

BOMA Atlanta Energy Alliance

Action Plan

Vision Statement

The goal of the BOMA Atlanta Energy Alliance is to provide owners and managers of commercial buildings and facilities with energy information, which will enable them to effectively reach decisions related to energy conservation.

Background

Building Owners and Managers of Atlanta, Inc. is a not for profit trade association representing owners and managers of commercial office buildings, office parks, and a wide variety of commercial facilities in Metropolitan Atlanta. BOMA Atlanta is the third largest of the one hundred independent local associations in North America which are federated with Building Owners and Managers Association International in Washington, D.C.

On February 3, 1998, the BOMA Atlanta Board of Directors approved the creation of the BOMA Atlanta Energy Alliance. This task force will concentrate on energy issues affecting the operations of buildings and facilities owned and/or managed by member companies.

Since energy expenditures constitute the largest controllable expense in commercial buildings, it is anticipated that much attention will be focused on energy related matters in the near future. This attention, while driven by impending utility deregulation, is in response to the BOMA Atlanta Mission Statement.

"Building Owners and Managers of Atlanta is a non-profit trade association whose purpose is to advance, by all appropriate means, the interests of building ownership as a business enterprise, and to raise the standards and enhance the status of building management as a calling."

The BOMA Atlanta Energy Alliance is governed by the Executive Committee of the Association and receives guidance from an Advisory Committee composed of those members who have significant knowledge of energy related issues. The Advisory Committee recommended and the Executive Committee approved the participation of BOMA Atlanta in *Rebuild America*, a Department of Energy national program which creates a resource group of thousands of people working as partners to renovate and retrofit buildings to improve energy efficiency. This partnership between BOMA Atlanta, its Energy Alliance, its members and potential members, community partners, utility partners and the partners brought forth by *Rebuild America* can accomplish mutually satisfactory goals within a short time.

Due to the complexity of the issues involved in this process, the program of work will be divided into multiple phases. It is expected that new partners will be added throughout the process, and that there will not be a clearly delineated start and end point for each phase.

Phase One

It is apparent that any measurement of energy saved must be compared with existing or benchmark data. The BOMA Atlanta Energy Alliance chose calendar year 1997 for our benchmark. Members of the association were invited to submit "Energy Data Release Forms" which authorized their utility companies to release data consumption information to BOMA Atlanta.

The managers of buildings in membership, who chose to submit the release forms, as well as the buildings they submitted, are listed in "Attachment One." These management companies form the most important segment of our "energy partners".

The data from these releases, both electric and natural gas consumption, is in the process of aggregation. Results of the aggregation are expected in late May. Our consultant in the electric aggregation is the primary utility, Georgia Power Company.

The natural gas aggregation consultant is Atlanta Gas Light Services, the new marketing arm of The Atlanta Gas Light Company. Both of these

utilities are partners in our BOMA Atlanta Energy Alliance/Rebuild America project.

The decision was made to use the existing utilities as consultants because the data to be aggregated is already in their respective computer systems. Neither utility is charging us for the aggregation phase of this project.

As the results of the aggregation are announced, it is anticipated that other members will choose to join the alliance. Unless there are a significant number of late entries, it is not anticipated that any additional aggregation studies will be performed, and phase one of the project will be completed.

The anticipated results of the phase one aggregation will provide ballpark data on the magnitude of the combined load of the Energy Alliance partners listed in "Attachment One." It will also define the load shape, particularly for the electric load in the commercial buildings and facilities that are participating. This data is expected to be useful in future negotiations with energy suppliers in the final phases of this project.

Phase Two

The BOMA Atlanta Energy Alliance has been invited by the U.S. Department of Energy's Oak Ridge National Laboratory to participate in a joint effort on energy benchmarking. The DOE is currently involved in several efforts to establish energy benchmark information for commercial buildings. Two of the ongoing spreadsheet efforts are of particular interest because: (1) BOMA Atlanta could provide benchmarking results to members as a benefit using currently developed DOE tools, and (2) BOMA Atlanta could provide DOE additional energy use information that could be used to improve the current tools and information.

DOE has already developed benchmarking spreadsheets for office buildings that calculate the energy use intensity (EUI) of buildings, provide the typical (median) EUI for office buildings with the same characteristics, and identify where the building's performance ranks compared to others (percentile of EUI). DOE will test this tool on BOMA Atlanta buildings to determine how useful it could be to BOMA Atlanta members.

DOE also participates in an Expert Group on energy efficiency for the Asia-Pacific Economic cooperation (APEC) effort involving the United States and

many Pacific Rim Countries. An Energy Benchmark Task Group was formed from the Expert Group to further develop and demonstrate the benefits of energy use benchmarks for commercial buildings and industry. The Task Group has already obtained significant data on office buildings and hotels, and efforts are in progress to collect additional data on these types of buildings. BOMA Atlanta will provide additional data to support this international effort in return for a comparison of BOMA Atlanta data with APEC members. Data on these buildings will be coded so that Alliance partners will not be concerned with unauthorized distribution of the data.

Phase Three

Our phase one data provides a macro look at energy consumption information for the Energy Alliance members. Phase two is designed to bring forth the energy information for individual buildings and facilities.

The "Data Release Forms" used in phase one were specifically advertised to the partners for the aggregation study and second set of permission forms will be distributed to allow the managers to continue their participation or to withdraw without further study. It is anticipated that the majority of partners will continue their participation.

Phase three will offer the partners a level of electric energy metering that is more sophisticated than is currently in wide use. These 15 or 30 minute interval meters will be installed under a group purchase program for meters which should provide the participants with "lowest possible" pricing. The Brazos Valley Energy Conservation Coalition at Texas A & M that specialized in metering applications could provide valuable input on the best types of meters to be installed at this point.

The real key to the phase three activity will be the automatic interrogation of the meters by a consultant, yet to be selected. The method of interrogation is currently under study and includes at least three possible channels of communication: (1) existing telephone lines with a dedicated line permanently attached to the meter; (2) cellular telephone connections, which will eliminate the need for a dedicated line but which may have technical limitations on data transmissions; and (3) satellite interrogations of the meters.

Option three may turn out to be very cost effective. Scientific Atlanta estimates that the communications package to be connected to the meter will cost between \$250 and \$350, depending on volume. The uplink/downlink service would cost approximately \$40 per month. Satellites to be used are in low earth orbit, reducing the communications requirements and keeping the cost within range of dedicated telephone lines. The two satellites currently being utilized can provide nearly continuous coverage, and as the eight satellites currently in orbit are activated, full 24-hour coverage will be assured.

Whichever communications link is selected, the data will be transmitted to the consultant. Computers at this facility will analyze the building data and compare it to one or more of several available benchmarks: (1) same building, same time period in 1997; (2) same building, same time period in 1997 adjusted for weather; (3) similar size buildings in the same geographic area; (4) model building data developed by the consultant and/or the engineers at Oak Ridge Labs; (5) other buildings in the portfolio of the energy manager's company; and/or (6) the design "energy budget" specifically developed for the building.

It is anticipated that the data and analysis will be returned from the consultant's computer to the energy manager via fax or e-mail. In either case the results will be timely to allow the manager to take corrective actions if the building energy utilization is outside of expected parameters.

The data flow that energy managers receive in this phase is tailored to the perceived needs of the building or facility. Some managers will want daily reports, while others want weekly or monthly reports. The ability to match the desires of the managers with the information made available should ensure good participation.

Phase Four

With the data and analysis available through the metering and reports generated in phase two, target buildings can be identified by either the consultant or the energy manager. We believe that those target buildings or facilities which are consuming more energy than should be required will be good candidates for retrofit projects.

During phase four, either the consultants used in phase three or new consultants selected and paid by the energy manager, or Energy Service Companies will analyze the building, with particular emphasis on HVAC system components like chillers, motors, fans and pumps, and lighting systems. The savings available for buildings and facilities that undertake extensive retrofit projects are expected to reach 25% to 35% of baseline consumption.

Phase Five

For the managers that decide to recommend retrofit programs to the owners of the buildings or facilities, information on available financing will be needed. It is anticipated that one or more "financial workshops" available through *Rebuild America* will be scheduled at appropriate times in the process.

In addition, preliminary contacts are being established with traditional financial institutions that serve this market: NationsBank, Wachovia and SunTrust Bank. Each of these institutions will be invited to identify a key individual who understands commercial energy utilization and the savings available through effective retrofit programs. This individual will be expected to expedite the processing of any loan application that may result, but it is understood that each loan will stand on its merits. The participating financial institutions will be invited to become partners in this program.

Phase Six

At specific points during the process, it will be informative to measure the energy being utilized by the buildings in the program, and to measure that consumption against 1997 baseline data. Obviously, the same buildings will need to be included in both aggregations. With the technique, after adjusting for weather and any other variable factors a special measure of energy conserved can be calculated. It is our goal to maximize the conservation of energy in commercial facilities through metro Atlanta and Georgia.

Phase Seven

The information gathered during the early phases of this program will then be used to allow the officers, Board of Directors, and the Energy Alliance Advisory Committee to determine if BOMA Atlanta should enter into

buying contracts for its members when deregulation takes place. Our early expectation is that such a program would provide significant savings for our members if the buying alliance is large enough to get prices from a variety of suppliers.

It should be clearly understood, however, that the benefits gained during the first six phases of the program will be significant and beneficial even if group buying never takes place. The energy awareness that this program will develop among our members, and the actual savings generated through targeted retrofits, are truly beneficial to the energy conservation goals of BOMA Atlanta's Energy Alliance and the program objectives of *Rebuild America*.

Logistic Considerations

It is anticipated that the administration of BOMA Atlanta Energy Alliance will be accomplished by existing staff of BOMA Atlanta. The use of our utility partners to provide aggregation data in phase one is without charge. The metering and consulting programs in phases three and four will be funded by the participating members.

The retrofits in phase four the financing in phase five will also be funded by the owners of the buildings and facilities that decide to accomplish them. Assistance to the owners/managers in the financing area and in the reconstruction of tenant leases to allow the owners to recover costs will become important. Many current leases use a "cost of operations" escalation clause, and if energy costs decline, the savings would be passed through to the tenant unless modified language is used. Such clauses need to be identified and made available early in this process before actual retrofits take place.

If a decision is made to enter into group purchase contracts for energy, the expenses of the operation will be covered by the addition to the energy bill. Even with this added expense, substantial savings should be realized if the buying decision is made.

Throughout this program, the assistance and advice of the *Rebuild America* program professional will be sought and appreciated.

Partners Listing

The owners/managers listed in attachment one are considered partners. This list will be constantly open to participation by additional owners and managers of commercial facilities in our area.

Government agencies

Fulton County is a partner.

The City of Atlanta has been invited to be a partner.

Cobb County has been invited to be a partner.

The State of Georgia Building Authority has been invited to be a partner.

Educational organizations

Gwinnett County School System has been invited to be a partner.

The City of Atlanta School System has been invited to be a partner.

Other colleges and universities, such as Georgia Tech, Georgia State and Emory University will be invited to be a partner.

Financial organizations

NationsBank, Wachovia and SunTrust Bank have been invited to be partners.

Other financial organizations will be identified as we move into later phases of the program.

Utilities

Georgia Power Company and Atlanta Gas Light Company are partners.

Others

It is anticipated that ESCOs, consulting firms, equipment suppliers and others will participate in this program in a manner limited only by their scope of operations.