

ENVIRONMENTAL STEWARDSHIP PLAN

**Beth-El Temple Center
Belmont, Massachusetts**



September, 2003

This report presents the findings and recommendations of the assessment of energy use and environmental stewardship of Beth El Temple Center. As stewards of the earth it is important that communities of faith understand the contribution of their facilities to environmental conditions. It is also important that they act responsibly to improve their situation, and to prompt similar understanding and action on the part of their congregants.

The information in this report is organized in the following sections...

- ❖ **Summary** — Identifies the facility attributes and issues for environmental stewardship.
- ❖ **Environmental Stewardship Profile** — Shows current use and cost of utilities, with the environmental impacts and potential for change.
- ❖ **Facility Systems and Conditions** — Covering heating, domestic hot water, cooling, electrical, plumbing, and building envelope systems, with photos illustrating key conditions.
- ❖ **Related Environmental Stewardship Action** — Including clean electricity, and actions by congregants and the congregation.
- ❖ **Appendices** — Detailed utilities use data, facility use patterns and materials for use in taking next steps, and a description of available services via Massachusetts Interfaith Power & Light.

SUMMARY

Beth El Temple Center is located at 2 Concord Avenue, Belmont, Massachusetts. The facility consists of a linked set of structures constructed in 1954.

- *Sanctuary and Social Hall*— This part of the building has brick walls, stained and clear glass windows, a flat roof, and secondary egress doors.
- *Core* — This part of the building is two stories plus an occupied basement. It connects the sanctuary and social hall via a full-width lobby, with primary building entry from both sides. It has brick walls, clear glass windows, a flat roof and commercial metal doors for primary entry.
- *Classrooms* — This part of the building provides classroom, library and office space, with brick walls, clear glass windows (including new windows in the preschool space), a flat roof and a secondary egress door.

The facility is heated by an *oil-fired hydronic boiler*, located in the basement. There is *air conditioning* for the sanctuary and social hall areas with a roof-mounted cooling tower, a basement chiller plus two roof mounted condensers. Fan coil units (FCUs) mounted in the attic distribute conditioned air via ductwork to the social hall and sanctuary. There is a FCU serving the basement meeting room. The rest of the building has hydronic heating via in-space cabinet fan coils and baseboard radiation. There is a central pneumatic control system with in-space thermostats. *Domestic hot water* is generated by a 100 gallon gas-fired DHW tank, located in the same room as the boiler. Some rooms in the classroom wing have through-window *air conditioners*. Electric *service* is through the basement of the synagogue building. It is rated at 400 amps, and is original to that structure. *Wiring* dates to the date of construction of the building. *Interior lighting* is varies in date, and both florescent and incandescent. There is *entry lighting* at each door, all installed in 1975. The main *equipment* with electricity demands includes office machines (computers and copy machines) and kitchen refrigerators. The primary *water* use is from the sinks in the rest rooms and in the kitchen. The primary *sewer* use is toilets.

As currently configured and operated the facility paid \$22,997 for all utilities in 2002, with an increase predicted for 2003 based on use to date. The cost for the utilities increased by about 102% in both 2002 and is predicted to increase by 127% in 2003. Use of electricity, gas and oil increased in 2001 over 2000 by 10%, and in 2000 over 1999 by 21%. [Note: No data were available for water use.] As compared to the average facility of its type, Beth El Temple Center used 33% more energy per square foot and pays 50% more per square foot for its energy. The pollution generated by this facility is similarly more than average. The key environmental stewardship issues for the facility are...

- ✓ **Building** — Improve thermal performance of the building focusing on windows.
- ✓ **Heating** — Install an energy-efficient heat generation sources with contemporary controls for multiple zones. Install an efficient DHW system using an in-direct fired tank concurrent with new boiler installation.
- ✓ **Cooling** — Replace existing inefficient through-window air conditioners with the best available Energy Star rated air conditioners.
- ✓ **Electrical** — Upgrade to energy-efficient lighting as appropriate by space, both interior and exterior. A move to clean electricity (by installation of photovoltaics on the roofs and purchase of 100% green electricity) is essential.
- ✓ **Plumbing** — Upgrade sinks and toilets to control water use.
- ✓ **Maintenance** — Ensure good and timely maintenance of systems using MIP&L's maintenance contract template, including a complete inventory of equipment whether covered or not.

Beth-El Temple Center Environmental Stewardship Profile

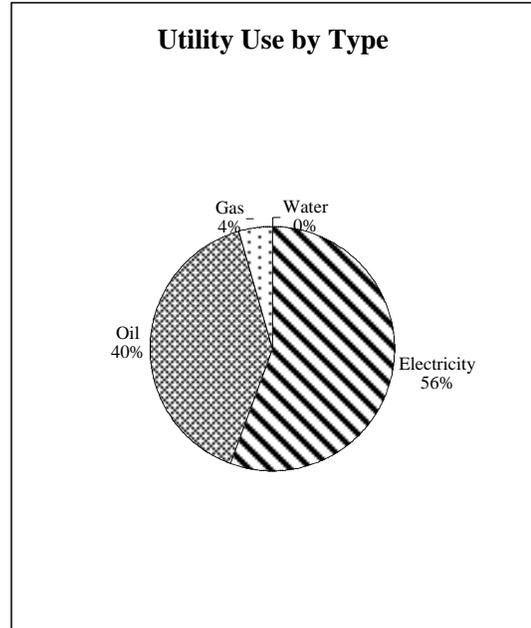
	2 Years Ago	Last Year	This Year	
ELECTRICITY				
	2001	2002	2003	Total
kWh Used	127,940	129,280	122,800	380,020
Cost \$	13,690	13,839	14,128	\$ 41,658
Cost per kWh	\$0.11	\$0.11	\$0.12	\$0.11
% change in Use		101.0%	95.0%	
kBtu/year	434,996	439,552	417,520	1,292,068

	2 Years Ago	Last Year	This Year	
OIL				
	2001	2002	2003	Total
Gallons Used	11,096.1	9,895.3	13,049.5	34,041.0
Cost \$	7,654	8,234	14,005	\$ 29,893
Cost per Gallon	\$0.690	\$0.832	\$1.073	\$0.88
% change in Use		89.2%	131.9%	
kBtu/year	1,553,457	1,385,342	1,826,936	4,765,734

	2 Years Ago	Last Year	This Year	
GAS				
	2001	2002	2003	Total
therms Used	695	741	744	2,180
Cost \$	1,154	924	1,183	\$ 3,261
Cost per therm	\$1.660	\$1.246	\$1.592	\$1.50
% change in Use		106.6%	100.3%	
kBtu/year	69,500	74,100	74,350	217,950

	2 Years Ago	Last Year	This Year	
WATER	<i>No Data</i>			
	2001	2002	2003	Total
Units Used				
Cost				
Cost per Units				
% change in Use				

	2 Years Ago	Last Year	This Year	
	1999	2000	This Year	Total
Total Cost	\$ 22,498	\$ 22,997	\$ 29,317	\$ 74,811
% change	-	102.2%	127.5%	



Energy Benchmark — How Your Facility Compares

	You	Average	% of Average
Use/SF	81	61	133%
Cost/SF	\$1.02	\$0.68	150%

Estimate of Your Pollution Production

	CO ₂	SO ₂	NO _x
Electricity	181,744	1,142	319
Gas and/or Oil	231,723	1	182
Total	413,467	1,143	501

Potential for Pollution Reduction

	CO ₂	SO ₂	NO _x
Green electricity	99%	100%	73%
Gas & Oil	<<As much as	25%	savings>>
Possible Reduction	(237,982)	(1,142)	(279)
% reduction	-58%	-100%	-56%

CO₂ Carbon Dioxide, a greenhouse gas
 SO_x Sulfur Oxides, which cause acid rain
 NO_x Nitrogen Oxide, which causes health problems

Note: Some data are estimated.

Beth-El Temple Center

Summary of Facility Systems and Conditions

Building	Component	Type	Quantity	Year Installed	Efficiency	Action
Sanctuary	Walls	Brick	9781	1954	Fair	None
	Total SF	Windows	Stained Glass; Casement	26	1954	Poor
11700	Roof	Membrane	11700	1980s?	Good	None. Attic insulation
	Doors	Metal	3	1954	Fair	None until replace
Core	Walls	Brick	2360	1954	Fair	None
	Total SF	Windows	Metal frame single pane	15	1954	Poor
6850	Roof	Membrane	3640	1980s?	Good	None
	Doors	Metal	5	1954	Fair	None until replace
Classrooms	Walls	Brick	5976	1954	Fair	None
	Total SF	Windows	Metal frame; new insulated	22	1954; 1999	Poor;Good
10098	Roof	Membrane	5049	1995?	Good	None
	Doors	Metal	1	1954	Fair	None until replace
Heating	Component	Type	Quantity	Year Installed	Efficiency	Action
	Generation	Oil-fired hydronic	1,500 mbh (est)	1954	Poor	Replace with high-efficiency gas-fired condensing mode
	Controls	Pneumatic	1, with remote	1954+	Fair	Replace with digital
	Distribution	Fan coil, duct and baseboard	Various locations; see text	Various	Fair	Replace some.
	DHW	Gas	100 gallons	1994	Fair	Replace with in-direct fired
Cooling	Component	Type	Quantity	Year Installed	Efficiency	Action
	Generation	Chiller & Cooling Tower	1	1954	Poor	Replace
	Generation	Condensers	5 and 15 tons	1999	Fair	Maintain
	Distribution	Fan coil units	3 large; in-space	Various	Fair	Replace sanctuary/social hall
Electrical	Component	Type	Quantity	Year Installed	Condition Efficiency	Action
	Service	400 amp	1	1954	Average	Upgrade possible, new HVAC
	Wiring	3 wire grounded	throughout	1954+	Average	With HVAC
	Lighting, Interior	Florescent & Incandescent	Multiple each room	Various	Fair	Upgrade to energy efficient
	Lighting, Exterior	Building; pole mounted	Entries; parking	Various	Fair	Upgrade to energy efficient
	Equipment		refrigeration; individual ACS	Various	Fair	Use Energy Star on replacement
Plumbing	Component	Type	Quantity	Year Installed	Efficiency	Action
	Water	Sinks	Kitchen; rest rooms	1954	Fair	Add on/off aerators
	Sewer	Toilets	Restrooms	1954	Fair	Install 1.6 gallon

FACILITY SYSTEMS AND CONDITIONS

This section presents information on each of the major systems at the facility, the conditions, recommended actions and fundamental reasons for taking these actions.

Heating

Existing Conditions

Heat is generated for the entire facility by an *oil-fired hydronic boiler*. The boiler, manufactured by H. B. Smith, was installed in 1954, when the building was constructed. It is estimated at 1,500,000± btu. Given age and condition, it has an estimated efficiency of below 70%. The heating system has pneumatic *controls*, installed in 1954, with in-room thermostats and zone valves. Heating *distribution* is by several means. Duct work serves the sanctuary and social hall, with conditioned air (heated or cooled) distributed by fan coil units (FCUs) located in the attic. There is also a FCU in the basement, serving the meeting room. There are cabinet FCUs in the lounge, administrative office, rabbi's office, library, bride's room off the social hall, and the cantor's office. These spaces are essentially the "core" area. The classroom area (which includes two other offices) has baseboard hydronic radiation with zone valves. There are *circulating pumps* of various vintages.

Recommendations

The congregation is currently considering heating/cooling system replacement for the sanctuary and social hall. Several actions are appropriate, all discussed here though involving cooling also. First, it is proposed to install **package roof top units** (gas heat/electric air conditioning, with an economizer for "shoulder season" conditioning) to serve the sanctuary and social hall. The use of "RTUs" is appropriate given the volume and timing of use of these spaces. The most energy

efficient equipment available (highest SEER rating) should be installed, as reduced costs and environmentally-responsible operation objectives will be met, with good paybacks in both regards. The equipment needs to be installed to minimize vibration. The equipment sizing and associated distribution need to be carefully calculated by an engineer. Second, a new **gas-fired condensing mode hydronic boiler** for generation of heat for the remainder of the building and for generation of domestic hot water (via an in-direct fired tank, discussed below) is recommended. As with the RTUs, the load requirements and therefore sizing of the new boiler need to be calculated by an engineer. Use of the condensing mode type provides efficiencies at the 93% range. Use of high efficiency equipment will also increase the level of financial incentives offered by KeySpan, the provider of natural gas. Third, install a **digital control** system for the heating and cooling systems. The method and equipment for control needs to be inventoried, and good maintenance obtained. (See the maintenance section, below.)

Domestic Hot Water

Existing Conditions

Domestic hot water (DHW) is generated by a 100-gallon *gas-fired* tank, located in the boiler room. This equipment was manufactured by A. O. Smith, and installed in 1994.

Recommendations

It is recommended that an in-direct fired stainless steel DHW tank be installed concurrent with the new boiler. This will both save energy and have an extended life (20+ years) as compared to replacement of existing equipment in-kind.

Cooling

Existing Conditions

Cooling is provided to the sanctuary and social hall spaces via FCUs, with a cooling tower and chiller dating to original construction. Air conditioning for the core spaces (including the kitchen) was added in 1999, with roof-top condensing units at 5 and 15 tons. The preschool room and some offices have in-space through-window ACs, of various ages.

Recommendations

The RTUs for the sanctuary and social hall will provide electric air conditioning. Use of the *economizer* function in “shoulder seasons” (spring and fall, when temperatures vary and both heating and cooling is desired) is an effective means of meeting space conditioning needs at lower cost. As with the heating element, the cooling portion of the RTUs needs to be of the highest energy efficiency (SEER rating). Evaluation of the cooling portion of the core spaces (added in 1999) should be part of the initial work scope developed using the MIP&L maintenance contract template, discussed later. Use the highest SEER Energy Star equipment when replacing in-space ACs.

Electrical

Existing Conditions

Electric *service* is provided to the facility via a main service duct that enters the building in the basement. It was installed in 1954, with some subsequent modifications and additions in service, sub-panels and wiring. Service is rated at 400 amps. The *lighting* varies by room, with

both florescent and incandescent fixtures. There is a variety of *equipment* in the facility that uses electricity, including office equipment and refrigerators. This equipment varies in age and condition.

Recommendations

Upgrades in lighting are possible, with use of both efficient lamping (CFLs) and fixtures sensible. Replace equipment with Energy Star rated; with refrigerators have the quickest payback.

Plumbing

Existing Conditions

The primary *water* using equipment in the facility includes sinks in the restrooms and the kitchen. The toilets in the restrooms are the primary generator of *sewer* use.

Recommendations

It is recommended that various water conserving actions occur, such as use of sink aerators and installation of 1.6 gallon toilets.

Building Envelope

Existing Conditions

The building *walls* are brick. There are several *window* types, including new thermopane in the preschool space, metal frame single pane in most spaces and stained glass in the sanctuary. The windows do not have storm windows. They were installed at original construction. The *roof* is rubber membrane, installed sometime in the past 10 years. There is insulation in the full attic

space over the sanctuary. There are several types of *doors*, including primary entry at both sides of the core and secondary egress from other locations in the building. They are original.

Recommendations

It is recommended that metal frame single pane windows be replaced with contemporary standard high-efficiency Lo-E thermopane windows, for reasons of energy efficiency and occupant comfort. Finally it is recommended that the roofs have photovoltaic (PV) panels installed as a means of direct, non-polluting electricity generation.

Maintenance

Ensure good and timely maintenance of systems using MIP&L's maintenance contract template, including a complete inventory of equipment whether covered or not. The template is found at Appendix F, and is available at the MIP&L web site, www.MIPandL.org. This is especially important for Beth El Temple Center given the varying ages, locations and purposes of the equipment.



#1 — Beth El Temple Center has three sections: (1) sanctuary and social hall, on right; (2) entry and offices, center; and (3) library, classrooms and offices, on left.



#2 — View of west portion of building from rear, with social hall in foreground.



#3 — View of center and east portions of building from rear, with core entry and multi-levelled classroom ring.



#4 — The building has rubber membrane roofs.



#7 — Rear door is main entry for most purposes.



#5 — The original metal frame single pane windows are nearing end of useful life. They present energy efficiency challenges, especially when window ACs are added.



#8 — Administrative office is immediately inside rear entry door.



#6 — View through upper level casement window, to roofs, with parking area visible.



#9 — Large lobby connects sanctuary/social hall area to classroom and office spaces.



#10 — The library is one of several rooms with fan coil units for space conditioning.



#13 — Detail of radiator and controls in classroom wing.



#11 — The offices and classrooms have baseboard hydronic heating.



#12 — Classroom wing has suspended tile ceilings with florescent lighting.



#14 — The meeting room in the basement has space conditioning via a fan coil unit (FCU) located in the space behind this wall, with conditioned air delivered via the wall diffuser. It also has a cabinet FCU, on the opposite wall.



#15 — Sanctuary has stained glass windows. Space conditioning is from attic-mounted fan coil units.



#17 — Oil-fired boiler dates to construction of the building, in the 1950s. It is beyond its useful life.



#15 — Social hall connects to sanctuary, with a folding door able to separate the two spaces. This space is also conditioned by attic mounted fan coil units.



#18 — Chiller is basement also dates to the construction of the building, and is beyond its useful life.



#16 — Attic space over sanctuary, with batt insulation above ceiling, also wrapping ducts.



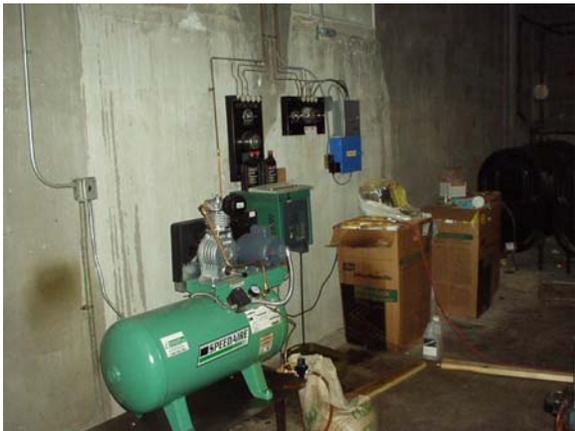
#19 — The roof over the rear of the social hall is the location of the cooling tower (foreground) and one of the newer condensers. A new condenser was installed at the same time, serving the kitchen.



#20 — Domestic hot water tank is gas-fired. Note circulating pumps at left rear. Some newer circulating pumps have been installed.



#22 — Electric service dates to building construction. Upgrades for new HVAC and contemporary uses of electricity likely.



#21 — Original building controls are pneumatic. Replace with digital.



#23 — Fire controls are in basement. Monitor regularly to ensure proper operation.

RELATED ENVIRONMENTAL STEWARDSHIP ACTION

Clean Electricity

Every time we use electricity we are polluting the earth. The electricity that we use comes from power plants. The vast majority of these power plants burn non-renewable fossil fuels such as coal, oil, and gas. These power plants cause a great deal of pollution and impact the health and safety of those who live near them. Unfortunately, these same power plants are disproportionately located in poor communities and communities of color. This is a phenomenon known as “environmental injustice” and “environmental racism.” In fact, three different studies of national scope (including the United Church of Christ’s Commission on Racial Justice) found that race is the single most influential factor in community exposure to pollution.

Encouraging the growth of renewable, clean electric sources – and stopping our dependence on dirty, fossil fuel-burning power plants – is one important step toward environmental justice and stewardship of the earth.

The Beth El Temple Center in Belmont can further its commitment to stewardship of the earth and environmental justice by converting from the dirty power that is delivered by your electric company to Sun Power Electric’s clean renewable energy product, “ReGen”. ReGen replaces the polluting power sources that your congregation currently uses with clean, renewable energy sources.

What polluting power is Beth El Temple Center using? Currently the majority of New England’s electricity comes from non-renewable polluting resources like coal, oil, natural gas and nuclear power. More than 85% of our electricity is generated from these sources: 27 % from oil, 18% coal, 20% natural gas, and 20% nuclear power. Coal, oil and natural gas all release large amounts of air pollution—particularly carbon dioxide (the main contributor to global warming), sulfur dioxide (which causes acid rain), and nitrogen oxide (which causes smog).

According to the American Heart Association, roughly 10,000 people die prematurely each year from heart- and lung-related illness associated with emissions from fossil fuel power plants, not to mention the thousands of children who suffer daily with pollution-related asthma. Nuclear power raises long-term concerns about the disposal and storage of radioactive nuclear waste. So every time we turn on the lights or watch TV we are causing environmental damage by increasing the demand to produce more power from dirty conventional power plants.

What are clean, renewable energy sources? Renewable energy comes from sources such as the sun, wind, water and biomass/landfill gas (our garbage). These energy sources are referred to as renewable because they are not finite resources, like oil, coal, and other fossil fuels. The planet will not run out of sun energy! Even more important is the fact that renewable resources create little or no pollution.

How can the Beth El Temple Center support and increase the amount of these clean resources? It's easy. Purchase ReGen for the synagogue, replacing polluting power with ReGen's 100% renewable power. All of the resources are generated in New England, so each time someone purchases ReGen our air gets cleaner and cleaner. Sun Power Electric builds, owns and operates solar power plants. These solar power plants produce clean electricity without any polluting emissions. Sun Power Electric also contracts for the purchase of energy from a landfill gas plant in North Attleboro, Massachusetts. This landfill gas plant uses organic wastes to generate electricity. By using the ReGen product, the Beth El Temple Center will help to keep these solar and landfill gas plants running. These plants *do* make a difference to the health of the earth.

Because Massachusetts has restructured its electric utility industries, consumers such as your synagogue now have the freedom to purchase clean energy rather than polluting energy. As more and more congregations, congregants, and other caring people sign up for ReGen, the electricity supply will become cleaner and cleaner. (Note that the purchase of ReGen will *not* replace the generation charge on your current electricity bill. Your existing electric bill will not change; you will simply receive a separate bill from Sun Power Electric for ReGen.)

Your congregation now has the option to make a powerful pro-creation statement by spending \$3528 annually to use 100% green electricity. Truly, this is an incredible opportunity for faith in

action. *Because the Beth El Temple Center's electrical usage is so great, it might not be financially feasible to go 100% ReGen. In that case, we would still recommend purchasing a smaller percentage of offsets by going 25% green electricity for \$1040 annually.*

Details and forms (including a contract for 100% of ReGen for Beth El Temple Center) are available in Appendices C and D.

Installation of Electricity Generation Capacity

The installation of solar photovoltaic panels (PV) is another option for producing clean, renewable power. A small 5 kW system installed on the roof would produce 6,500 kWh of pollution-free energy or more each year, with an expected system lifetime of over twenty-five years. This would generate approximately 5% of the facility's annual electrical use. *If the Beth El Temple Center is interested in putting PV on its roof, grant funding is potentially available through the Massachusetts Technology Collaborative. BETC could pursue this with MIP&L's assistance, if interested..*

Financial Stewardship

Rebates are available from both gas and electric utilities for various improvements in the facility. Bulk-purchase contracts are available for gas, reducing costs further over those achieved by use of more efficient equipment.

Congregant Actions

Home Energy Assessments for Congregants

When a congregation becomes a MIP&L Member, every congregant is eligible for a specially-devised Home Energy Assessment at no cost. This is part of MIP&L's program to encourage the entire community of faith to put words into action, at religious facilities, at home and in daily life. An assessment request form is available at Appendix D, at MIP&L's Website (www.MIPandL.org), or by contacting the MIP&L office. MIP&L provides assistance to Member congregations in promoting use of this opportunity. A computer-based energy use tracking program is provided as part of the Home Energy Assessment.

Purchase of 100% Renewal Power for Congregants

Congregants can purchase clean, renewable energy for their homes. Forms for the purchase of ReGen as well as information are provided by Sun Power Electric and MIP&L. MIP&L provides assistance to Member congregations in promoting use of this opportunity. Details and forms are available in Appendix D.

Appendix A — Utilities Use Information for Period 2001>2003

Appendix B — Space Use for Typical Week

Appendix C — ReGen Purchase Contract

Appendix D — Request Forms for Congregants

Sample Letter to Congregants

Free Home Energy Use Assessment Request Form

ReGen Purchase Information

Appendix E – MIP&L Services

Massachusetts Interfaith Power & Light (MIP&L)

Member Services

Membership in MIP&L supports the mission of environmental stewardship by helping promote renewable energy, energy conservation, and the wise use of resources.

Basic Services

1. An environmental stewardship assessment of core facilities.¹ The member provides information on facility and utility use. A skilled professional (a) examines the building, lighting, heating, cooling and controls systems; (b) reports on the patterns of use and their impact; and (c) identifies approaches to improved stewardship, including possible equipment installation (current or future).
2. An energy audit of each congregant's home.²
3. General help and advice with energy and environmental questions, both personally and electronically (including an interactive Website).
4. Oil-buying aggregation group for congregations, to reduce the cost of purchasing heating oil.
5. Maintenance Contract Template, available for download at MIP&L web site.
6. Special Programs, including workshops and membership meetings.
7. MIP&L Newsletter, including a calendar of upcoming MIP&L programs; member "success" stories; faith-based ecology pieces; and environmental news highlights.

Additional Services (a range of optional services, paid for separately)

1. Oil-buying aggregation group for individuals, to reduce the cost of purchasing heating oil. (Congregants)
2. Cost reduction assistance in gas purchasing. (Congregation)
3. Purchase of clean renewable energy, such as ReGen green electricity. (Congregation and Congregants)
4. Capital Needs Assessments and 20-year Capital Plans (Congregation)
5. Access to utility rebate programs
6. Technical assistance — the opportunity to have an expert "set of eyes" review new construction projects, building additions, and retrofits to existing systems. MIP&L can act in a variety of roles, such as independent advisor, project manager, assistance in procurement of professional services and/or in obtaining turnkey implementation of environmental stewardship actions.

¹ Additional charges may apply for larger religious facilities, such as school buildings.

² For most locations, this is at no cost, subject to the rules and regulations of the local energy utility. The home assessment is available at a modest fee in locations not paid for by the utility.

Appendix F — Maintenance Contract Template

CONTRACT
MEP Systems Maintenance

1 — PARTIES

Client _____ (" ")

Contact Person _____ Title _____

Address _____

City/State/Zip _____

Phone _____ Fax _____

Email _____

Provider _____ (" ")

Contact Person _____ Title _____

Address _____

City/State/Zip _____

Phone _____ Fax _____

Email _____

2 — SERVICES TO BE PROVIDED

The *provider* is responsible for maintenance and service for the equipment identified in **Exhibit A-1**. **Exhibit A-2** identifies equipment for which maintenance and service will not be provided.

The services shall include *routine, periodic* and *milestone* maintenance and servicing to insure the safe, continuous and efficient operation of the equipment. In general the meaning of *routine, periodic* and *milestone* maintenance and servicing shall be as specified and/or recommended by the manufacturer of the equipment or system. Failing such guidelines, recommendations and standards of applicable industry organizations shall apply.

3 — TERMS FOR SERVICES TO BE PROVIDED

Exhibit B sets for the specific services to be provided for the equipment included in this contract. The services will be provided during normal working hours. Exhibit B also sets forth the cost for services. Payment for services shall be within thirty (30) days of receipt of invoice.

Taxes: Client is exempt from sales tax on products permanently incorporated into its facilities. Provider will be provided a documentation of sales-tax exemption from the client, and will place the number on invoices for services rendered. At the completion of the annual cycle of maintenance, Provider shall file with Client a statement that all purchases made under the exemption were entitled to be exempt. Provider shall pay legally assessed penalties for any improper use of the Client's tax exemption number.

Insurances: Provider shall purchase and maintain insurance providing the coverages and limits designated in this Section. Insurance shall be provided by insurers licensed to transact business in the Commonwealth. Provider shall not start to perform and furnish services, in whole or in part, or continue to perform and furnish any part of the services, unless Provider has in full force and effect all the required policies of insurance. Provider must provide the following coverage:

(a) General liability insurance with a combined single limit of not less than \$1,000,000 for injury to or death of any one person, for injury to or death of any number of persons in one occurrence, and for damage to property, insuring against any and all liability of the Client and the Provider including, without limitation, coverage for contractual liability and broad form property damage;

(b) Workers Compensation and Employers Liability Insurance providing statutory benefits to all employees;

(c) Owned, Non-Owned and Hired Automobile Liability with a limit of not less than \$1,000,000 combined single limit;

(d) Excess Liability Insurance shall provide the following protections: employer's liability, general liability and automobile liability. Excess Liability Insurance shall be at least as broad as the underlying policies of liability insurance.

Client shall be named as an additional insured under Sections (a), (c), and (d). Client shall be provided a Certificate of Insurance, which shall also provide a 30-day notice of cancellation.

Hold Harmless: Provider shall indemnify, defend and hold harmless Client from any and all liability of whatever kind and character for loss, actual or claimed, to persons or property arising by virtue of the activities of Provider, its agents, servants, employees or clients. Provider shall properly notify Client of any claim involving the services or the Client.

Duration: The contract shall commence on _____ and shall remain in force for twelve (12) months, subject to extensions and renewals. The contract shall automatically terminate if no extension is formally agreed to within thirty (30) days of the end date of the current contract. Termination other than at end of contract requires a thirty (30) day notice, to be provided in writing addressed to the signators of the contract. The notice of termination is to be delivered by United States Postal Service using certified mail, return receipt requested.

SIGNATORS

For Client

For Provider

Signature _____

Signature _____

Title _____

Title _____

Date _____

Date _____

This report and analysis is based upon observations of the visible and apparent conditions of the property and the components evaluated on the date of assessment. Care has been taken in the performance of this assessment. This report is made only in the best exercise of our ability and judgment. However, Massachusetts Interfaith Power & Light (and or its representatives) makes no representations regarding latent or concealed defects that may exist, and no warranty or guarantee is expressed or implied. Conclusions in this report are based on estimates of the age and normal working life of various items of equipment and appliances. Predictions of life expectancy and the balance of useful life are necessarily based on industry and/or statistical comparisons and observed conditions. It is essential to understand that actual and future conditions can alter the useful life of any item. The previous use/misuse, irregularity of servicing, faulty manufacture, unfavorable conditions, acts of God and unforeseen circumstances make it impossible to state precisely when each item will require replacement and/or what the actual savings in use and cost will be. The Member herein should be aware that certain components with the above referenced property may function consistent with their purpose at the time of the assessment, but due to their nature are subject to deterioration without notice. Unless otherwise noted, all building components are assumed to have met the building code requirements in force at the time of construction. Conclusions reached in this report assume responsible ownership and competent management of the property. Information provided to us by others is believed to be reliable. However we assume no responsibility for the accuracy of such information.