2011 includes extension of \$55k of loans through a revolving loan fund to small businesses, with an additional \$5k of funds for supporting residential energy efficiency, and the remainder to administration via a contractor, Clean Energy Solutions, and quality assurance, monitoring and verification; and

WHEREAS, the Town has applied for an additional \$50,000 of discretionary funds from SEEA, with approval being contingent on successful demonstration of progress to date, and anticipated success as demonstrated through sound program design;

WHEREAS, Town staff continue to work with Clean Energy Solutions, Chapel Hill, SEEA, and Duke Energy staff and contractors to develop program design details, provide additional subsidies, and meet ARRA requirements;

NOW THEREFORE BE IT RESOLVED by the Carrboro Board of Aldermen that the Aldermen accept the staff update, approve the Residential Energy Efficiency Program Design, and authorize the Town Manager to update the Memorandum of Agreement with Chapel Hill and accept new funding from SEEA if it becomes available.



TOWN OF CARRBORO

NORTH CAROLINA

TRANSMITTAL PLANNING DEPARTMENT**DELIVERED VIA:** ☒ *HAND* ☐ *MAIL* ☐ *FAX* ☐ *EMAIL***To:** **Board of Aldermen****From:** **Randy Dodd, Environmental Planner**

Cc: **Steven Stewart, Town Manager**
Patricia McGuire, Planning Director
Matt Efird, Assistant to the Town Manager
Annette Stone, Economic and Community Development Director
Nora Barger, Clean Energy Solutions, Inc.

Date: **June 15, 2011**

Subject: **Southeast Energy Efficiency Alliance Project Update and Expanded Residential Program Design**

Summary

The purpose of this memo is to update Board members and the public on Carrboro's implementation for a community scale energy efficiency grant. Town staff have worked with Chapel Hill staff and a nonprofit, the Southeastern Energy Efficiency Alliance (SEEA), to participate in a successful application to the US Department Of Energy (DOE) for ARRA funds geared towards community scale energy efficiency retrofits of existing buildings. This partnership focuses on building science, systems, and usage behavior, with an emphasis on improving energy efficiency, and a second emphasis on phasing in alternative/renewable generation. Previous agenda items about the opportunity were provided on June 1, June 22 December 3, 2010; information from those reports is for the most part not repeated in this memo.

Information

This grant funded project is nearing the end of the first year, and will continue to unfold over the next one to two years, with the vision being the establishment of a long term, sustaining partnership and program. Chapel Hill and Carrboro have entered into separate but coordinated agreements with SEEA, and a Memorandum of Agreement between the towns. Assuming successful performance in the first year, Chapel Hill and Carrboro will receive additional funds in the second year of the grant, and be eligible to compete with other SEEA participants for additional funding. Carrboro staff have applied for \$50k in additional funding from this grant's

private \$ for every \$ of funds provided through the SEEA grant (with additional subsidy provided by the EECBG funds). The program has been served by four prequalified contractors, with quality assurance provided by Advanced Energy. Chapel Hill intends to evaluate this first phase and release a second phase of the program in late summer 2011. More details on the program are available at <http://www.ci.chapel-hill.nc.us/index.aspx?page=1666>.

Carrboro WISE Expanded Residential Energy Efficiency Program Design: Program Overview

Pending award of funding (\$50k) from the SEEA discretionary grant funds and in addition to the home energy assessment subsidy and Duke Energy pilot residential subsidy, a more robust residential energy efficiency improvement program is being developed. The following program design is based largely on the existing Chapel Hill WISE residential energy efficiency program. The intent is to release the program assuming award of the SEEA discretionary funds later this summer. This program design is intended for the initial release, and may be modified (as recommended by staff and approved by the Board of Aldermen) in the future. Additional details are provided in a separate program design document.

Program Eligibility

All owner-occupied, detached single family Carrboro residences within the town limits are eligible for the pilot energy efficiency incentive program. The pilot is constrained to this geographic scope because of limited funding and administrative support for the program. Homeowners are eligible for the pilot energy efficiency incentive program on a first-come, first-served basis. Incentives are only available for existing homes. The list of approved measures is subject to a \$2,000 limit on incentive dollars (total amount from all sources, including state and federal tax credits and utility incentives) per customer per project.

Approved Measures

Improvements can include a combination of measures that will result in 15-20% energy savings from their energy baseline (more details available in the program design document):

40% rebate (after all other rebates and incentives):

- Envelope air sealing
- Insulation improvements, including:
- Duct sealing and repair
- Outdoor thermostats for homes with heat-pumps

20% rebate (after all other rebates and incentives)

- HVAC upgrades
- Hot water heater
- Energy-efficient appliances
- Recirculating hot water systems
- Programmable thermostats
- Lighting upgrades

services, learn from experience in rolling out the programs, minimize confusion to the community, streamline administration and delivery of services and information, and maximize collaboration/partnering and the leveraging of funds.

In the near future, in addition to continuing to implement the program elements and grant requirements described above and in previous staff reports, staff intend to work with CESI and Chapel Hill to review the results of Chapel Hill's residential program, update the Memorandum of Agreement between the two towns, and develop a longer term strategic plan for the program. Staff also intend to work with SEEA to secure funding from the discretionary pool. Staff will also be evaluating the Energy Efficiency Revolving Loan Fund efforts, and expect to report back to the Board in the late summer/early fall with an update, and any recommendations for enhancements to the program. Finally, staff intend to explore opportunities to work with UNC's Delta Fellows program to provide support to Carrboro's energy efficiency program, consistent with the programs goals for providing internship opportunities.

Recommendations

Staff recommend that the Board adopt the attached resolutions accepting this report, and approval of the residential program design and allowing staff to update the Memorandum of Agreement with Chapel Hill.

STATE OF NORTH CAROLINA
COUNTY OF ORANGE

MEMORANDUM OF AGREEMENT

TOWNS OF CHAPEL HILL AND CARRBORO AND DUKE ENERGY CAROLINAS, LLC
RESIDENTIAL RETROFIT PILOT

THIS AGREEMENT, made and entered into between the Town of Chapel Hill, North Carolina, a North Carolina municipal corporation, 405 Martin Luther King Jr. Blvd., Chapel Hill, NC 27514, the Town of Carrboro, North Carolina, a North Carolina municipal corporation, 301 West Main Street, Carrboro, NC 27510 (Chapel Hill and Carrboro being referred to collectively herein as the "Towns") and Duke Energy Carolinas, LLC ("Duke Energy"), for a joint residential energy efficiency retrofit pilot project ("pilot"):

WHEREAS, the Towns are public bodies, politic and corporate, under the laws of the State of North Carolina, and Duke Energy is a public utility;

WHEREAS, the parties are vested with the power and authority to undertake joint projects for the health, safety, and general welfare of the citizens; and

WHEREAS, the Towns are collaborating with each other through a separate Memorandum of Agreement, and through the Southeastern Energy Efficiency Alliance, on a joint grant project funded by the United States Department of Energy; and

WHEREAS, if the Towns collaborate and perform successfully during the grant period, they will be eligible to compete with other jurisdictions working with the Southeastern Energy Efficiency Alliance for additional grant monies; and

WHEREAS, the Towns have agreed in the aforementioned Memorandum of Agreement to coordinate efforts closely, and to seek opportunities to partner with other entities to leverage technical and financial participation; and

WHEREAS, Duke Energy is seeking opportunities to help customers save energy. In support of that objective, Duke Energy has requested and received approval from the North Carolina Regulatory Commission for a residential energy home improvement offer (which is synonymous with "Residential Retrofit Pilot"). The pilot provides an opportunity for Duke Energy to learn the best methods for delivering an energy home improvement program to customers; and

WHEREAS, the Towns have launched a residential retrofit program. The Towns are cooperating through a separate Memorandum of Agreement on an energy efficiency program, with support from federal grants that will greatly facilitate this project; and

WHEREAS, for the purpose of this pilot project, the Towns will cooperate with Duke Energy in unison. Therefore, no modifications to the Memorandum of Agreement between the Towns will be required.

NOW, THEREFORE, in consideration of the foregoing and of the mutual promises and obligations set forth herein, the receipt and sufficiency of which is hereby acknowledged, the parties agree as follows:

Duke Energy will:

1. Provide an incentive (as set forth below) to encourage the installation of specific high efficiency home improvements. The Duke Energy incentive will be in addition to any incentives provided by the Towns through the preexisting Memorandum of Agreement. The incentive will be available for at least 100 customers who meet the following criteria:
 - They are a Duke Energy customer
 - They live in an owner occupied, single family residence
 - They have a functioning central air conditioning system
 - They meet any other requirements of the Town's retrofit program

Improvement	Duke Energy Incentive
Attic Insulation and Home Air Sealing	\$200
Duct Sealing	\$75
Duct Insulation	\$75
All 3 Improvements Installed	\$425

Incentives will be paid after verification that the qualifying improvements have been installed. The incentives will be paid individually for each residence, and paid directly to the contractor.

2. Provide two identical sales training sessions on the same day for the audit and installation contractors participating in the Towns' residential retrofit program. Training will be provided by Advanced Energy and arrangements will be made in coordination with the Towns. Attendees will be determined by the Towns and no more than 16 attendees per session. The Towns and contractors will not be responsible for reimbursement to Duke Energy or Advanced Energy for the trainings.

Additional program support may be provided by Duke Energy, including cooperation on joint press releases and marketing and support materials on how to access Duke Energy's On-Line Service system.

The Towns will:

1. Work with Duke Energy's designated measurement and verification vendor ("M&V Vendor") WECC to provide the customer information required to verify the installation of the approved improvements.
2. Provide the customer information and home profile data needed to complete the required measurement and verification for the program test.
3. Provide Duke Energy's M&V Vendor access to Towns' program personnel and contractors for measurement and verification interviews.
4. Work with Advanced Energy to identify participants for the training classes, and to set-up for and hold the training classes.

This agreement may be amended by mutual written agreement of the Towns and Duke Energy.

This Agreement constitutes the entire Agreement of the parties hereto

IN WITNESS THEREOF, the parties to this Agreement have duly and validly approved it and caused it to be executed in their behalf by the undersigned agents.

This, the ____ day of ____, 2010.

TOWN OF CHAPEL HILL

TOWN OF CARRBORO

DUKE ENERGY CAROLINAS, LLC

Roger Stancil, Town Manager

Steve Stewart, Town Manager

Attest: Town Clerk

Attest: Town Clerk

Attest:

Approved as to form and authorization:

Town Attorney

Town Attorney

This Agreement has been pre-audited in the manner required by the Local Government Budget and Fiscal Control Act.

Town of Chapel Hill Finance Officer

Town of Carrboro Finance Director

Carrboro WISE Residential Energy Efficiency Program Design - DRAFT

Program Overview

Chapel Hill and Carrboro won competitive funding through a partnership with the Southeast Energy Efficiency Alliance (SEEA) in 2010.¹ Carrboro has prioritized first year funding on an Energy Efficiency Revolving Loan Fund (EERLF) focusing on small commercial buildings. First year funding for residential improvements has been limited to \$5000 to support home energy assessments; this limited funding was released in June, 2011. Carrboro has also worked with Duke Energy and Chapel Hill to simultaneously release a pilot program for Duke Energy residential customers to provide a subsidy for air sealing and insulation improvements.

Pending award of funding (\$50k) from the SEEA discretionary grant funds and in addition to the home energy assessment subsidy and Duke Energy pilot residential subsidy, a more robust residential energy efficiency improvement program is being developed. The following program design is based largely on the existing Chapel Hill WISE residential energy efficiency program. The intent is to release the program assuming award of the SEEA discretionary funds later this summer. This program design is intended for the initial release, and may be modified (as recommended by staff and approved by the Board of Aldermen) in the future.

Program Eligibility

All owner-occupied, detached single family Carrboro residences within the town limits are eligible for the pilot energy efficiency incentive program. The pilot is constrained to this geographic scope because of limited funding and administrative support for the program. Homeowners are eligible for the pilot energy efficiency incentive program on a first-come, first-served basis.

- As a pilot program competing for additional funds with 12 other SEEA municipalities, there is a need to show immediate demand. Contractors are encouraged to utilize their networks to reach out to homeowners that have already expressed interest in energy efficiency.
- Interested low-income homeowners will be directed to the Weatherization Assistance Program (WAP) and any other available resources through the program website, and assistance will be provided by the Energy Efficiency Services Coordinator.
- Carrboro WISE is promoting the program to low and moderate income and elderly homeowners identified through the Homestead Act, and by contacting the Joint Orange Chatham Community Action Agency, Orange County Department of Housing and Community Development, Community Home Trust, and Habitat for Humanity.

Approved Measures

Contractors are encouraged to work with homeowners immediately to suggest a combination of measures that will result in 15-20% energy savings from their energy baseline. Homeowners should be apprised that in the near future, the Town could provide incentives (pending funding) for installation of energy efficiency measures. These incentives would be paid directly to the prequalified contractors. Incentives are only available for existing homes. **The list of approved measures is subject to a \$2,000 limit on incentive dollars (total amount from all sources, including state and federal tax credits and utility incentives) per customer per project.**

¹ <http://www.seealliance.org/programs/cities.php>

Table 1 Eligible Measures for Energy Efficiency Subsidy

40% rebate (after all other rebates and incentives):	20% rebate (after all other rebates and incentives)
Envelope air sealing including but not limited to: <ul style="list-style-type: none"> o Attic sealing o Chases and dropped interior soffits o Chimneys and flue pipes o Attic accesses o Light penetrations o Framing top plate to interior finish o Basement exterior band o Crawlspace o Plumbing, duct penetrations o House to garage sealing 	Heating ventilation and air conditioning (HVAC) upgrades if HVAC system is moving from 10 SEER to 13+
	Hot water heater replacements if existing hot water heater is clearly in need of replacement
	Energy-efficient appliances
	Recirculating hot water systems
	Programmable thermostats in gas-heated homes
	Lighting upgrades
	Solar thermal hot water
	Solar PV or geothermal ONLY if in combination with EE measures expected to generate 15% energy savings*
Insulation improvements, including: <ul style="list-style-type: none"> o Ceilings o Crawl space above conditioned space o Attics o Knee walls 	
Duct sealing and repair	
Outdoor thermostats for homes with heat-pumps	

*Measures must include attic air sealing, duct sealing, and insulation improvements, unless there is documentation that no further improvement is warranted

Contractors will assist homeowners with applying for all other relevant incentives, which include:

Duke Energy Incentives – Existing Homes, Air Sealing and Insulation Pilot Chapel Hill- Carrboro Program

Duke Energy customer | 100 Homes Initial Limit

- Attic Insulation and Home Air Sealing \$100
- Duct Sealing \$75
- Duct Insulation \$75
- All 3 Improvements Installed \$425

Duke Energy Incentives – Existing Homes, Smart Saver™ Program

Duke Energy customer | \$200 for each qualifying heat pump or central air conditioner²

Heating Dealer Incentive | \$100 to participating heating contractor, sales representative, or dealership³

PSNC Gas \$100 rebate for residential natural gas furnace or boiler: AFUE 90% or higher residential natural gas tank-type and tankless water heaters: Energy Factor 0.80 or higher.

Piedmont Electric Membership Corporation Up to \$15 a year in rebates for installation of CFL's.

Energy Efficiency Loan Program | Up to \$10,000 for seven years at 5% interest for energy efficient electric heat pump (14 SEER or greater); replacement of poorly insulated A/C systems.⁴

² <http://www.duke-energy.com/pdfs/Smart-Saver-Summary-NCSC.pdf>

³ <http://www.duke-energy.com/pdfs/Smart-Saver-Summary-NCSC.pdf>

⁴ <http://www.pemc.coop/energySavings/energyEfficiencyLoanProgram.aspx>

Contractors are responsible for providing the relevant paper work to apply for these rebates. Typical project costs (after incentives) are expected to range from \$2-\$30K, with an expected average of \$4K.

Contractor Network

Carrboro, through its contractor Clean Energy Solutions, is developing a network of prequalified contractors who will conduct energy assessments and complete retrofits.

Contractors may apply for inclusion to the program, with preference given to local contractors. Contractors will meet the following criteria:

1. BPI (Building Performance Institute) certification, including experience with combustion protocol
2. If applicable, RESNET (Residential Energy Services Network) certification or any other certifications that are pertinent to your performance as a qualified contractor in the Chapel Hill WISE Homes and Building Program
3. Energy modeling software for energy assessments— Either Surveyor software purchased through the Chapel Hill WISE Homes and Buildings Program or other energy modeling software approved by the program's QA provider
4. Relevant references available, including:

At least one of the following three:

 - a. A satisfactory Dun and Bradstreet Rating, or
 - b. Membership in the Better Business Bureau, or
 - c. A satisfactory banking reference

Each of the following:

 - d. A minimum of three current satisfactory professional/trade references, such as suppliers of materials, tools, credit;
 - e. A minimum of three satisfactory references from customers served within the past 6 months;
5. Ability to act as general contractor if subcontractors are needed
6. Acceptable insurance, including general liability and workers' compensation. Guidelines include:
 - a. \$1,000,000 in respect of claims arising out of personal injury or sickness or death of any one person, \$1,000,000 in respect of claims arising out of personal injury, sickness or death in any one accident or disaster, and \$1,000,000 in respect of claims arising out of property damage in any one accident or disaster; and
 - b. Commercial automobile liability insurance in respect of motor vehicles owned, licensed or hired by the Contractor and the Subcontractors for bodily injury liability, including death and property damage, incurred in connection with the performance of work in the Program, with minimum limits of \$500,000 in respect of claims arising out of personal injury, sickness, or death of any one person, \$1,000,000 in respect of claims arising out of personal injury, sickness or death in any one accident or disaster; and \$500,000 in respect of claims arising out of property damage in any one accident or disaster; and

c. Workers' Compensation Policy covering the obligations of the Contractor as required under the provisions of the Workers' Compensation Law, Employers Liability, and Disability Benefits.

7. Dispute Resolution Protocol covering the process undertaken by the Contractor to resolve any disagreements arising from proposed or conducted work.

Contractor Process

- Step 1: Homeowners will pick a contractor from the pre-qualified list. An energy improvement assessment will be conducted (\$150 from Town, up to \$450 from homeowner).
 - Note: if a contractor refers a customer, this customer is assigned to the referring contractor, to provide incentives for contractors to market the program.
 - Note: if a homeowner has received a BPI or RESNET certified audit on or after May 1, 2011 but before the release of the program, the homeowner will be eligible to receive a \$150 reimbursement from the town provided they decide to move ahead with the installation of energy efficiency measures after the release of the program.
- Step 2: Within 5 days of being contacted, contractors will schedule an energy assessment with the homeowner. Within 15 days of the assessment, contractor will provide an energy assessment report, listing potential measures, their costs, and their anticipated paybacks. The goal is to achieve at least 15% energy savings per home.
- Step 3: Homeowner works with contractor to decide on scope of work. Homeowner secures financing (if needed); contractor provides marketing materials (from CESI/Towns) regarding the financing options available.
- Step 4: Work begins. Contractor is responsible for interfacing with PSD / SEEA IT data collection tool in a timely way – before, during, and after project completion.
- Step 5: Work complete after test-out and sign-off from QA/ QC provider. Contractors receive incentive payment directly from the Town. Customer input is solicited by CESI during and after construction.

Quality Assurance

Carrboro plans to use Advanced Energy to provide Quality Assurance (QA) services. This process is under development, but will likely include:

- 2-3 mentored energy assessments
- 100% QA on the first 4-5 jobs
- 10% QA on subsequent jobs, at the discretion of CESI and Town staff and depending on performance during early jobs.

For evaluative purposes, we will use the retrofit standard known as Home Performance with Energy Star (HPWES) on a trial basis.

Marketing Plan

CESI will provide contractors with information sheets on the program to distribute to interested customers. CESI's draft marketing plan (subject to modification) includes:

1. Neighborhood listservs – working with the Town's neighborhood contact list and other available resources to reach all Carrboro homeowners within the town limits.
2. Newspaper features – highlighting early adopters

3. Town website – to host the program documents and provide information for interested homeowners
4. Stand alone program website will be created in conjunction with the Carrboro Energy Efficiency Revolving Loan (EERLF) program and maintained by the Energy Efficiency Services Coordinator. The program website will have program information as well as energy efficiency news, resources (such as WAP information), and highlights/ successes from the program.
5. Social media – Facebook page for program with friends of energy efficiency, highlight early adopters with permission, questions about energy efficiency answered
6. Leaders from targeted audiences to be recruited as advocates – schools, low income neighborhoods, business community religious communities, etc.
7. “Pass it on” card to give to friend or neighbor with information about energy efficiency and the program
8. Train the contractors workshop, taught by an energy efficiency marketing expert to ensure they are capturing all interested homeowners and educating them about energy efficiency
9. Laminated “answer card” for each of the contractors to ensure correct information about the program is being provided
10. Posters in local grocery stores and later coupon deals for them
11. Use of local grass roots organizations and/ or Americorp volunteers to canvass neighborhoods – fulfills their public services requirement
12. Public information sessions – either monthly or quarterly

Financing Options

To streamline the process of moving homeowners from energy assessment to actual project implementation, CESI is reaching out to local institutions to provide an easy access financing product to homeowners. This would be an unsecured loan with a term of up to 10 years. The loan term should allow homeowners to easily meet their debt service and principal repayments with the energy bill savings generated by their retrofits.

In the interim, Harrington Bank offers a revolving equity line of credit at 1 – 1.25 above prime. This type of financing works very well with energy efficient improvement projects due to their size and payback time.