



Green Sanctuary
Unitarian Universalist Association of Congregations
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Congregation Information

Application for Green Sanctuary Candidacy

Date of submission: June, 2016

Congregation Name: Unitarian Universalist Church of Kent

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Minister or Congregation Leader: The Rev Melissa Carvill-Ziemer

Congregation Profile

The Unitarian Universalist Church of Kent

Our church was organized in the months following the American Civil War and met in a variety of places, from personal homes to the City Hall of what was then known as Franklin Mills. By 1866, it became apparent that this church was eager to organize into a permanent body. On May 27, 1866 nineteen men and women voted on and signed a Constitution, officially becoming the First Universalist Church of Kent. These men and women were largely drawn from the founding families of Kent. These “gentle optimists”, as they viewed themselves, believed in the Universalist idea that God is Love and that all were worthy to be saved, not just the select few.

The church continued to meet at City Hall while they began to raise money enough to build a permanent edifice. The Kent family donated the land on which the church would be built. On August 23, 1868 the building was dedicated and the church had a permanent place in which to worship. It became one of three churches located along the west bank of the Cuyahoga River. In 1889, the First Universalist Church of Kent hired its first female minister, the Rev. Abigail Danforth. She found the church in deplorable condition, and under her leadership the church undertook significant renovations, including new carpeting and repainting of the church interior. Rev. Danforth was also actively involved in the women’s suffrage movement and became a staunch advocate for women’s rights. A later successor of hers, Rev. Carlotta Crossley was responsible for

the church engaging in fundraising relief for the victims of the 1906 San Francisco earthquake. Women played an active role in church affairs. Some of the historic women's groups include the Clara Barton Guild, the Association of Universalist Women, the Women's Universalist Missionary Association, the Helen Gilson Society and most recently the Abigail Danforth Society.

Our church played a significant role in the founding of Kent State University and the University of Akron. Elmer France was chairman of a three person committee that was responsible for convincing the Normal School Commission to build a teacher's training school on the William S. Kent farm site located on East Main Street in Kent. The University of Akron started its life in 1872 as a Universalist college known as Buchtel College named for its main benefactor, John Buchtel, a prominent businessman and philanthropist. The Buchtel family had been members of the Kent church, but eventually moved to Akron.

In 1961, a merger between the Universalist and Unitarian denominations occurred. In 1965, our church would be renamed the Unitarian Universalist Church of Kent. The '70's were turbulent years for our church and Kent. William F. Schulz, a young theology student from Oberlin College, became our minister. He was only twenty years old, but mature beyond his years, allowing him to easily move among the congregation, largely made up of the Kent academic community. During this time, a coffeehouse met in the church basement called the Yellow Unicorn and people gathered there to discuss draft resistance and to witness against the war in Southeast Asia. A fledgling environmental movement began in the church basement as well that would lead to the founding of the Kent Environmental Council. The church also served as a site for a food co-op that would spawn one of Kent's longtime businesses, the Kent Natural Food Co-op.

It was the tragic shooting on the Kent State campus on May 4, 1970 that put Schulz and our church in the national spotlight. The church decided not to pay its telephone tax as a method of war resistance, defied Mayor Leroy Satrom and County Prosecutor Ron Kane's order forbidding more than five people to meet by holding a memorial service for the slain students, and passed three resolutions: one censuring President Nixon, one demanding civil liberties from the Mayor and County Prosecutor and one demanding the immediate withdrawal of troops from Southeast Asia. More recently, our church has passed resolutions against the death penalty and against the use of torture against anyone for any reason. Rev. Schulz would go on to be the head of the Unitarian Universalist Association and then Executive Director of Amnesty International, a position from which he recently retired. Our church has remained in its original edifice throughout its entire history while other churches have demolished their original structures and moved on to larger campuses. While some physical changes have occurred to our building, its basic structure remains the same. Our congregation is growing, lively and active in community affairs and is a fully functional program oriented church. We are proud of our social witness and involvement in the Kent and Portage County communities over our long history. We are confidently moving forward into our future as a liberal religious community.

Environmental Issues in the context of the UUCK, include geographic, geological, cultural and socio-economic, as well as industrial. Two are important to mention in this application: *water and food*. *Water*: Northeastern Ohio, while within the radius of Lake Erie, one of the few (and smaller) fresh water lakes in the world is threatened by pollutants and climate change, with algae blooms a visible sign and bell weather. Pollution in the forms of acid rain, industrial waste and chemical run-offs as well as storm water issues with operational technology designed for an earlier age, are very real for all flora and fauna in northern and northeastern Ohio with consequences far beyond the area. While surprising to most people in a land where rain is regarded as plentiful, the aquifers are in serious

decline. Fracking and other chemical abuses to the earth and water, are also rampant in the region. Water conservation and protection is one of our most important concerns as we look to the future. While a traditionally rich farmland surrounds the community, soil, like water, is under threat from hydraulic fracturing of the earth, increasing methane, as well as increasing use of herbicides and toxic pesticides effecting the soil as well as the water, and the air. Situated on the Cuyahoga River (a bare 600 yards from the front door), the UUCK is concerned with the river and its riparian zones that are an essential part of our community's ecosystems. *Food:* UUCK is located in a mixed income and high poverty area, and as with water issues: the poorest among us who contribute the least to these problems sustain the worst consequences from climate change and advanced industrialization.

The UUCK has had a long, distinguished, and continuing history of stewardship related to local and regional issues of water and food, not the least of which include the founding and works of the Kent Environmental Council (KEC) for which we have many contributing and lifetime members.

Members: 197

Friends: 100

Avg. Sunday Attendance: 171

of Children enrolled in RE: 110

Staff Members: 8

Roles: Minister

Interim Minister (until 2017)

Director of Religious Education (Interim until August 2016)

Music Director

Congregational Administrator

Sexton

Religious Education Assistant

Nursery Staff

Financial Demographics of UUCK: During Fiscal Year 2015 (7/1/14 – 6/30/15) we had 146 pledging units, average pledge is \$1561 Operating Expense Budget: \$285,718

Demographics of Kent, OH: visit this website and enter Kent's zip code: 44240

http://www.esri.com/data/esri_data/ziptapestry

Green Sanctuary Stewardship Committee

The mission and charter of the GSSC

The mission of the GSSC is to provide leadership, guidance, and facilitation of the congregation and of individual members of the UUCK in integrating *Respect for the interdependent web of all existence of which we are a part* (7th UU Principle) into the life of the church. This includes: worship and celebration, religious education, environmental and social justice and advocacy in the community, and sustainable policies and practices in everyday behavior and actions. The GSSC facilitates the work of the congregation in green matters in preparing this application and developing, implementing, and evaluating ongoing action projects.

As a congregation we made green sanctuary a priority in 2009. Working toward national UUA Green Sanctuary Certification since that time, this application describes our evolving program, progress, and future work.

GSSC team charter:

- To support us as a congregation, and as individuals, to live our 7th Unitarian Universalist principle of *reverence and stewardship of the interdependent web of all existence of which we are apart*.
- To facilitate a reflective and integrative process of appreciative inquiry into our actions and aspirations as a congregation pledged to work toward becoming a green sanctuary.
- To conduct an environmental assessment of programs and practises with the goal of becoming a greener congregation through bringing our actions into closer alignment with our aspirations.
- To work with others (Board of Trustees and groups such as Social Justice, Buildings and Grounds, Building Expansion Team) in guiding the congregation in shaping our actions, projects, practises, habits of mind and relationship as we integrate evolving green practises into our ways of being in the world and with each other.
- To guide our congregation through the green sanctuary certification process and enable a growing foundation and framework for making green sanctuary a natural part of continuing church practise, outreach, and stewardship.

Andrea Case: Associate Professor of Biological Sciences at Kent State University and Curator of the Kent State University Herbarium. Andrea brings to the GS Team her expertise in biosystems enclosed in her caring for people and the environment. (Membership, Greeters)

David Homsher: I go to Bio-Med science academy in the 9th grade and I want to possibly be a biologist. I've helped with the garlic mustard pull for a couple years, I babysit whenever needed. (Website, photographs, and Youth member)

Mary Louise Holly: As an emeritus faculty member I work with people of all ages in furthering eco-literacy and sustainability, including water and social and environmental factors that contribute to climate change. (Peace Choir, Building Expansion Team, Worship Associate, Board of Trustees)

Lawrence Johnson: Electrician, (Building Expansion Team, Belltone and Peace Choirs, Building and Grounds work)

Shirley Kiernan: Musician, ethical eating, organic gardening, conservation of resources (Folk Orchestra, Evergreen Trio, Sunday morning coffee maker, Church opener on Sunday mornings)

Michael Lee: Michael has led the team conducting the energy audit and building assessment effort. He is a retired professor of physics from Kent State University and also worked at the US Department of Energy. Beyond the technical elements of his contribution, he is engaged by the topics of climate change, water resources, native plants and the wider natural world. (Energy Audit Team Leader, Building and Grounds work)

Patricia Miller: Retired both as an Elementary Teacher and as an Administrator of a Foster and Adoption Care Agency. For forty-one years my work-life centered upon the education and well-being of children. I am concerned about the world our children and grandchildren will be inheriting.

It is imperative that we inform adults in regard to the actions they can take to reduce their carbon footprint. By educating children we show by example and their green-forward actions, habits and philosophy will become as natural as breathing. (Teacher, Care Team, Office Volunteer)

Andrew Rome: Andrew Rome is learning to live out his environmental values at home and wants to expand his impact by contributing to his church community. He'd love to talk to you about gardening, education, chickens, bees, compost, permaculture, mushrooms, food preservation, fermentation, recycling, or political action and advocacy. He is especially concerned with environmental justice. *"If you have come here to help me, you are wasting your time. But if you have come because your liberation is bound up with mine, then let us work together."* - Lilla Watson
(Social Justice, Environmental Justice, Worship Associate, Board of Trustees; Finance Committee)

Ted Voneida and Swanny Voneida: Two of our most active and engaged members, Ted and Swanny embrace the Green Sanctuary as a natural connection to their community efforts for environmental and social justice. They have been instrumental in the Green Sanctuary process since 2009. Ted, an emeritus professor from the Northeastern Ohio Universities College of Medicine, and his wife Swanny have been Church and community activists for decades, most recently devoting much effort to issues of fracking, not only a topic of international interest, but local interest because there are numerous gas extraction wells in our local area. (Peace Choir, various Thesian productions!, Worship Associate, Social Justice, Care Team)

Rev Melissa Carvill-Ziemer Ex-Officio

UU Identity and Spirituality

The members of our congregation have numerous opportunities for environmental stewardship and many choose to take part in local initiatives from the Kent Environmental Council to a local watershed preservation organization and more. We chose to focus on becoming (and eventually maintaining) our status as a Green Sanctuary congregation because we believe this work is central to our identity as Unitarian Universalists. We are committed to this endeavor because we believe that Unitarian Universalist principles call us to environmental stewardship. Green Sanctuary provides a frame to guide and focus our efforts. We know that we are interdependent and that our choices today will affect the earth and all of creation in our time and for generations to come. Therefore, we see our efforts as a response to our moral responsibility as citizens on this planet. We must practice becoming better environmental stewards in our faith community and we need the inspiration and encouragement of our faith tradition to support and sustain us in our efforts. Theology, education, ritual, worship and practice are among the core gifts we give to ourselves and each other.

Environmental Assessment 3 Parts

In 2009, as a result of a comprehensive process of rethinking our mission, goals, and covenant, the congregation as a whole committed to making green sanctuary a church priority. A GS committee started work that year. With a growing congregation, the need for additional space became important. We put the energy audit on hold as we explored alternative spaces. While we continued our work in the green sanctuary program and related projects, we didn't begin the energy audit until we acquired an adjoining house lot that enabled expansion (building a fellowship hall) and the decision to stay at our original location. Thus, an in-house energy audit of the church and the annex (offices) by three church members was begun fall 2014, and a report (*see appendix A*) made available February 2015. The results inform our action plans. In the years following our original commitment in 2009, we focused on implementing environmental education and actions including a major day long event on

water conservation that had repercussions for several weeks (some that continue to this day) after which we revisited and reinforced our commitment to conservation. During that time we also had several RE sessions and a number of worship services focused on care of the earth as well as focused review of all cleaning products used in the church and Annex (offices).

Three years ago, with revitalized interest and energy, we stepped back to reassess, renew, and expand our efforts toward green sanctuary certification. We consulted with Rev. Karen Brammer, the UUA Green Sanctuary Manager. As part of this renewed effort, we followed a spring worship service on earth stewardship with a congregational invitation to help us rekindle our efforts, including completing a time line of all our environmental efforts since 2009.

The Green Sanctuary committee, with the help of the congregation, continued to reconstruct the timeline, and simultaneously began appreciative inquiry into the four theme areas: *Worship and Celebration, RE, Environmental Justice, Sustainable Living*. After a combined meeting with people from the relevant areas (ie, religious education, buildings and grounds, maintenance, programs, membership) as a total group, the committee began gathering and making sense of materials, conducted conversations and interviews, and began to draw a larger picture of green elements within our congregation. With the completed energy audit, we shared preliminary results with the congregation last spring; developed the action plan project descriptions, and have been working with the Building Expansion Team to include the findings of the audit in our renovation and expansion. A congregational forum this summer will provide information on the status of the UUCK GS candidacy application, results of the environmental audit, including the energy audit, and action projects completed and in-process. We hope to generate interest and invite further thoughts, ideas, and engagement in the continuing action projects - not the least of which will include the third component of the environmental audit: individual family inquiry and action as well as congregational efforts related to sustainable living.

Environmental Assessment results are integrated throughout this application. Results and appendix materials are noted in relevant sections.

See Appendix A: Energy Audit Report

Worship and Celebration

Summary of major findings: We found that we often “celebrate-as-we-go” (e.g. during services or between services - see Action Project: *Greening of Social Hour*) and in many different ways (music, food, markings of weddings and funerals). With the Green Sanctuary process there is the opportunity to take a longer view and reflect on how our work has evolved over time. This brings the potential to link and integrate projects and processes; to strengthen, expand, re-kindle significant projects that may have fallen to the side, and to end practices that may no longer be needed. Including Green Sanctuary components in yearly reflections and reports can help to further institutionalize these components. For a listing of worship and celebration services with a green focus see appendix B. In our appreciative inquiry we discovered that the 7th principle is alive and well, not only in special services (e.g. Earthday, Soil and Water and Flower ceremonies), but integrated as natural components in services and celebration throughout the year, in each year of our UUA GS Application process (2009-2016).

Recommendations for possible responses: A very strong and long history of GS related programs and activities were identified in the area of *Worship and Celebration*.

- One suggestion from the environmental audit was to gain a clearer picture of green activities as they relate or could relate to each other. There are often more events than time, and there is a challenge in communicating the possibilities. Two suggestions that have been implemented with good results (use!) are: the creation and use of a *green sanctuary* (bulletin and white) *board* in Fellowship Hall; A timeline of GS events in Fellowship Hall (on the GS board). Other suggestions are: Incorporating reflections on relevant green matters in yearly committee reports, sharing strands of green activities or insights from worship programs and curriculum in congregational communication venues; Developing a green sanctuary page on the website; Incorporating the green sanctuary group as a part of the organizational framework of the church.
- Opportunities to continue greening efforts with the planning and construction of the new fellowship hall, and development of the permaculture campus with playscape and memorial gardens abound and engage all ages.
- Celebrations include an opportunity to provide food and clean-up with friendlier-to-the-earth practices: cakes and pies and cookies have been dominant at such events, fruits and vegetables, locally grown when possible, offer more earth-and-people-friendly options; using washable and recyclable materials can replace more fossil fuel intensive practises; composting of foods that usually become trash reduces impact on landfills and could help nourish our gardens on site.
- Continue and expand web of life and conservation themes, topics, and practises such as water preservation, conversion to renewable energy, ethical and fair food production, distribution, and consumption -- providing congregational and individual opportunities.
- Continue to mark green practises with celebration, not the least of which will include the 150 year mark for UUCK in 2016.

Action Project Title: *Precious Water: Cultivating awareness and action*

Assessment Result you are addressing: Our Music Director, Hal Walker, has written and often sings songs in celebration of the Cuyahoga River, which is right out our front door. This river, like many rivers in developing areas, is and has been the recipient of trash and storm water throughout the years. Our congregation has a history of helping to clean up the river each spring. In addition to helping raise consciousness about water and support for conservation of the river, the riparian zone, and the land beyond (including the church lot), there is the need to become stewards of the land's water that all-to-often goes without notice. In our GS Environmental Assessment, for example, when water conservation was brought up, many people made light of the need to conserve water in northeastern Ohio as traditionally it is a heavy rain and snow area that has seemed far removed from water issues. Underground water is another issue: northeastern Ohio is among the lowest groundwater areas in the nation. Additionally, until recently there hasn't been community awareness and recognition of the number of gas wells and potential water issues related to hydraulic fracturing of the earth in our community, Ohio, and the nation (clean water, chemical contamination, rights of property owners, methane gases). How to conserve and keep water on the land - both on church grounds, and in congregants' home spaces, is a key issue. On church grounds, the issue is complicated by the rocky base on which the church and grounds sit, with bedrock between 18 inches and three feet beneath the surface for much of the land. This, along with a general lack of maintenance of the city-owned parking lot leased by the church, leads to many places with small standing water pools during high precipitation times.

Water use inside the church - for drinking, cooking, cleaning, plumbing - has been relatively responsible although a dripping sink faucet in the kitchen is often found. A less obvious problem is “wasting” cold water waiting for hot water in first floor bathrooms. (See *Appendix A -- Energy Audit* for more detail). The challenge for us is two fold: 1. increasing awareness and understanding, and 2. taking action to preserve water. Increasing awareness includes water related to flora and fauna, not the least of which concern preservation of habitat (quality of water, soil, air) and food. Issues are local to global in nature.

Project Description: This project includes taking action on multiple fronts that influence water quality and the consequences of water quality to the web of life. Though much has been accomplished since 2009 (detailed below), this is a continuing project. Many activities, workshops, and programs are encompassed and related to all four theme areas of this application.

Precious Water workshops: This multi-generational event featured the opportunity for members and friends to learn about water conversation. Children took a tour of the church to look at various ways in which we use and try to conserve water. We hosted a speaker from an organization working to create water access for communities in El Salvador. Another workshop took participants across the street to the Cuyahoga River to learn about river health and participate in water sampling. Back at the church several members and friends made rain barrels, one of which was made for the church and is still in use.

Armed with small posters for home mirrors and refrigerators: “*40 things you can do to conserve water*” many congregants continue to keep in mind and to shrink their water footprints. More than one person we talked with continues to consult the poster. New posters on the large environmental bulletin board related to water and climate change are designed to provoke thought and continuing conversation. We will revisit the topic this year with a Congregational water survey.

Annual River Clean up: This annual event held in May in collaboration with the city’s River Day has been taking place for over 20 years. In addition to clean up, it has also featured a garlic mustard pull (which is an invasive species that threatens the health of the embankment by the river).

Kent Bog Preservation: The church choir completed a CD called *Hi Ho, The Rattlin’ Bog* as a fundraiser for preservation of the local bog. One of our members (now deceased), Gordon Vars, took leadership on this important issue years ago, and through his tireless efforts, the bog is protected and maintained, and formally, as of 2015, named for him.

FrogWatch Workshops and Certifications: Two Biology faculty members from Hiram College - Cara Constance & Jennifer Clark from Frog Watch USA. Cara and Jennifer presented an overview of the program and taught participants about the different habits, sounds and identification of frogs and how we can help to sustain their habitats. Several of us *hear* differently as a result, including spring peepers and wood frogs (April 29, 2014) . We expect a growing number of people will participate in the August 2016 summer workshop and certification exam.

Sunday Service (Time For All Ages) Story: The life cycle of a plastic water bottle. Responses to the presentation were strongly positive, with many congregants noting surprise at the magnitude of the consequences to the earth - from gyres to pollution on beaches and to effects on wildlife from birds to fish to humans. Many people vowed to purchase fewer plastic water bottles and switch to carrying long-term water bottles. (As of spring 2016, we are selling reuseable water bottles).

Rain Gardens: As part of site planning, the permaculture group in consultation with others has designed a rain garden (bioswale) to support the ecosystem, cultivate beauty and awareness of how nature sustains life, and importantly, to enhance water retention and use on campus, mitigating the water that runs into the river and Kent city septic systems. In addition to bulletin boards and congregational invisioning (see guided meditation below) of the proposed gardens, there is a call to donate plants to the site.

Timeline for Completion:

April 17, 2011 - *Precious Water* workshops (annual report detailing this event is in *Appendix F*)

April 29, 2014 - *Frog Watch USA* -- 1st Frog-Watch workshop

January 2015 - Sunday Services, Time for All Ages Story: *The Life Cycle of a plastic water bottle*

March 20-22, 2016 - *World Water Day Observance*

March-August, 2016 - sale of UUCK reuseable water bottles

April 24, 2016 - *Earthday Services: Conjuring Butterflies and Friends in our Church Gardens* (Rain Garden guided reflection)

August 2016 - Revisiting our *Precious Water* pledge: 44 ways to conserve water; worship service items

Mays - 1990-2016 and continuing - *Annual River Day Clean-up* in Kent of the Cuyahoga River

August 2016 - *FrogWatch Workshop and Certification*

April 2015-April 2017 - and beyond: site planning, planting, cultivation of UUCK campus rain garden

Facilitator: Ted Voneida, Swanny Voneida, Mary Louise Holly, Cara Constance

Action Project Title: *Bringing Balance: Meditation and Memorial Gardens*

Assessment Result you are addressing: Integrating supports for balance in a world that continues to speed up and become more complex, becomes a matter not only of living in good conscience with our 7th principle and our place in the interdependent web of life, but of our survival in this web. We have so disturbed this web that blooming confusions rather than gardens occupy an ever greater part of most of our lives. We seek to bring balance into our lives as both environmental and social systems strain under life in the Anthropocene epoch and the climate change we continue to fuel. A *meditation and memorial garden* has been on the drawing board since 2009 as part of the congregation's commitment and plan to become a green sanctuary church. A meditation garden was part of the original plan discussed when the congregation committed to green sanctuary stewardship in 2009.

Project Description: Each Sunday there is a period of quiet, meditation or contemplation as part of the service before prayer time. This has not been easy for many congregants and guests, so a diversity of ways of framing this time have evolved over the last several years, from yogic breathing to quiet sculpting of pipe cleaners. As a result, many people say that while they have not yet become 'meditators' they have increased their comfort with this quiet time. With an exceptional music program that includes a choir (*UUCK Peace Choir*), a bell tone choir (*Peace Pipers*), a youth choir (*Golden Tones Junior Choir*), a song circle (*Sacred Song Circle*), a musical triad (*Evergreen Trio*), and a folk orchestra (*Fallow Time Folk Orchestra*), musical sounds are a major part of the service, and for many congregants -- a form of meditation. Balancing sound with quiet is especially important in a world that seems to be speeding up and increasing in sensory stimulation, not the least of which are driven by the electronic environments that are taking ever larger chunks out of our time. Of equal

importance is that we live in a world on edge, where the social and environmental landscapes are in such turmoil that it takes the best of our thinking to try to comprehend and act in accord with our values and principles.

This project is designed to enable us to provide an attractive, biodiverse, peaceful outdoor place on the church grounds for individual meditation and prayer as well as for memorials, worship services and other collective gatherings.

Timeline for Completion:

2009 - 2016 - examples from services; meditation; music (*see Appendix D*)

2014 - initial planning of UUCK campus

2015 - Planning for memorial gardens; Permaculture course and design

2015 - BET assignment for site plan; geologic testing, water considerations, and site plan development

2016 - April 24, 2016: *Earthday Services: Conjuring Butterflies and Friends in our Church Gardens* (guided meditation of Memorial and Meditation Gardens)

2016 - Fall: Breaking ground after construction on the new fellowship hall is completed

2017 - Continuing development of gardens. . . *forever*. . .

Facilitator: The Rev Melissa Carvill Ziemer, Music Director Hal Walker, and Worship Associates, Site plan committee (Mary Ann Kasper, Gary Kasper, Claudia Miller)

Action Project Title: *Services related to the 7th UU Principle;
150 Year Celebration of UUCK: 2016*

Assessment Result you are addressing: Early on in the *GS Environmental Audit*, it became apparent that the strong and long history of green related works of the congregation and its members was often lost to even those who were part of earlier efforts. Much energy was spent in *doing* the activities and relatively little attention was given to documenting and archiving them and making this work known to current and new members. For example, the founding and early work of the Kent Environmental Council (KEC) was not known to most people with whom we spoke, including some long-time KEC members. While re-inventing the wheel is often a good thing, lack of knowing our roots also prunes some of the energy that comes from knowing and feeling part of a legacy that has deep roots.

Project Description: While integrating UU 7th principle topics into services each year from 2009, the 150 year centennial in 2016 offers the unusual opportunity to incorporate a full year of revelation and celebration related to cultivating the green sanctuary that UUCK is and will continue to honor, enrich and expand. Earth days, with congregational and individual actions related to the earth, joining with the national and *Ohio Interfaith Power and Light* group, for example, showing films related to climate change and writing postcards to members of congress, as well as love letters to the earth, speak to this action project. (See Appenix B for *150 Year Celebration* brochure for months and events)

Timeline for Completion:

2009 - 2016 - Services. . . *See Appendix B*

2013-2016 - Planning committee work for 150 year Celebration

August 2016 - Green Sanctuary Events and Highlights of 150 year history of green work in timeline:
150 pounds of trash removal from the Cuyahoga River, Music, Dinner for the Earth.

Facilitators: Kathie Slater, chair and the entire 150th anniversary committee (at least 10 members)

See appendix B

Religious Education

Summary of Findings:

All ages: In addition to several events throughout the year such as *Music Sunday*, *Coming of Age*, *Fall Church Auction*, *Earth Day* related events (e.g. *Interfaith Power and Light* activities such as posting love letters to the earth, writing and sending cards to congressmen; annual *Garlic Mustard Pull*). Weekly services include *A Time for All Ages*. . . where stories, plays, slides presentations (e.g. *The Life Cycle of a plastic water bottle*) and other engaging educational activities take place regularly (taking prepared flower packages from the offering basket - planting these at home and in the community), either during the service, in social hours between services, and on separate occasions. For many years we have had *Where's Walden?* a daylong and often day and overnight camping and educational events in Ohio and Pennsylvania to reconnect with our Transcendentalist history and heritage.

Children: Over the years, the religious education program for the Unitarian Universalist Church of Kent has covered a wide range of activities for the children. The activities are varied and many are hands on. Numerous stories relating to nature and the environment have been read. Native American Stories with accompanying environmental activities have been used. Books related to "The Independent Web" have been purchased for the the Children and Family Lending Library for members to enjoy. Within the church grounds, a green space has been created with flowers planted and tended, a bird feeder built and filled especially through the cold winter months. Another theme used for the children is *Free to Be You and Me* and *GREEN!* Some of the activities were: creating prayer flags for the planet, recycling/upcycling and uses for newspaper, weaving, yoga, music with non-traditional items, making toys from everyday items, dances of universal peace. The children enjoyed a lesson on honeybees and a lesson on butterflies. The children of RE spent the summer recycling, upcycling, learning about pollinators and how to tread softly on Mother Earth.

Adult: Our Small Group Ministry program has gone by a variety of names over the years, but has been consistently offered since 2006. The program includes small groups of 8-12 people, led by a facilitator, who meet monthly for reflection on the given theme from October through May. Many of the themes have invited reflection on an environmental perspective. *Chalice groups* and *Food For Thought groups*, as well as *Living by Heart*, *Writing Your Spiritual Biography*, and *Spiritual Practice* programs have been offered, several since 2009, and continue to be offered with highly positive results - both in terms of numbers of people participating and in their perceptions of the value of these experiences.

(for List of dates and programs/Activities since 2009 *See Appendix B*)

Recommendations for possible responses:

Build on past curriculum and *UUA Ministry for the Earth* materials with educational activities for all ages, as well as specific programs and activities for adults and for children and youth. Re and upcycling as well as continuing and expanding engagement with stewardship of the UUCK campus grounds and evolving eco-systems (e.g. *Where does, and will, the water go - now and as springtime in NE Ohio become wetter and summers drier? How do we conserve water?*). Specific areas of the

gardens, the playscape and pollinator gardens, for example, can be used to build community and learn about how to care for the living earth in this time of more severe weather, climate change, and expanding opportunities to work with larger communities.

Project Title: *Ministry for the Earth gardening and stewardship*

Assessment Result you are addressing: The original conversations and commitment of the congregation to becoming a greener church included both children's gardens, a meditative memorial garden, a rain garden and a pollinator garden. Each of these have been developed by the participants in the Permaculture Subcommittee in consultation with two experienced landscape architects.

Project Description: While the stewardship part of this project has been in operation since 2009, these gardens will be built after the construction of the new Fellowship Hall is completed. They will rely on significant contributions of labor by members and will primarily be maintained by members. The gardens will include natural play equipment including growing fencing for exploration, investigation, play, and fuelling curiosity in a safe, accessible, green and growing playscape.

See the site plan in Appendix E.

Timeline for Completion:

2009 - 2013 - Each of these years saw the preschool class engage in Spirit play which uses many stories encouraging reverence for Mother Earth. Curricula that featured stewardship to the earth: e.g. in 2009 grades 3-5 spent 5 sessions/weeks specific to the web of life. In 2011 our middle school youth spent the year working on a service project to raise money for the UU Service Committee's Right to Water program.

2014 - For the 2013-2014 RE year our grades K-2 class spent the entire year with the *World of Wonder* curriculum. This curriculum instills respect for the interdependent web of all existence of which we are a part, and appreciation of its beauty, excitement, and mystery. It is founded on the premise that direct experience in nature is essential to children's physical, emotional, intellectual, and spiritual development.

2015 - Permaculture course with small group working on design of UUCK campus including playscape; conversations exploring the grounds with children and youth

2016 - Planning and learning about rain gardens and pollinator gardens, including second installment of *Frog Watch* workshop (2014, 2016); Earthday service exploring playscape possibilities; begin grounds preparation;

2017 - Garden creating and documenting and harvesting and community building

Lead: Karen Lapidus (former RE director), Mary Leeson, Colleen Thoele, Karen LoBracco (Interim Director RE), Patty Miller; Claudia Miller, Mary Ann Casper, Gary Casper (Permaculture Subcommittee)

Project Title: *Environmental Justice Film Series*

Assessment Result you are addressing:

The appreciative inquiry process confirmed that showing environmental films has been an effective education and outreach activity. Goals for future film showings include raising awareness of green energy, food issues, climate change, recycling, and activism; and providing a forum for discussion of greener living.

Project Description: We have hosted film series on a number of occasions and this is something we know how to do well. We have the space, the equipment, access to films with an appropriate license and a reputation in the community for choosing films that are not widely accessible in public theaters or other venues. An added attraction is the opportunity for community conversations after each of the films, which can cause ripples of further action in the lives of individuals and the community at large.

Andrew Rome submitted a proposal (*See Appendix C*) for a new film series to the UUCK Social Justice Council for funding approval in November 2015. It was denied, but other funding sources will be sought.

Timeline for Completion:

2009- 2015 - Screened films with conversations and fruit: e.g. *Supersize Me, Big Corn, Forks Over Knives, Fed Up, DIRT the movie, Gaslands, Chasing Ice, Cowspracy*

2016:

- Seek funding sources for film licences
 - build partnerships with community organizations to split costs and build audience (Kent Free Library, Kent Environmental Council, KSU environmental groups)
- Show films as funds become available
- Recruit additional people to show films

2017:

- Utilize church renovations to improve film experience - i.e. projector, improved space for discussion
- Advertise film series to wider audience, plan further in advance, plan regular events (monthly/quarterly)

Lead: Mary Louise Holly, Andrew Rome

See Appendix C for film series shown

Project Title: *Green Library: Resources, action reads, and forums*

Assessment Result you are addressing: The GS Environmental Assessment brought to light a number of green related activities and issues being addressed, both looking back at our heritage and looking forward into the future. The assessment enabled us to see threads and in some cases themes (e.g. Food, Water, air, soil). Many library resources were found in the children's materials related to the 7th UUA principle. The suggestion was made that an Environmental section (adult) be added to the library. GS members and others donated books and materials on key GS related topics.

While we found numerous opportunities for people to come together around issues, it became apparent that time and resources might be usefully focused on increasing opportunities related to specific GS topics to take these conversations further. Climate Change is a prime example. What does one say and do in conversation with those who deny climate change, and further, human influences on climate change? This issue became a key topic addressed on several fronts (e.g. linking with *Interfaith Power and Light* programs and conferences, *national and state Earthday group participation*; addressing the *Pope's Encyclical*) including the GS group and minister offering a workshop on "*How to Speak to Climate Change Deniers?*" (fall, 2015). Offered on a Saturday afternoon, the GS committee was joined by a few others. The topic became more compelling as the

workshop unfolded - we were so captivated by the first phase of the workshop that we didn't get further than that: learning about the science of climate change from UUCK colleague and biologist Andrea Case. Clearly, we realized, other, larger forums were needed.

Over the last several years the Library has held several excellent forums on key social and environmental topics (including "How Global Warming Affects Us and What We Can Do to Save Ourselves" in September 2015). The library has also developed a much appreciated referencing system of materials used in sermons, including these in the weekly *Thread from the Web* insert in the Sunday service program. This referencing-made-public was well received by congregants and guests. Here was a group doing much to support education and action on key topics.

Project Description: An important goal of the UUCK Library is to support the social action committees within the congregation. To that end, the Library committee has created a new "Environmental" section for the collection. It is an umbrella category of references pertaining to the primary environmental concerns of the congregation. The Library is committed to supporting the recently formed social action group, the Green Sanctuary committee. To that end, the Library organized and presented a program on climate change in September, 2015. It included a panel of 3 Kent State University scientists who specialize in the effects of climate change on the environment. A Green Sanctuary panel member from the congregation also contributed valuable individual perspectives on climate change. Within our limited resources, the Library tries to add current works, such as Naomi Klein's, *This Changes Everything*, Simon & Schuster, 2014, to support the work of Green Sanctuary. Other requests for current literature made by Green Sanctuary are a priority of the Library acquisition policy.

Timeline for Completion:

2015 - Add Environmental section to Library

Organize and host a Symposium on environmental topics with Kent Environmental Council (KEC)

2016 - Complete library re-cataloguing

Continue partnership with KEC

Continue to acquire environmental materials

Lead: Ann Waters and Kathy Wilen, Library Committee Co-Chairs

See Appendix C for Environmental Green Library Resources and Event Description

Environmental Justice

Environmental Justice Assessment

As with the other areas of the UUCK GS Environmental Assessment, we engaged in and continue to engage in appreciative inquiry into our past, present, and future, consulting both our local church historians (e.g. Sally Burnell, Liz Erickson, David Brown) and those in current leadership and facilitation roles (*Environmental Justice Committee*) in the church. This work continues as we prepare for and evolve into the months of our 150 year celebration in 2016.

Summary of Assessment Process and Major Findings: As we unearthed during our assessment, the UUCK's strong commitment to environmental justice today is not surprising given the long history and legacy of the church's social and environmental justice work, from the significant renovation of the building by Rev. Abigail Danforth in 1889 and her work on women's suffrage, to the soon-to-follow church members' leadership in the early 1900's founding of *Kent State University*

and the *University of Akron*, through to support for the fledgling environmental movement in the basement of the church and founding of the *Kent Environmental Council* and the *Kent Natural Foods Coop*, during the turbulent days when the young theology student William F. Schultz led the congregation and community members in action and resistance to inhumanity in Southeast Asia and the atrocities taking place in the prelude to and aftermath of the KSU shootings of 1970.

The long history of environmental justice includes the work of Caroline Arnold, Ted Voneida, Swanny Voneida, and many others whose work provides foundations for the continuing work as reflected in the action projects below. Strong networks locally, within the state as well as nationally and internationally continue to inform our stewardship. Many relationships, actions, and projects since 2009 address *water* and *food* as described in previous sections of this application (*Congregational Profile, Worship and Celebration, Religious Education*) and text that is incorporated here under *Environmental Justice*, as well as what follows in *Sustainable Living*.

Since beginning our GS application process in 2009 several environmental Justice related films and discussions have been well received and thought provoking. Films related to water and fracking, as well as linking with related networks in Ohio and elsewhere have been educational and informative. After a presentation on fracking for example, many participants were surprised at both the prevalence of wells and drilling, especially in northeastern Ohio in our communities, but also at the lack of awareness of property rights for underground drilling that had been “given away” or “sold” without considering the consequences.

The *Intentional eating study group* series of discussions, films, a panel and presentations by local CSA farmers, as well as a screening of the climate change related film *Cowspiracy* with a local CSA farmer were appreciated by participants and lead to the screening and conversations of other films including the 2013-2014 films, and the more recent proposal of films that we hope to procure funds to show in 2016. The original *Intentional Eating study group* delved into many and various dimensions of intentional eating including the costs to the earth (e.g. industrial agriculture, CO₂, methane, world hunger) and people’s health, not only from growing and consuming energy and toxic chemicals and processes in production, processing, and transportation, but also the costs to workers whose health is compromised by virtue of their proximity to the substances, but also to their immediate environments (e.g. rain forests, coffee plantations, palm tree farms). This study group seeded much of the activity that followed from these discussions including a discussion of the Statement of Conscience, presentations in Michigan and at other UUA related venues, as well as crept into, or links with, other action projects such as (See *Religious Education* - Environmental Justice films, and Green Library; *Sustainable Living* - the Greening of Social Hour; Permaculture Campus Gardens)

Recommendations for Possible Responses:

- Continue relationships and development of actions with groups established over the years including the *Kent Environmental Council*, *Kent Social Services*, *Kent Natural Foods Coop*, *Portage County Master Gardeners*, *Kent State University* and others related to food equity; water, soil and air quality; and sustainable farming and living.
- Expand relationships to other related groups who share environmental justice and food concerns such as *Edible Kent*, *First Unitarian Church of Cleveland*, *Cleveland and Akron City Repair*.

- Design and build the new fellowship hall and UUCK campus with enhancement of green elements that serve members and the community (*See below: Sustainable Living*)
- Build on the *Intentional Eating* project to involve the larger congregation and community.
- Grow the recycling component of UUCK including electronic recycling
- Use learning community models and processes (e.g. used in 2015 *Permaculture* course, and *City Repair* programs) to leverage resources and spread social and environmental programs, activities and technology
- Design and enable the UUCK campus to become a place in the community that speaks to safe, clean, water, food become a beacon and living 7th principle. (Links with *Sustainable Living*)
- Link with films (*Religious Education: Environmental Justice Films*) and resources (*Religious Education- Green Library*) local people. . .



"Be the change that you wish to see in the world."

– [Mahatma Gandhi](#)

Project Title: *Cultivating a Local Community Environment with Food for All*

Assessment Result you are addressing: We identified significant local and global food issues. UUCK is located in a community where food is a continuing issue. Several local groups address different aspects of this issue and have had a relationship with UUCK for from 20 years to 1 year. The link with clean water has been supported with green sanctuary members since well before our commitment to work towards Green Sanctuary UUA Certification in 2009 working in concert with national, state and local groups (e.g. Ohio Environmental Council; Ohio and National *Interfaith Power and Light*). Providing food for those locally in need includes our work with Kent Social Services, active support for the local "soup kitchen" and *Trinity Lutheran Church* among others.

Project Description: Our environmental justice project is rooted in our environmental action as a congregation. For over twenty years we have been an incubator for local initiatives designed to protect the environment and increase access to the fruits of the fertile area in which we live. From the early days hosting the founding of the Kent Environmental Council, and hosting the founding of the Kent Natural Foods cooperative, to a partnership with Trinity Lutheran Church in hosting a weekly hot meal program and our regular participation in local anti-fracking efforts, we have been active participants in community efforts focused on water and food.

Our project is to continue to invest in these historic relationships with well established community groups while we also seek out new possibilities for connection and service. To be specific the community groups with which we partner with a focus on water and food include the following:

Water:

Kent Environmental Council (KEC) - Several members of our congregation are active members of the KEC and many of our members and friends regularly participate in KEC events. We still host events for KEC on a regular basis and advertise their programing to our community.

Kent River Day - For over twenty years members of our community have participated in local River Day activities sponsored by the city including participating in the river clean up and leading a Garlic Mustard Pull.

Faith Communities Together (FACT) - Our congregation was involved in the founding of FACT, which is a local faith based organization working against fracking in Northeast Ohio.

Concerned Citizens of Portage County (CCPC) - Our congregation has been involved with CCPC in a variety of ways. Many members have participated in petitioning city council to try to win the right for local control of drilling. Our minister spoke to council about water preservation as part of this effort. Other members have been involved in water testing for people concerned about contamination of their water from fracking fluids.

Building Expansion - The members of our Building Expansion Team are working with the city and with our architect and landscape architect to create plans for mitigating the impact of stormwater run off on the river, which is just across the street from the church. Part of the plan includes establishment of a rain garden.

Waste Water - A member of the congregation who also serves on city council has arranged for tours of the local waste water treatment plant as part of our service auction.

Companion Community Development Alternatives (COCODA) - We were first introduced to this organization working on social and economic development projects in Central America during our Precious Water program. One of their efforts includes raising money for projects to bring access to water to villagers in the Suchitoto region in El Salvador. We have taken special collections for this effort on several occasions.

Flint Child Health and Development Fund - We just recently took a special collection for this organization to help provide supportive services for children who were poisoned by the lead in their drinking water in Flint, MI.

All of these projects and partnerships, in addition to the educational opportunities we provide for the congregation demonstrate our commitment to caring for water as a precious resource and expanding safe access to water for vulnerable people. Many of these examples include working with community groups in mutually beneficial ways - holding workshops and information sessions on fracking with those most effected in our area raising concerns that we take up and support. In the case of El Salvador, members and representatives of this community have given presentations at the UUCK illustrating their needs and concerns which individuals and the congregation continue to respond to in mutually generative ways. For example, learning from El Salvadorians about their need for clean water, and what we have done and can do to support them teaches us about water issues we have yet to consider, but that are part of growing global issues of water. While the smallest and most densely populated country in Central America, El Salvador has much to teach its gigantic neighbor from the way it works with other Central American countries whose biodiversity is among the most diverse and most vulnerable to climate change and human industrial degradation of the world's flora and fauna.

Food:

Kent Natural Foods - Our congregation served as the host for the founding of Kent Natural Foods and has continued to be supportive with use of space for the annual meeting and other special gatherings.

Farmers Market - Members of our congregation are actively involved in expanding the size and reach of the local farmer's market. The market now offers a financial incentive to those who use their Ohio Direction card for fresh produce and provides cooking demonstrations through a partnership with Kent State. We raised money to dedicate a bench at the farmer's market a few years ago as a show of our support.

Kent Social Services (KSS) - We have a strong partnership with KSS which provides a food pantry as well as a daily hot meal (except Saturdays) to low income individuals in our community. Our

minister serves on the KSS Advisory Board and we have a standing collection for the food pantry in addition to special collections throughout the year.

Trinity Lutheran Hot meal program - To make sure that a free, hot meal is available every day of the week for those in need in our community, Trinity Lutheran began serving a meal on Saturdays a few years ago in partnership with a number of local churches. We are one of the partners and we have had a number of people of all ages help prepare and serve on our Saturdays.

Annual Crop Walk - The annual Crop Walk benefits local food pantries as well as international hunger relief efforts.

Heifer - The children in our Religious Education program have once again chosen to partner with Heifer International, which is an international organization working to end hunger and poverty. During the month of March, 2016, the children in our program are trying to raise enough money to purchase at least 200 chicks.

Earth Day Dinners - We have hosted several Earth Day dinners as a way for people to celebrate over food while also learning about local food issues and engaging in generative conversation about ethical and intentional eating, what that means to each of the contributors and participants in these meals. The consciousness raising during these meals - mainly through sharing perspectives and home practices has had an impact not only on individuals, but on the greening of our social events: making more local and less energy intensive foods at least options at events.

Building Expansion - Our permaculture group is working with our landscape architect to design an edible food forest as part of the grounds in our expansion.

Intentional Eating Study Group - Spurred in part by the Congregational Study Action Issue, members of our congregation began an eight session study group on issues of intentional eating.

All of these projects and partnerships, in addition to the educational opportunities we provide for the congregation demonstrate our commitment to expanding access to food for vulnerable people and educating about intentional eating, learning both from these groups and engaging in generative conversations and actions that build community *with* and *for*, us all.

Timeline for Completion: (Illustrative)

2010 - *Intentional Eating Study Group* monthly meetings (*See Appendix D Discussion group outline*)

2011 - *Intentional and Ethical Eating* Forums and conversations

2012 - 2013 - KSS and other partner activities (to be documented in Application for Certification)

2014 - *Dinner for the Earth Potluck dinner and discussion*; GS Films and discussion

2015 - *Permaculture* course; introduction, planning, and design of local Food Forests for homes and church and community groups (*Kent Garden Club, Master Gardeners of Portage County*, community members - Kent, Ravenna, Brimfield, Akron, Cleveland Heights)

2016 - *GS August: 150 Year Celebration*: Dinner for the earth celebration; 150 pounds of trash from the Cuyahoga River and our neighborhoods; and Portraits and Profiles of UUCK Green Heritage

Facilitator - Lead: Have been several leaders, including small group leadership depending on the project: Lois Weir, Jennifer May, Kathy Kerns (*Intentional Eating*), Mary Lou Holly, Claudia Miller (*Permaculture Course*) Andrew Rome (*Dinner for the Earth*), Shirley Kiernan (*Greening of Social Hour*) Elaine Bowen (*KSS food pantry*)

See Appendix D for participants, curricula, results. . . .(we have Intentional Eating Discussion Group notes and schedule; also draft of UUA Statement of Conscience; See also Sustainable Living)

Project Title: *Electronics Recycling Review*

Assessment Result you are addressing: From our Environmental assessment we found that recycling is an issue on several fronts: from disposing of kitchen wastes to composting, and with electronics disposal in regard to the life cycle of materials. We have a project for *Electronics recycling* and have chosen to continue and deepen this work with a review and continued service, making our findings known to the congregation and enhancing the work begun.

Project Description:

Our ongoing church recycling program has kept hundreds of pounds of batteries, electronic waste, and CFL light bulbs out of landfills. This project has been successful for more than five years with dedicated space at the church for collection and a succession in responsibility for disposal. While the centralized recycling at church enhances the sustainable living efforts of our congregation, we have learned about the negative impacts of electronics recycling on poor communities and vulnerable populations.

Landfill waste in the United States impacts the local communities through air quality degradation and potential groundwater contamination. However, electronics waste recycling outsources the pollution overseas to countries without the environmental regulations of the US. Local workers, often children, work without personal safeguards to strip precious metals and valuable components from electronics. The direct exposure for workers and indirect exposure through air, water, and ground contamination can lead to serious health consequences.

Environmentally friendly recycling is possible. Third-party certification for US based recyclers is available, documenting sustainable environmental practises. However, the volume needed by most certified recyclers is higher than what our church produces. Shipping waste for recycling to an appropriate facility is cost prohibitive. Not all waste collected by the church is accepted by recyclers. Awareness of problems with electronics waste recycling is low. Our church must find a way to navigate these problems and reduce the unintended health and pollution consequences of our recycling program.

Timeline for Completion:

- 2013 – Continue existing recycling program, Andrew Rome takes lead
- 2014 – Research impacts of electronics waste recycling
- 2015 – Educate congregation on issue
 - Recruit others to work on issue
 - Devise solution, implement on trial basis
- 2016 – Continue recycling program with best environmental practises
 - Publicize process of determining problem and implementing solution to congregation and to wider local community
 - Advocate politically for better environmental stewardship in manufacturing and waste disposal

Lead: Andrew Rome

Sustainable Living

Summary of Findings: While we found a long and strong history of social and environmental stewardship and action, we also found many open challenges where our efforts can bring us closer to living our aspirations. Sustainable living, we find, links with, and is a foundation for, all that we do in the other three areas of our appreciative inquiry: *Worship and Celebration, Religious Education, and*

Environmental Justice. Because we conducted an in-house energy audit that enabled us to audit both the church building and the annex, and, we have the unusual opportunity to put our findings into practice, not only within these two buildings, but also into the planning and construction of the new fellowship hall and campus grounds: we can put our money where our mouths are, better put: *we can be the change we seek.*

Grounds: Having acquired the house and lot behind the church in 2014, we now have a one acre campus comprised of the Annex, a tool shed, the church (built in 1867), and architectural plans (*see Appendix E*) for a new fellowship hall and green space for gardens and play areas that are being conceptualized and planned as an integrated campus.

Parking lot: The main parking lot (33 spaces) is leased from the Kent Public Schools. Six additional parking spaces are located near the Annex, while 12 spaces owned by the city are used on Sundays and at night when Township Building meetings are not in session. Additional public parking spaces along the highway on the east side of the church are available and used regularly, as are 12 spaces in the Social Services Building – also on the east side of the church on weekends and at night. We are close to signing a long-term lease arrangement for the Kent Public Schools lot. The long-term lease with the City will secure parking, and for a modest yearly fee, the church will improve (grading is needed) and maintain the lot. As of this writing we are still negotiating with the City and Fire Department on the exact nature of improvements to the lot.

Transportation: Public transportation is not widely available evenings and isn't available at all on Sundays. Therefore people either need to live within walking distance, or have private transportation to come to church. The Membership Committee and Care Team have initiated several different methods to promote ride sharing including:

- privately arranging rides,
- using an on-line scheduling tool for ride sharing and
- exploring whether a neighboring church might be willing to give our members and friends rides with their van.

Unfortunately, none of these have yet yielded long term success. Promoting ride sharing remains a challenge.

Facilities: Facilities Energy Use: Energy use details are in the appendix, but are overwhelmingly associated with heating and cooling with perhaps 5% utilized in water and kitchen use. The figure below illustrates that the combined energy use and associated costs have been rising. Plans to reduce both the cost and carbon footprint are detailed in the appendix through a process of insulation, furnace replacement and energy monitoring.

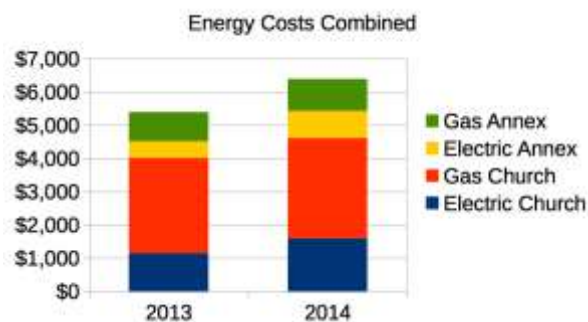
The two buildings, the Church and the Office, occupy adjacent lots and were evaluated separately in the energy audit. The Church was built in 1865 with the massive stone, brick, plaster and timber of the time and the associated high quality workmanship. Various renovations of the Church have been carried over decades with progressive upgrades to heat (e.g. coal to gas) and electric, aspects of which are again out of date now. The Office is a two-story 80-year-old building, previously a single-family house.. None of the energy comes from sustainable energy sources.

Church: The Church, as explained in the appendix, has three gas furnaces and, until recently no air conditioning. (Two window AC units were added in recent months and not included in the energy audit.)

Kitchen, food, recycling/re-useable: The church has old equipment that will be replaced with new energy efficient equipment in the new Fellowship Hall. Paper and plastic recycling are functional, but many recyclable items are found in waste receptacles in other parts of the church - even around the corner from the kitchen bins. Composting as described elsewhere has been inconsistent and usually not done.

Annex: The Annex is used daily by our minister and staff and occasionally provides meeting space. It was retrofitted for gas and forced air heat over half a century ago with technology of the time, but has a newer gas furnace. Three years ago, air conditioning was added.

Facilities Energy Use: Energy use details are in the appendix, but are overwhelmingly associated with heating and cooling with perhaps 5% utilized in water and kitchen use. The figure below illustrates that the combined energy use and associated costs have been rising. Plans to reduce both the cost and carbon footprint are detailed in the appendix through a process of insulation, furnace replacement and energy monitoring.



Office and

cleaning supplies - Several years ago we made a commitment to using earth friendly office and cleaning supplies. We followed through on that commitment for several years and then with staff and lay leadership changing, these practises were not maintained. We are now in the process of renewing this commitment, with visible progress since the “Stewardship Commitment Statement” adopted in early 2015 as part of the UUCK Green Sanctuary application process.

Investment policies - Since we do not have an endowment, we do not yet have complete investment policies. Since we are working on building an endowment at this time, we are also working on establishing investment policies.

Congregation policies, Several of our governance policies have some sort of environmental dimension or possible application. These include:

- Social Justice Sponsorship Policy
- Disposal and Removal of Alcohol on Church Grounds
- Lay Leader Development Funding
- Rental of Church Space
- Special Collections

See: https://kentuu.org/members_staff/policies-and-governance/

Congregation committees, etc. The most comprehensive listing of all congregational groups committees and teams can be found in our annual stewardship campaign booklet. The most recent version, for FY 17, is on our website at http://static.kentuu.org/wp-content/uploads/2016/03/FY17-Program-Budget_Bar_v2-2.25.2016-final.pdf

See Appendix A: Energy Audit.

Recommendations for possible responses:

- Begin recycling, refusing, re-using; develop and communicate processes; continue electronic recycling and enhance both program reach and education (*See Environmental Justice - Recycling Electronic Review*)
- Begin composting process; organic matter was going into trash, now some is recycled for members' gardens, and there are plans for on-site composting of all organic materials; use for soil support
- Energy saving: see *energy audit* suggestions: e.g. replace old furnaces, insulate and seal Annex building
- Sustainable design and building new fellowship hall and renovating original church building (1868); consider sustainable resources and life cycle of materials
- Design and build the new fellowship hall and UUCK campus with enhancement of green elements to serve members and community (e.g. shower; emergency space for homeless; food forest)
- Permeable and impermeable surfaces; Wherever possible, enable permeable surfaces
- Adopt principles of permaculture that enable the capture, conservation and use of water on-site; rain gardens, pollinator gardens, and handling storm water increases with climate change
- Campus grounds: cultivate as a beacon of 7th principle; example of living UUA principles
- Increasing awareness: interdependent web of existence with connections and consequences
- Make and display educational signage: WATER, LIGHTS, PAPER, RECYCLING, COMPOST; bulletin board, green events calendar, website, *Thread from the Web*,
- greening of events, social hour and gatherings; be what we say (7th principle); life cycle of materials and conscious decreasing UUCK energy footprint
- Offer support for Home Energy Audits: develop a team to help individuals and families
- Create and institute energy saving transportation methods that enable all members to participate regularly in church activities

Project Title: *Cultivating Ecological Design - Permaculture Garden Campus*

Assessment Result you are addressing: Opportunity for ecological design and linking with community members and groups related to food forests, water conservation, and recycling including composting. Being what we say - a community example of sustainable living.

Project Description: With the acquisition of property and the decision to build a new fellowship hall, we conceptualized green space as integrated into an ecological area where the playground, memorial garden, and other gardens could offer an opportunity to learn from nature. We envision our permaculture campus as a way to link with other community members (see *Environmental Justice* Section on Food) to build sustainable gardens that are food forests. We began with offering a nine session weekly course in permaculture for our congregation and others (Portage County Master Gardener Service Volunteers, the Kent Garden Club and others) where permaculture principles and design were learned and implemented by families and individuals, including a church sponsored gardener. Working with the course teachers, a permaculture expert, *Tom Gibson, and landscape architect, *Elsa Johnson. The UUCK campus project continues with a small design group with input from the larger gardening community and the course teachers in drawing the site plan and design of the campus gardens. Implementation will begin once the construction is completed, and continue over

the next few years as the gardens mature. See related projects in *Religious Education and Worship and Celebration*.

Timeline for Completion:

November 2014 - Identification of permaculture approach and visit and discussion with the First Unitarian Church of Cleveland

December 2014 - March 2015 - Recruitment of class participants for permaculture course

March - May 2015 - Permaculture course

June - January 2016 - Study of principles; planing site

January 2016 - selection and work of BET site plan group

February - June 2016 - Design; site drawing; work with Land and building architects and City Government (e.g.Zoning, Fire Department)

April 24, 2016 - Earthday service and Guided meditations on proposed and evolving Children's, Memorial, and Pollinator Gardens

Spring-Summer 2016 - Continue to institute plans for East side of church (where construction not an issue); plants are being donated by congregants and friends

Fall 2016 - continuing planning preparation for rain gardens (north side) and pollinator gardens (west side of new fellowship hall)

Spring 2017 - garden preparation and planting

Summer 2017 - ongoing care and nurture of established gardens as we continue planning for the future

Lead: Mary Louise Holly, Claudia Miller, Mary Ann Kasper, Gary Kasper, Georgia Quinn and church gardeners in consultation; with *Tom Gibson (First Unitarian Church of Cleveland, Permaculture specialist) and *Elsa Johnson (Landscape Architect; Permaculture) *Recipients of UUA Ministry for the Earth Award 2014* for permaculture gardens.

Project Title: *The Greening of Social Hour*

Assessment Result you are addressing: This project is designed to deal with three identified problems: 1. lack of people serving at social hour, 2. lack of awareness and use of conservation methods e.g. materials used - food and paper products; Links to Recycling (see Action Project below: *Cultivating Awareness and Action: Refusing, Recycling, Re-using* and Environmental Justice *Ethical Eating*), and 3. a reliance on high simple carbohydrate foods (pies, cakes, cookies, pizza) which many people cannot eat, and tacitly reinforces the consumption of low nutrition foods that support obesity. Not enough people volunteer for service for Social Hour, leaving the burden to fall on a few people. So, part of the project is recruiting people into service for Social Hour while at the same time greening that weekly event by the foods and beverages served as well as the materials used to serve them (using sustainable products) as well as clean-up (earth-friendly products and procedures).

Project Description: Part of the previous efforts begun by the *Intentional Eating* group, this action project targets the weekly social hour and includes: using care in preparation for, during, and after the event, using sustainable food and products. This project links with a church effort to share the responsibility for creating a welcoming social experience for all who join us for worship on Sundays. That welcome includes a variety of fresh foods with attention to health and environmental concerns, as well as at least one host whose role is to greet visitors and connect them with others who may

share their interests, and another person to host an activity table for those who prefer to engage with some kind of collaborative game or puzzle or activity.

Timeline for Completion:

2011 - *Intentional Eating Study Group*

2012 - Infiltration of the study group members on various committees helping to shift to more intentionally earth-friendly foods at gatherings (example: Church Auction Dinner of *Quinoa Feast* as an option where until then the *Carnivore's Delight* dinner was an unchallenged star for bidding).

2013 - Local and sustainable foods at Social hour, marked as such (from Kent Farmer's markets)

2014 - Earthday, films and other GS events with local and sustainable foods, marked with ingredients

2015 - Food for Thought groups including vegan and earth friendly foods; with Energy Audit Results, increased efforts to use earth friendly products in kitchen and bathrooms (one home-made non-toxic cleaning jar and rags created is managed by GS member Shirley Kiernan) ; composting and recycling bins in the kitchen and fellowship hall (Fessenden);

2016 - linking with larger church efforts to make the Social Hour more a community service weekly event; so far this has been highly successful - with more people volunteering and sharing the responsibility, more people able to eat the food, and more nutritious food options (fresh fruits and vegetables, hummus, gluten free sweets);.

August 2016 - church services with attention to Green Social Hour related to 150 year anniversary

Lead: Lois Weir, Jennifer May, Kathy Kerns, Mary Louise Holly, Trish McLoughlin, Claudia Miller, Saunis Parsons, in collaboration with Kathie Slater (Board of Trustees).

Project Title: *Cultivating Awareness and Action: Refusing, Recycling, Re-using, and Composting*

Assessment Result you are addressing: We have many elements of this sustainability project that are working with varying degrees of success (*Electronics Recycling Review; Glass, Plastic, and Paper Recycling*, compostable materials from Kitchen and Fellowship Hall in buckets). This action project necessitates the education and action of all who use the church and its services reinforcing the first three elements: Refusing, Recycling, Re-Using, and emphasizing the fourth: Composting.

Individual church members, and even some individuals and groups (*Social Hour Service* - most notably Shirley Keirnan, *Intentional Eating*, Saunis Parsons with sustainable coffee, tea, etc; *Religious Education*: Andrew Rome with electronic recycling and lifestyle choices shared) have been enabling this for years, but a systematic sustained effort has yet to be harnessed and let loose to gain momentum. To live as a green sanctuary, this action project needs to be addressed as a congregation, including individuals and groups -- but not only as small groups.

Project Description: This project ultimately incorporates support for and from all who attend and serve the church. There is an educational component, as well as a spiritual component, and a physical action component. While the proof is in the action, each church group is involved: *Cultivating awareness and action* necessitates facilitation from the *Religious Education* curriculum and action, *Buildings and Grounds* people, the *Board of Trustees*, and those involved with *Worship and Celebration*, and *Environmental Justice*.

Timeline for Completion:

2009 - 2015: - Since 2009 a composting, or “coffee grounds” bucket in the kitchen has been located between trash receptacles, often most recently being used by church members in their home gardens, but use has been inconsistent.

2009-2015 - a receptacle for the collection of used batteries is always available, which promotes recycling and makes it easy for people to choose.

2014 - creation and adoption of nnon-toxic sustainable cleaners and cloths in kitchen - in use and great!

2011 - 2013 - *Intentional Eating study group* activities that touched on this issue - films and discussions paved the wave for much that has evolved since, not the least of which are environmental justice food and water and energy conservation.

2015- 2016 - Conversations and planning amongst groups (e.g. Building Expansion Team, Board of Trustees, Site Planning Committee) and lead to a signage and education campaign: labelling clearly of recycling and other conservation methods and protocols, and a campus site plan with spaces for recycling and composting.

Lead: Kathi Slater (chair) and Board of Trustee members, Shirley Kiernan, (GS, Social Hour Service), Claudia Miller, Mary Ann Casper, Gary Casper, Mary Louise Holly (BET Site Plan Subcommittee), Georgia Quinn, (Buildings and Grounds)

Project Title: *Reducing our carbon footprint in proposed new and old buildings and campus renovations*

Assessment Result you are addressing: The Environmental Assessment and Energy Audit (*See Appendix A*) gave us a plethora of suggestions for shrinking our carbon footprint, both as a congregation and as individuals. From needing more efficient heating in our 1868 church building to tackling open holes in the basement of the Eldredge Annex, and plugging gaps in kitchen windows, we do not want for ways to improve energy use and lessen our impact on the earth. With the opportunity to build a new fellowship hall and design a new campus, as well as renovate our old building, we have a once-in-a-generation or two chance to use the best of what we know from science and engineering to build and maintain with *reverence for the interdependent web of existence of which we are a part.*

Project Description: This action project addresses reducing our carbon footprint in three areas: 1. old buildings (Church, Eldredge Annex), 2. in plans for new buildings (fellowship hall) and grounds, and 3. in the lives of congregants and friends. The initial project was conducting the Energy Audit and beginning to implement suggestions. The longer-term project spans several years and is unending. Intentional study, planning, and implementation is a continuous cyclical process to bring our actions in line with our growing understanding of how nature sustains life. From gradual implementing *Energy Audit Report* suggestions on reducing our carbon footprint on the earth to the Building Expansion Team Subcommittee investigating solar panels for the new Fellowship Hall, and learning by experience how to mitigate climate change related water and heat challenges, the UUCK is committed to actions for the long haul. The following chart gives a glimpse of our work and planning related to the three areas:

1. old buildings (Church, Eldredge Annex),
2. plans for new buildings (fellowship hall) and grounds, and

3. the lives of congregants and friends.

Summary of Selected *Sustainable Living* Actions in three areas: 2009-2017

	(1) Old Buildings	(2) New Buildings; Campus	(3) Congregants & friends
2009-2011	Explore energy audits	Rain barrel for church made and installed	<i>Precious water</i> events; making rain barrels for home and church
2012 - 2013	Church gardens and curricula		Church services and activities
2014 - 2015	Conduct energy audit (repair obvious problems e.g. energy zapping hole in basement wall of Annex, door hinges and window repair); report generation; Commitment Statement of Stewardship by Board of Trustees; appointment of Building and Grounds Coordinator; Congregational meeting and forum on preliminary results of energy audit and action projects	BET subcommittees; BET congregational updates; GS permaculture course; Initial site plan created	GS films & conversations; Climate Change related workshop (Winter) & panel (Fall); Bulletin Board created and displays eve since in Fellowship Hall; Earthday Globe suspended in Fessenden Hall 2014, 2015 materials & activities & seeds for home; home audit team idea floated; GS project jobs interest sheets signed; Interfaith Power and Light projects; FrogWatch Presentation; Permaculture course and site planning of home and community gardens ; begin greening of Social Hour.
2016	Buildings and Grounds coordinator position designed and person appointed; Response to energy audit: Plan	BET subcommittee reports; Site plan development;	Continue Greening of Social Hour; Campus site plan developed; Earthday service with permaculture

	for energy conservation; Implementation of energy saving measures; Sustainable gardening continuing	hearings and negotiations with City government; Construction of fellowship hall begins summer	gardens reflections; Earth Stewards Club initiated; August events at home stewardship; FrogWatch Workshop and Certification
2017	Continued implementation of energy efficiency measures	Continuing construction and implementation of plan; <i>see Appendix E for Green Features for phase 1 of building and renovation</i>	Revisit plans and commitments; Sustainability Survey and share results

Having accomplished a significant portion of our proposed work, we look forward to continuig the momentum that this unusual point in earth's and UUCK's history - during this, our 150th year, and the legacy that will be experienced by the next generation of UUs 150 years from now.

Please see Appendix E for a list of items already incorporated into our work and planning to reduce our carbon footprint, and the plan in response to the Energy Audit.

Timeline for Completion:

2009-2013 - Activities alluded to earlier in this application related to services and curriculum and projects (e.g. *Greening of Social Hour, Green Library, Cultivating a Local Community Environment with Food for All*)

2014 - Energy Audit; Climate Change activities (Interfaith Power & Light); films; church services and music with theme

2015 - winter: GS congregational meeting sharing progress; BET planning; congregational meetings: subcommittees appointed (Energy; Site plan. . .)

2015 - Congregational call for a symbol (logo) of UUCK as a green sanctuary - a symbol of our aspiration to live the 7th UU principle: (two symbols, one from a youth, and one from a long-time member and environmentalist were selected. Life cycle considerations of building materials (*see Appendix E*).

2016 - BET subcommittee reports; continued congregational meetings; planning documents and architect site plan to City of Kent, Planning and Zoning Hearings (April); construction (Summer-fall); Finance committee considering savings from eneregy audit suggestion implementation.

2017 - New building opening;

2014-2016 - GS group posting activities on UUCK website and working on design for website which will be posted summer 2016.

Lead: 1. Building Expansion Team members: Mary Louise Holly, Matthew Slater, Randy Leeson, Lois Weir, Larry Johnson, 2. Site plan committee: Claudia Miller, Mary Ann Casper, Gary Casper, John Brovarone, Barbara Brovarone with Elsa Johnson (Landscape Archietect) and Tom Gibson

(Permaculture). 3. Georgia Quinn and the Energy Audit Team: Michael Lee, Randy Ruchotzke, Larry Johnson.

See Appendix E for Sustainability related materials; For Site plans and visuals: <https://kentuu.org/capital-campaign/visualizations-proposed-expansion/>

Communications Plan

There are at least 12 ways that we share practical information about environmental issues and sustainable living strategies with members and friends of our congregation. These same communication devices are used to invite members to GS related programs and activities.

- *A Thread from the Web*: a weekly insert in our service program
- *Enuus*: a weekly electronic newsletter
- Website: both in general announcements and calendar, and the proposed GS page
- Oral announcements at weekly services
- ¼ and ½ page flyers and inserts inserted in Sunday programs (eg. *what is green sanctuary?*)
- a large bulletin board and white board in Fessenden Hall, our fellowship hall
- Flyers and Posters that are posted on several bulletin boards within the church, and in community places such as the library and other public venues
- Electronic lists comprised of interest groups (eg. Ethical eating, GS film series)
- cross-pollination of committee participants; eg. GS serving on Building Expansion Team)
- Parts of the service devoted to GS issues (eg. *Life cycle of a water bottle* powerpoint; stories)
- Events focusing on GS issues: Films, Forums, Discussions, Book Talks, Pot luck dinners and conversations for the Earth
- Specific resource materials: for energy audits (conduct your own), gardening, water conservation; magnets (green foot- reminders for mirror, window, fridge) and stickers, recyclables

There are many groups with whom we collaborate within the church and outside the church on GS related issues.

Within the church:

- Social Justice Committee
- Worship Arts Committee
- Building Expansion Team
- Capital Campaign Team
- Building and Grounds
- Religious Education
- Library
- Staff

Outside the church:

- Kent Environmental Council
- Kent Social Services
- El Salvador COCODA
- Interfaith Power and Light

- and partners listed in the environmental justice section

APPENDICES

Appendix A. Energy Audit

Energy Audit for Unitarian Universalist Church of Kent: Physical Survey, January 2015

Submitted: February 12, 2015

Authors: Larry Johnson, Michael Lee, Randy Ruchotzke

An Energy Audit for the UU Church of Kent was carried out, including a detailed physical inspection of energy-related facilities in both the Church and Annex. This audit is a Physical Survey and it produces a set of recommended improvements based on qualitative observation and assessment energy systems currently in place. A careful review of past gas and electric energy purchased has been included so that a quantitative measure of the impact of any improvements will be possible. To identify other possible changes in infrastructure and additional energy “Green” actions, it is recommended that an expanded audit which incorporates quantitative assessment be carry out. Options for additional performance testing of energy utilization systems are described in the text.



Introduction

In November 2014, the Energy Audit Team was assembled through invitations from Reverend Melissa Carville-Zeimer to conduct an energy audit of the Church and Annex as part of the UUCK Green Sanctuary efforts. The team consisted of Larry Johnson, Randy Ruchotzke, Michael Lee, and Mary Lou Holly (ex officio, Chair Green Sanctuary). The Team conducted the Phase I Physical Survey, during December 2014 and January 2015.

This energy audit takes place at a time that the Unitarian Universalist Church of Kent has initiated a major construction project for a new Fellowship Hall, to be followed by a major renovation of the existing Church building. The building and renovation affects which projects described here may be undertaken, especially those which impact the Church building. This report is not able to specifically incorporate considerations related to the Church renovation but hopes to provide a few relevant observations. Renovation issues will involve the Building Expansion Team (BET) and other Church bodies and may be incorporated into future performance evaluations undertaken by the Energy Audit Team.

Acknowledgment: This report was prepared by the Energy Audit Team, for the Green Sanctuary Certification effort led by Mary Lou Holly. It was prepared in consultation with the Green Sanctuary Team and Georgia Quinn, Coordinator of Building and Grounds.

Organization

- Section 1: Major Results Summary
 - Section 1A: General Observations
 - Section 1B: Top Ten
 - Section 1C: Estimated Savings Opportunities
- Section 2: Energy Inputs
- Section 3: Energy Goals
- Section 4: Future Quantitative Opportunities
- Section 5: Summary

Section 1: Major Results Summary

The major results summary provides an overview of the Physical Survey and a discussion of energy costs and savings. Additional details are provided in later sections.

Section 1A: General Observations

(I) Lights:

Most lights have been upgraded from incandescent to CFL. Additional upgrades with an ROI of 3 years (such as T12 to T8 fluorescent or T8 LED) may save 5% of the electricity bill. While other lighting improvements are warranted (as discussed later) the potential cost savings are not likely to reach 10% of electric energy consumed, though the quality of lighting may be enhanced and the savings is on going.



(II) Heating Ventilation and Air Conditioning (HVAC):

Church: The Church has no air-cooling system but it has both old and new heating systems. Two of the four Church furnaces are “high efficiency,” but the two largest are not. The two older furnaces should be scheduled for replacement. A 20% decrease in heating costs projected with the new furnaces. In addition, the design and condition of the duct system is poor. A 10-20% improvement is potentially available but this might be less since areas that are currently poorly heated would be properly heated, thus taking up part of the savings. Zone heating, as part of a redesign of the HVAC, would offer more significant savings. Though each improvement is identified as 10-20% savings, the savings are not additive. A totally refurbished and properly managed HVAC system for the Church could reach 30-40% savings with an improvement in living space comfort.

Annex: The Annex has a relatively new (1997) furnace though not “high efficiency” and new (2013) AC. The ducts are much older. One serious duct leak was identified and corrected and probably



decreased heat and AC cost by 10%. Still, a full sealing of ducts is warranted and may give another 10%. Using the programmable thermostat can yield a 15% savings.

(III) Building Air Leaks:

Major building air leaks exist in both the Annex and Church. In the Annex basement, one hole in the basement was repaired in the course of the inspection. (Photo shows part of the hole repair and some added duct insulation saving 5% to 10% on heat and AC). Additional leaks where the building meets the foundation (sill and header) are a significant issue in the Annex basement (5-10% heat). A “fresh air” intake duct in the Church furnace room (NW corner, lowest level) is the source of major cold air intrusion and corresponding energy cost (5-10% heat).



Attic air leaks are also a concern in both the Church and Annex, but are not yet carefully characterized. (Cold air enters the attic area as part of the normal process, but should not be allowed to enter walls or the interior space.) The situation is uncertain at present and may be 5% to 20% of the heating cost, thus warranting further evaluation.

(IV) Window and Door:

Air leaks around windows and doors are sizable for both the Church and Annex. Weather stripping can mediate this in part, but some door/window repairs are needed to save an estimated 4-8% in each of the structures. In addition to leaks, there is another heat 4-8% loss through doors and windows in the form of conductive losses through wood, metal, glass and frames. Caulking and weather stripping can address half of these problems while awaiting more strenuous repairs.



(V) Wall and Ceiling Insulation:

Both the Annex and Church have insulation in the attic but both could be improved. The 5 or so inches of blown in insulation in the Annex is unevenly distributed and represents a barely adequate amount. Some savings (10% heat) for the Annex may be available with relatively little effort and some additional insulation. Annex walls are also partially insulated, but measurements of wall temperatures indicate this is not uniform, resulting in noticeable thermal gradients in some rooms. Further investigation of the building envelop of the Annex (e.g. thermography) may show that another 10%, and possibly more, heat savings is available.

The attic of the Church has been carelessly insulated with 20-30% of the ceiling bare and much of the insulation in the remaining area has been disturbed or improperly installed. One can estimate that 20% of the heating bill is accounted for by preventable losses through the Church attic. This structure is, however, expected to be modified substantially in any planned renovation.

Heat loss through the walls of the Church is a challenge to assess. The building is an old and very substantial construction of stone blocks, bricks and plaster, but with apparently no intervening materials for insulation for a thermal break. Based on measured wall temperatures and their large area, the walls appear to account for a large fraction of the total heat loss of the Church. Quantifying this has not been completed. No recommendations can be made without considering renovation plans and such plans certainly must involve the serious issues of wall and ceiling insulation. Multiple improvements are available for consideration.

Section 1B: Top Ten

An extensive list of observations (not limited to energy issues) was developed during this audit. The list includes a variety of “issues” that need to be considered or addressed, but in this report, recommendations are limited to a short list we are calling the Top Ten. These are listed in no particular order. Some items are easy to address and some not. Some save significant energy and some not. The prioritization is a matter of goals associated with being “Green” and may involve choosing visible examples or involving people in a Green community effort. We conclude, however, in Section 1C, with an estimate of energy savings over all.



The Top Ten (plus bonus)

1. Fix sill/header leaks in basement, Annex
1. Seal HVAC ducts, repair room vents and balance HVAC air flow, Annex and Church
1. Fix air incursion into and out of furnace rooms of Church.
1. Seal, caulk and weather strip doors and windows, Church and Annex
1. Buy and use programmable thermostats, Church.
1. Upgrade lights (replace T12 fluorescent, put LEDs in continuous-use lights).
1. Add insulation, e.g. acrylic sheet or other, to single-pane windows, Church.
1. Cut back (eliminate) dehumidifier use, Church and Annex.

1. Appliance upgrade or removal, refrigerator and freezer for Church.
1. Furnace upgrade for Church

Bonus: Building Envelope

The issues of the building envelope are not listed in the Top Ten. The energy conservation function of the building envelope includes attic and wall insulation as well as air incursion (leaks). The almost-invisible leaks into walls and into the building envelope from widow and doorframes can cost more energy than conductive heat loss. These complexities are not well quantified at this time, but would be addressed in a future quantitative assessment and measurement endeavor. These areas are good opportunities to gain Green!

Section 1C: Estimated Savings Opportunities

A more detailed breakdown of projects is necessary to quantify savings or costs of the improvements in our “Top Ten” list. One can, however, make generalized estimates (or guesses) of potential savings.

Church: With new furnace(s) and proper HVAC management, the cost of gas for the Church could be reduced by as much as 40%, saving \$1,500 and 150 MCF in gas. More savings are available through inexpensive or DIY (member) projects. Electric use of the church may also be reduced by 20% (\$200 and 2,000 kWh), and much of the electrical energy savings can be achieved through inexpensive or DIY (member) projects.

Annex: Because a furnace upgrade will yield minor improvements, most of the Annex savings in heating and air conditioning derive from better HVAC management, leak mitigation and insulation. A 30% reduction through minor projects should be achievable, annually saving \$100 and 800 kWh electric and \$300 and 30 MCF gas. An additional electric savings, \$200 and 2MWh are available through a 30% reduction in consumption by AC, space heaters and dehumidifiers. That decrease in electric consumption would largely be a consequence of the insulation, leak reduction and HVAC improvements implemented to improve heating and reduce gas consumption.

Section 2: Energy Inputs

Auditing compares what comes in with what goes out. Of course, energy comes in and money goes out and this section deals with those two variables. The later section titled “Energy Out” makes an assessment of what happens to the energy for the two buildings after it enters through the supplier portals, i.e. after it has been paid for.

In the last few years, the annual energy costs for the UU Church of Kent has been as follows.

Electric	Total Cost	Total Use	Church Cost	Church Use	Annex Cost	Annex Use
2013	\$1,657	15.1 MWh	\$1,154	11.2 MWh	\$503	3.8 MWh

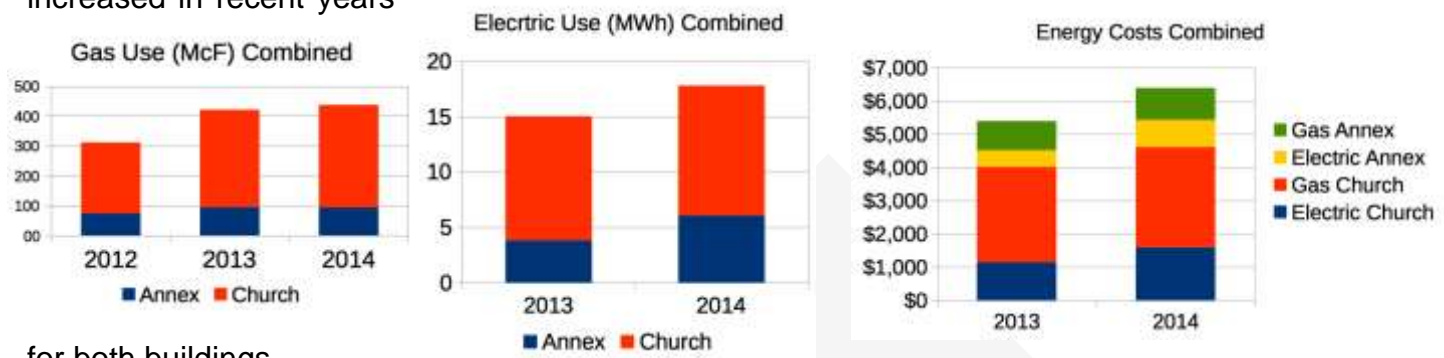
2014	\$2,424	16.8 MWh	\$1,601	11.7 MWh	\$823	6.0 MWh
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Gas	Total Cost	Total Use	Church Cost	Church Use	Annex Cost	Annex Use
2012	\$2,959	311 McF (93.4 MWh)	\$2,289	237 McF (71.1 MWh)	\$670	74.4 McF (22.3 MWh)
2013	\$3,745	421 McF (126 MWh)	\$2,870	325 McF (97.5 MWh)	\$875	95.8 McF (28.7 MWh)
2014	\$3,977	437 McF (131 MWh)	\$3,014	343 McF (102 MWh)	\$963	94.0 McF (28.2 MWh)

The monthly billing for electricity is normally in kilowatt hours (kWh) but annual results are reported in megawatt hours (MWh), i.e. million watt hours. Gas is usually billed in Therms or MCF. MCF (or McF) means thousand cubic feet, the volume of the gas used. The energy in McF was converted to MWh and displayed parenthetically above to facilitate comparison with electric energy. Of course, dollars are a convenient basis for comparison and one can see that a megawatt hour of gas is much cheaper than a megawatt hour of electrical energy.

UUCK energy use
increased in recent years

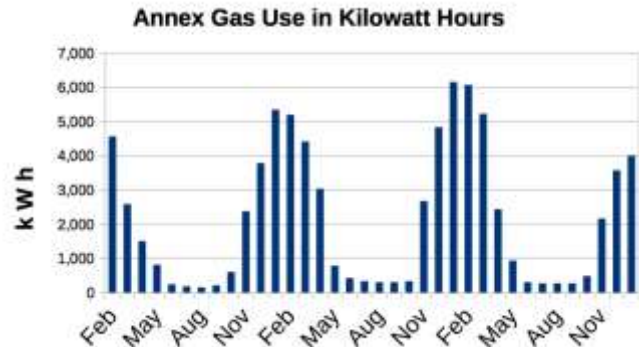
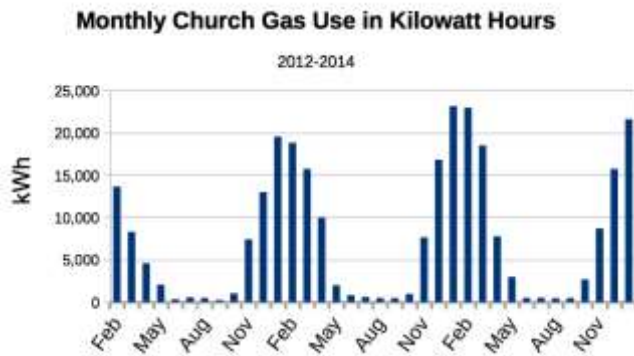
increased and energy costs



for both buildings.

The charts show from 10% to 30% increases in energy use and cost and leads one to speculate on the increasing future value of conservation measures made now.

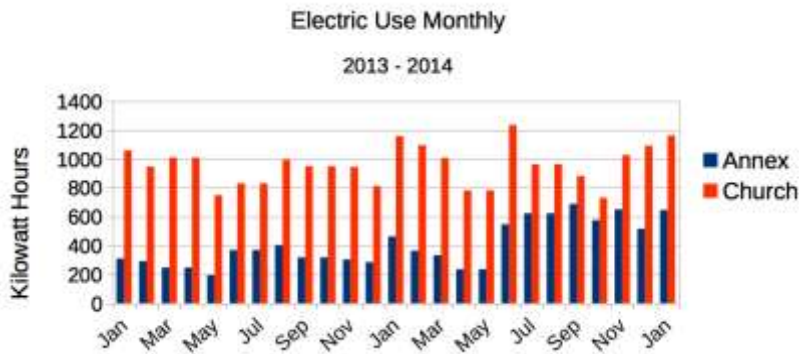
In identifying areas which merit further attention, it is useful to visualize monthly data. There is an expected variation in the use of gas over the course of a year.



The seasonal variation in gas use shows that utilization is overwhelmingly for space heating. The Church also uses gas for the kitchen in the form of gas ranges and ovens and a tankless water heater. Of the 400 MCF of gas used annually, less than 5% goes for kitchen use. The Annex uses just under 100 MCF of gas annually and the gas appliances are the furnace and hot water heater, apart from a rarely used gas clothes dryer. The hot water heater and dryer account for perhaps 10% of the Annex annual gas use.

Electric utilization for the Church is approximately 12,000 kWh (12 MWh) per year. This is apportioned between lighting, bathroom tankless hot water, and various other intermittent-use appliances, e.g. vacuum cleaners, dehumidifiers.

Electric utilization for the Annex is approximately 5,000 kWh per year. This is apportioned between lighting, air conditioning, office equipment and various other appliances, e.g. space heaters, small refrigerator, dehumidifier and clothes washer. Air conditioning is the single largest electric use representing as much as one third. The Annex data in the chart below shows the added impact of air conditioning beginning in the summer of 2014.



The seasonal variation of electrical use is less dramatic than gas use. Some month-to-month jumps in the chart above are a consequence of the practice of Ohio Edison of occasionally “estimating” bills instead of taking actual measurements every month. If they estimate high or low, the next month’s reading and charges are skewed based on the error and thus sudden increases or decreases can be misleading. That said, one can see a small winter increase in Church electric use, presumably connect with the operation of the furnace and associated ventilation system. A corresponding increase in ventilation may be visible for the Annex, but the Annex also has offices which supplement office heating with electric space heaters. There is an increased summer use of dehumidifiers in both the Church and Annex that further complicates a coarse view of seasonal variation.

Section 3. Energy Goals

Success in decreasing energy utilization is influenced by how the energy is currently used and the effort and expense invested in improvement. It is easy to see where a 15% improvement of energy efficiency might be achieved at little or no cost. There are projects that can be undertaken to achieve another 15% with a short term ROI and, finally, another 15% can be squeezed out with effort and a less attractive ROI. Quantifying which actions will achieve the desired steps towards Green goal would benefit greatly from the proposed additional measurement and testing described in Section 4.

Decreasing energy utilization may involve dozens of small projects, but enhancements can be grouped in a few categories.

1. Heating Management

Much of the heat supplied to both buildings has been supplied while they are empty. Further, while the Church employs rudimentary zone heating, i.e. 4 furnaces heat 3 sections, there is opportunity to improve coordination of heat supply with times the space is utilized.

2. Heat Loss, Insulation, Leaks

Both the Church and Annex have serious heat loss issues, some intrinsic to the insulation of the units, but a substantial portion due to correctable air leaks.

3. Electric Management

The improvement to heating management in the Annex can result in similar decreases in cooling (AC) management. Appliance management, e.g. dehumidifiers and refrigerators, can provide surprising savings.

4. Upgrades

Improvements in Annex and Church lighting had already been made with 90% of lighting now being fluorescent tube and CFL bulbs. There remain opportunities for enhancements to higher efficiency fluorescent (T8 or T5) or T8 LED lighting. We have not yet calculated the savings by upgrading the refrigerator and freezer. It may be that a separate freezer is not needed due to low use. Hot water supply in both the Church and Annex have upgrades possible. A simple flow-restricting faucet aerator will make the kitchen hot water more efficient. Relocating the tankless hot water heater for the bathrooms will make it functional.

5. HVAC Systems

The heating, ventilation and air conditioning (HVAC) system includes both the production units (furnace and AC) and the distribution of heated or cooled air. Of the 4 furnaces in the Church, two are “high efficiency” and two are quite low in efficiency. The Annex furnace is newer, but not “high efficiency” and the Annex AC efficiency has not yet been evaluated. While production units are obvious energy sinks, the distribution system in both Annex and Church are deficient in important ways, failing to get heat/AC to locations needed and leaking in the process. At this stage, only estimates of this inefficiency can be made, indications are that it is substantial.

Section 4. Future Quantitative Opportunities

The audit aspect, knowing what comes in and what goes out, requires additional measurements to be complete. Quantifying what goes out is the prerequisite to quantifying what can be saved. While we have quantitative data on some temperature profiles and appliance consumption, we describe here the additional measurements, data and analysis as steps to further the goal of energy savings.

Section 4A: Blower door tests

A blower door test will allow the energy audit to quantify building air loss (and heat loss) through leaks and quantify effectiveness of any remediation that stops leaks.

All buildings need fresh air and it has long been the assumption that air leaks serve that purpose. In fact, building air leaks provide excessive air in the wrong places and cost the average home 20%-40% of the heating/AC bill. One wishes, instead, to seal building air leaks while still providing adequate fresh air. Ideally the living space is isolated from the outside with air exchange provided by a controlled system. An ERV (energy recovery ventilation) system would control airflow and filter, adjust humidity and recover waste heat, making it both economical, energy saving while enhancing occupant comfort.

The standard way of determining building air tightness is the blower door. The blower door is a calibrated fan system that puts a known amount of air into a building and the resulting pressure determines the rate of air leakage. Further, one can follow air currents using a “Smoke Stick” to locate the specific point of the leak. This tool leads one to the actions needed to make a building more nearly air tight. Reducing leakage not only saves money and energy, it is only at a low leakage state that ERV becomes viable and efficient.

Both the Annex and Church are candidates for blower door diagnostics. With the very large leaks in the Annex and Church, this test would have been useless. The major leak in the Annex has been repaired. The major Church leak (furnace room) remains to be corrected before this diagnostic can be applied.



Section 4B: Duct blower tests

A duct blower test will allow the energy audit to quantify air loss (and heat/AC loss) through leaks in the HVAC duct system and quantify effectiveness of remediation that stops leaks.

Air duct leaks are common, and sometimes very large. The ducts for the HVAC system can be tested in a manner exactly analogous to the blower door test. A carefully calibrated fan system adds air to the duct system and by systematically closing off ducts, the amount of leakage and the locations can be identified. Corrective action is simple and low tech using a sealant called Mastic that lasts for decades or metalized tape that lasts for years. Duct tape is not intended for ducts and fails under dry heat in a few months. Many of the current taped joints need attention.



The Annex and Church are both candidates for this duct diagnostic. The massive leak (now repaired) in the Annex system would not have allowed for the test, but it is now viable. The Church duct system is complex (there are four furnaces) and old, so this test is highly appropriate.

Section 4C: HVAC Air Flow Measurements

Air flow measurement in the HVAC ducts during normal operation allows the energy audit to determine just how much heat is getting to individual rooms. Different size rooms with different energy needs require different volumes of conditioned air to be delivered.

A perfectly sealed HVAC system provides heat efficiently, but the heat needs to go to the room where it is needed in the amounts needed and then be returned to the furnace/AC unit. This is key characteristic of a “balanced HVAC system” and neither of the two buildings are balanced. There are two standard versions of anemometers that are used to measure air speed in HVAC systems. The air volume can be “audited” from the furnace allowing one to see how air is distributed through the facility and, ideally, demonstrate that the same quantity of air returns via the return air vents. In some cases, adjusting vents is sufficient to balance a system that has adequately sized ducts and adequate capacity for total volume of air supply.

Section 4D: HVAC Temperature Measurements

Temperature profiles taken over several days have been made for some rooms in the Annex. Additional measurements will be carried out, but there were no surprises so far. Measurement of HVAC air temperature is an easy extension that will be carried out.

Combining the measurement of the quantity of airflow through a duct with the measurement of the temperature of that air, one can determine the quantity of heat (or AC) delivered from each vent as an added benefit. Temperature measurements then identify heat loss during the trip through the vents and can identify the cause. The cause is normally either leaks or heat loss due to a cold duct environment. Insulating ducts can be done to mitigate excessive heat loss though the present arrangement of the duct systems in the Church and Annex do not suggest this will be needed.

Section 4E: Room Air Flow

There are computer models for the fluid dynamics of airflow in rooms, but that is not going to be necessary in this energy audit. One does not need a computer to determine that the HVAC system in many rooms of the Church and Annex was not designed in accordance with current “best practice” and air circulation is poor, resulting in uneven heating of rooms.

Since much of the energy used to heat in a room is lost at windows, supply vents are traditionally located near windows. The idea being that this prevents a strong temperature gradient which would exist if a vent were heating one side of a room and the window was losing heat on the other side. The proper placement of vents is no longer this simple, one must also track air flow from the supply vent to a return air vent and those should be positioned so the warm air traverses a room providing heat (or AC) for occupants. If supply vents and return vents are located near each other, then conditioned air comes out of the supply and into the return without the intervening step of providing heat or AC for the whole room. The picture of the bathroom in the Annex is especially good, locating both supply and return vents in close proximity and behind the door.

Mitigating room airflow issues is not simple because it usually involves repositioning air ducts, but options can be evaluated if deemed worthwhile.

Summary

This energy audit has identified a set of high value opportunities for conservation measures outlined in the Top Ten. Associated actions vary from the simple, e.g. window and door caulking and trimming, to intermediate, e.g. upgraded lighting, to complex, e.g. restructuring the HVAC. The prioritization, planning and budgeting actions are complex and not addressed. In the section labeled “Energy Goals,” the targets are characterized broadly and further effort of some group within UUCK is required to refine goals and prioritize action items. A substantial factor in prioritization will surely be the cost involved. As mentioned in Section 1C, “Estimated Savings Opportunities,” and a sizable fraction of the enhancements could be addressed as DIY projects involving Church membership, though these rely on participation of members with appropriate expertise.

***Energy Audit Team members included:**

Lawrence Johnson, Electrician and current Building Expansion Team member

Michael Lee, Theoretical Physics professor and home renovation and construction person

Randy Ruchotzke, Mathematics professor and recent Trustee for Buildings and Grounds

Ex officio: Mary Louise Holly, Green Sanctuary facilitator, Board of Trustees, Building Expansion Team

The team worked in consultation with Leah Gillig, recent Building and Grounds Trustee, and MaryBeth Hannan, Congregational Administrator. Georgia Quinn is now Co-ordinator of Buildings and Grounds.



Appendix B. Worship and Celebration

Worship Services for Green Sanctuary Application

2009-2016:

Ingathering with Water and Soil Ceremony

*Flower Ceremony

@ Annual Service in the Park

Green Congregations, Green Lives 4/19/2009

#The Blessing of Home 8/28/2009

Earth Ministry 1/29/2010

Finding God in the Earth 4/16/2010

*Imagine the Flowers 6/6/2010

@Religious Education Sunday 6/20/10

#Belonging 8/27/2010

Is There An App for That 10/16/2010

Access to Water is a Religious Issue 4/17/2011

*Time to Enjoy the Flowers 5/15/2011

@Blessing of the Animals 6/9/2011

#Prayers of Peace and Mercy 9/8/11

The Planet Our Children Will Inherit 4/22/2012

*Engaging Sacred Curiosity 5/27/12

@Share the Wealth 6/9/12

#Transcendent Play 8/22/12

Living Legacies 9/15/2012

Winter Solstice Service 12/22/12

Growing Greener 4/19/2013

*Flower Ceremony during RE Sunday 6/2/13

@Here's to Happiness 6/9/13

#The Spiritual Wisdom of Children 8/25/13

If the Earth Could Speak 3/22/2014

*Color and Fragrance 5/18/14

@Blessing of the Animals 6/6/2014

#To Be Human is to Promise 9/9/14

The Orchard in the Seed 9/20/2014

Revelations of Beauty, 4/21/2015

*Flower Ceremony, A Unitarian Universalist Tradition 5/9/2015

#Come, Yet Again, Come 9/13/2015

It's All Temporary 10/20/2015

In The Beginning 4/3/2016

Tending Our Little Place in the Interdependent Web 4/23/2016

@Simple Idealism 6/12/2016

*Plain and Simple 6/19/2016

Baby Dedications

8/22/09 Samuel Slater Lang

9/18/09 Silas Thoele

12/22/09 Remy Bradford Spunk

12/9/10 Ben and Alice Snyder

12/9/10 Leah and Elliot Mercer

4/2/11 Eliza Lang

4/2/11 Smith Hollis

5/6/11 Lola Thoele

5/6/11 Isaac and Josephine Brannan

8/18/11 Ava Zavodny

11/20/11 Miles Hager

1/29/12 Kailani Walker

1/29/12 Paxton Beale

1/19/13 Gray Hollis

1/19/13 Norah Lang

8/23/13 Isabel Czekaj

10/5/14 Rylan Carvill Ziemer

10/25/14 Hunter Diehl

10/25/14 Juniper Hogan

3/26/2015 Harper Walton Fisette

6/19/16 Katherine Mae Hovancsek

6/19/16 Owen Amias Carvill Ziemer

Chalice and Food for Thought group session plans with an earth/green theme

Earth Stewardship

Global Living

Meaningful Meals

Sacred Places

Color and Beauty

Nature's Bounty

Winter Solstice

Renewal

UUCK 150 Year Celebration Brochure (broken link! - will be updated)

<https://static.kentuu.org/wp-content/uploads/2015/12/150-Anniversary-Brochure-Spring-20152.pdf>

Appendix C. Religious Education

Examples of Environmental Education Activity: Children and Youth 2009-2016

May, 2010: The Youth Group built a “Green Car” powered by two 12 volt batteries charged by a solar panel or electrical current via a battery charger. They demonstrated the car during the RE Sunday worship service in the park and at Summer Institute.

June, 2010: The curriculum for the summer religious education program was *Keepers of the Earth: Native American Stories and Environmental Activities for Children* by Michael J. Caduto.

April, 2011: Children’s activities for the church-wide Water Project for Earth Day included an Audit of how the church is or is not wasting water, stories about conserving water and activities related to the overuse of bottled water and related craft projects.

Jan., 2012: The Children and Family Lending Library was moved from the Annex to the Founder’s Lounge and includes a sizable selection of resources filed under “The Interdependent Web.”

Feb., 2012: Time for All Ages focused on Darwin and the wonder of evolution.

March, 2012 : The Middle School class examines the topic of water availability and presents an overview as the Time for All Ages.

March, 2013: The story Miss Rumphius by Barbara Cooney is the Time for All Ages.

Sept., 2013 : Children in Grades K-2 begin the year-long curriculum, World of Wonder from the UUA’s Tapestry of Faith core curriculum.

Sept., 2013: Plans for the Green Space behind the church begin coming together with work beginning in April, 2014.

Oct., 2013: The Middle School RE class attended the “Where’s Walden?” camping trip in Pennsylvania.

June, 2014: Green Space is dedicated during a ceremony between the worship services.

Aug., 2014: Children created a bird feeder which was hung in the Green Space. They will feed the birds throughout the cold months.

Examples of Environmental Education Activity: Adult 2009-2016

Proposal submitted to the Social Justice Committee, Nov 2015: Environmental Justice Film Series:

I would like to build on our previous successes showing environmental films to educate our church community and to be a resource for environmental education to the Kent community. Our past films have included climate change topics (Chasing Ice), the environmental impacts of meat production (Cowspiracy), fracking (Gasland), and civil disobedience (Bidder 70). I propose a 4 month film series in winter 2015-2016, with the following films:

A Fierce Green Fire: The Battle for a Living Planet (2012). The first big-picture exploration of the environmental movement – grassroots and global activism spanning fifty years from conservation to climate change. Surrounding the main stories are strands like environmental justice, going back to the land, and movements of the global south such as Chipko in India and Wangari Maathai in Kenya. Vivid archival film brings it all back and insightful interviews shed light on the events and what they

mean. The film offers a deeper view of environmentalism as civilizational change, bringing our industrial society into sustainable balance with nature.

Wrenched (2014). The film *Wrenched* captures the passing of the monkey wrench from the pioneers of eco-activism to the new generation which will carry Edward Abbey's legacy into the 21st century. This history of civil disobedience and committed opposition to environmental destruction continues, to present day and includes Time De Christopher, a Unitarian Universalist who outbid big oil and gas companies in an illegal bidding auction of land around Moab, Utah. Coined a “paper” monkeywrencher, he has fueled a new generation of activists.

Genetic Roulette: The Gamble of Our Lives (2012). Jeffrey Smith, author of *Seeds of Deception*, is a leading consumer advocate promoting healthier non-GMO choices. *Genetic Roulette* won the Top Transformational Film of 2012 by AwareGuide! Evidence points to genetically engineered foods as a major contributor to rising disease rates in the US population, especially among children. Monsanto's strong arm tactics, the FDA's fraudulent policies, and how the USDA ignores a growing health emergency are also laid bare. This film may change your diet, help you protect your family, and accelerate the consumer tipping point against genetically modified organisms (GMOs).

Blue Gold: World Water Wars (2009). In every corner of the globe, we are polluting, diverting, pumping, and wasting our limited supply of fresh water at an expedient level as population and technology grows. The rampant overdevelopment of agriculture, housing and industry increase the demands for fresh water well beyond the finite supply, resulting in the desertification of the earth. Corporate giants force developing countries to privatize their water supply for profit. Wall Street investors target desalination and mass bulk water export schemes. Corrupt governments use water for economic and political gain. Military control of water emerges and a new geopolitical map and power structure forms, setting the stage for world water wars.

Each film will be followed by a discussion session on the issues raised. A description of the film and summary of the discussion will be posted in our newsletters and on our website. Past films have gathered an audience of 30-50 people, including both church members and community members. Advertising will be electronic and paper flyers to downtown business, Kent State University, and the library. Notice will be sent to other area churches through the Interfaith Council and also to the Kent Environmental Council.

Project budget:

Showing a film publically requires paying a fee to the film company which made the movie. This rate is much discounted for non-profit organizations. The costs for showing each film are: *A Fierce Green Fire* - \$100.00; *Wrenched* - \$100.00; *Genetic Roulette* - \$0.00; *Blue Gold* - \$100.00.

Additional costs for advertising (printing flyers) and providing coffee & snacks during discussion will be covered by the organizers or the church outside of the social justice funds.

How does this project fulfill the mission of the church?

These films focus on current environmental problems and the last fifty years of environmental actions. Educating people about the history of the environmental movement creates hope for future change by building on past successes and passes on lessons learned about effective strategies. Our church has had a continued interest in ethical eating as an environmental practice and learning about genetically modified foods adds a new perspective to the food films we've already shown. Educating

our community about how to take action effectively will encourage “people to live caring lives of meaning and purpose” and learning about environmental problems will help us “care for the living Earth with reverence and gratitude”.

Environmental Film Series

Unitarian Universalist Church of Kent

Winter 2014



Friday, January 9th, 7pm

UU Church of Kent - Fessenden Hall

Fed Up lays bare a decades-long misinformation campaign orchestrated by Big Food and aided by the U.S. Government: telling how far more of us are sick from what we are eating than anyone has ever realized.



Friday, February 6th, 7pm

UUCK - Fessenden Hall

DIRT! The Movie brings to life the environmental, economic, social and political impact that the soil has.



Friday, February 20th, 7pm

UUCK - Fessenden Hall

COWSPIRACY: The Sustainability Secret investigates why leading environmental organizations are afraid to talk about the devastating environmental impact large-scale factory farming has on our planet.

Through spirited worship and open-minded religious exploration, our mission is to inspire people to live caring lives of meaning and purpose. We seek to encourage curiosity, strive to create peace and justice, and care for the living Earth with reverence and gratitude.

Unitarian Universalist Church of Kent
228 Gougler Avenue, Kent, OH 44240
330-673-4247

Examples of Environmental Education Activity: All Ages 2009-2016

Green Library Resources 2009 - 2016

ADULT

CLIMATE CHANGE RELATED

- *Love God Heal Earth: 21 Leading Religious Voices Speak Out on Our Sacred Duty to Protect the Environment* by Rev Canon Sally G Bingham Pittsburgh: St Lynn's Press. (2009)
- *Love Letter To The Earth* by Thich Nhat Hanh. Berkeley: Parallax Press. (2013)
- *A Climate for change: Global warming facts for faith-based decisions* by Katharine Hayhoe and Andrew Farley, New York: Faithwords, (2009)
- *Hope Is an Imperative: The Essential David Orr*, by David Orr. Washington: Island Press. (2011)
- *Down to the Wire: Confronting Climate Collapse.* By David Orr. New York: Oxford University Press. (2009)
- *The World Without Us* by Alan Weisman. New York: St. Martins Press. (2007)
- *Don't Even Think About It: Why Our Brains Are Wired To Ignore Climate Change* by George Marshall, New York: Bloomsbury. (2014)
- *Earth in Mind: On Education, Environment, and the Human Prospect* by David Orr. With a New Introduction and Essay; 10th Anniversary Edition. (2004)
- *the soil will save us: how scientists, farmers, and foodies are healing the soil to save the planet.* By Kristin Ohlson. New York: Rodale. (2014)
- *Touch the Earth: A Self-Portrait of Indian Existence* compiled by T. C. McLuhan. New York: Simon and Schuster, Inc. (1971) (Donated by Brenda and Family)

CHILDREN/FAMILY-CHILD RELATED

- *a place to grow: voices and images of urban gardeners*, by David Hassler, Lynn Gregor with photography by Don Snyder. Cleveland Oh: The Pilgrim Press. (1998)

The Story of Ruby Bridges by Robert Coles illustrated by George Ford. New York: Scholastic: 1995

ETHICAL EATING

- *Animal, Vegetable, Miracle: A Year of Food Life* by Barbara Kingsolver with Steven L. Hopp and Camille Kingsolver. New York: Harper Collins. (2007)
- *Omnivore's Dilemma: A Natural History of Four Meals*, by Michael Pollan, London: Penguin. (2007)
- *Prevent and Reverse Heart Disease: A Revolutionary, Scientifically Proven, Nutrition-Based Cure* by Caldwell B. Esselstyn, Jr., M.D. London: Penguin. (2007)
- *The Botany of Desire: A Plant's Eye View of the World*, by Michael Pollan, New York: Random House. (2002)

RELIGION/PHILOSOPHY

- *The Bonobo and the Atheist: In Search of Humanism Among the Primates* by Frans De Waal. New York: W.W. Norton & CO. (2013)
- *The Seven Storey Mountain* by Thomas Merton. New York: Harcourt Brace. (1948; 1976)
- *Twelve Steps to a Compassionate Life* by Karen Armstrong. New York: Alfred A. Knopf. (2011)

FILMS/DOCUMENTARIES

- *Chasing Ice.* Film DVD (2013)
- *dirt! The Movie.* Film DVD (2012)
- *Cowspiracy: The Sustainability Secret.* Film DVD (2014)
- *Fed Up.* Film DVD (2014)
- *Donated by Andrea Case:*
- *Cosmos: A Space Odyssey.* Film (DVD)
- *Years of Living Dangerously: The Complete Series.* Film (DVD)

- *Switch*. Film (DVD)

OTHER

- *Clear Your Clutter with Feng Shui: Free Yourself from Physical, Mental, Emotional, and Spiritual Clutter Forever* by Karen Kingston. New York: Random House. (1999)
- *Touch the Earth: A self-portrait of Indian Existence* compiled by T. C. McLuhan. New York: Touchstone, 1971.
- *Reading Lolita in Tehran: A Memoir in Books* by Azar Nafisi. New York: Random House. (2004)

CHILDREN

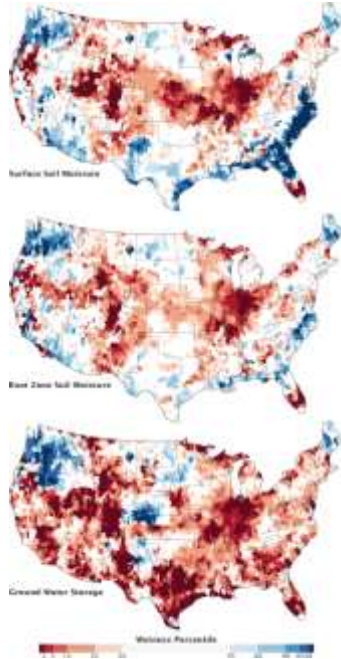
Books:

1. *Book of the Seasons*- Usborne
2. *My First green Book* (A life size guide for caring for the Earth) - Knolf
3. *Atlas of the World* - Scholastic
4. *For the Love of Our Earth* - Hallinan
5. *Charles Darwin and Evolution* - Parker
6. *Keeping the Air Clean* - Barnes
7. *Compost! Growing Gardens from Garbage* - Glaser
8. *Our Family Tree* - Peters
9. *The Everything Seed* - Martinacco
10. *Water* - Asche
11. *The Little hands Nature Book* - Castaldo
12. *Change the World Kids: regeneration (WATER!)* - Scholastic
13. *The River has Gifts* - Humphrey
14. *Everybody Needs a Rock* - Baylor
15. *Once There was a Tree* - Romanova
16. *From Lava to Life* - Morgan
17. *Whisper from the Woods* - Wirth
18. *Meadow: A Close up Look at the Natural World of a Meadow* - Taylor
19. *Every Day is Earth Day* - Ross
20. *The Blue and Green Arc* - Patten
21. *The Great Kapok Tree* - Cherry
22. *Earth dance* - Ryder
23. *Journey to the Heart of Nature* - Cornell
24. *Water Dancer* - Locker
25. *Dandelion Adventures* - Kite
26. *Conservation* - Peterson
27. *Keepers of the Earth* - Caduto and Bruchac
28. *Book of Endangered Species* - WWF
29. *River* - Staines
30. *Earth Tales from Around the World* - Caduto
31. *Great Experiments with H₂O* - Fiarotta
32. *Global Warming* - pringle
33. *Our Class is Going Green* -
34. *Under the Ground* - Scholastic
35. *Time to Discover My World* - Scholastic
36. *God is in the Mountain* - Scholastic

37. *The Adventures of Two Water Drops* - Annan

38. *50 Simple Things Kids Can Do to Save the Earth* (2 copies) - Earth Works Group

Appendix D. Environmental Justice - ground water



Appendix E. Sustainable Living

Plans for New Fellowship Hall, Campus and Renovation of Church Building

Drawings: <https://kentuu.org/capital-campaign/visualizations-proposed-expansion/>

Site plan: <https://kentuu.org/capital-campaign/visualizations-proposed-expansion/>

Green decisions and plans for new building - phase 1:

1. Building envelope will be constructed to lessen energy use needed to heat/cool the building.

Includes:

Use insulated double pane windows.

Use screens on windows that can be opened.

Use programmable thermostats (internet manageable).

Provide for use of natural lighting in most rooms (not in kitchen, bathrooms, or utility).

Use low maintenance, long life materials for building exterior.

If practical and funds allow:

Use on demand water heater for the kitchen.

Use two zone heating/cooling system (main room, kitchen/classrooms)

Use fresh air exchange system with heat exchange for HVAC to ensure good indoor air quality.

- Provide for shade covering on south facing windows. Exploring how to do this; Possibly deciduous trees near the library and classroom windows*
2. *The building will be equipped to have solar panels installed as soon as feasible.*
 3. *Use eco friendly recycled content building material as possible; Durability, life- cycle of materials, and cost are considerations.*
 4. *Energy star rated appliances-where we can use them for kitchen appliances and heating and cooling*
 5. *Use of low flow toilets/sinks in the bathroom. Use under-sink on-demand hot water heaters for the bathrooms.*
 - 6 *We will have high efficient light fixtures; LED lighting for most fixtures.*
 7. *Landscaping- Site is conceptualized as a Permaculture campus using integrated and sustainable practices.*
 - a. *Water management: Rain garden/bioswale to help with conservation and water management; use of Rain Barrels.*
 - b. *Local plants and support for our ecosystems (permaculture)*
 8. *Low or no VOC paint*

Green decisions and plans for addressing Energy Audit Report:

Energy Audit Action Plan

High Expense/High Value Actions

1. *Replace old furnaces*
2. *Replace/renovate kitchen windows*
3. *Front storm door for Annex entrance*
4. *Replace/upgrade thermostat to programmable in Church*
5. *Review and upgrade as needed, single pane windows in Church and Annex.*

Modest Expense/Time Consuming (Potentially Member DIY)

1. *Seal accessible ductwork in HVAC system*
2. *Seal Vents and Exterior Openings in Basement Annex*
3. *Caulk Windows and Foundation Sill in Annex Basement*
4. *Prioritize and begin replacement of CFL with LED lights*
5. *Air Seal exterior doors: caulk, weatherstripping, re-hang as needed*

Low Cost/Educational

1. *Vents*
 - (a) *Repair open/close mechanisms of all vents to work easily.*
 - (b) *Provide signage and educate users to keep air vents unblocked.*
 - (c) *Provide signage and educate users of upper level classrooms to close heat vents after use.*
2. *Provide guidance and operating instructions for temporary changes to programmable thermostats.*

Other Infrastructure

1. *Attic*
 - (a) *Seal Annex attic openings allowing air incursion in building envelope*
 - (a) *Add 3-6" blown insulation to Annex attic*
 - (c) *Evaluate Church attic/ceiling insulation for integration in planned repair and renovation.*

UUCK symbols of living as a Green Sanctuary

Symbol Design by Jack Homsher (youth) with acknowledgment to Kim Homsher



Symbol Design by Brad Bolton (adult) with acknowledgement to Saul Flanner

For Building Site Plan and Visuals: <https://kentuu.org/capital-campaign/visualizations-proposed-expansion/>

Appendix F: *Precious Water* - Green Sanctuary Core Team Annual Report 2010-2011

The Green Sanctuary Core Team includes Larry Cole, Patty Miller, Angela Barzizza-Young, Swanny Voneida, Mary Lou Holly, the Rev. Melissa Carvill-Ziemer and is chaired by Ted Voneida. The major work of the Core Team this year involved preparing for our special Earth Day Event called Precious Water, which was held on Sunday, April 17, 2011

Our event began with the two church services (9:30 and 11:15 a.m.), entitled “Access to Water is a Religious Issue” led by the Rev. Melissa and Ted Voneida, Worship Associate and including participation from all the members of the Green Sanctuary Core Team. Both services were very well attended, not only by church members, but also by non-member townspeople. We had placed flyers in merchants’ store windows all over Kent, advertising our service and also placed a notice in the local newspaper.

The second service was followed by a bag lunch, during which time three students from Kent Roosevelt High School reported on a local stream project they recently completed, which achieved a top 10% award in national competition. Following lunch, we broke out into a number of workshops, including: Construction and Use of Rain Barrels, Backyard Stewardship and Ecological Gardening, Water Use in our Church (younger members), Bringing a Water Delivery System to an El Salvadoran Village and Water Sampling from the Cuyahoga River:

One of our Green Sanctuary Core Team members constructed a large poster depicting a water glass labeled “Will You Help Fill the Glass?” This was placed in the Sanctuary during our services, then moved to our lunch room. Attendees were asked to take a blue water-drop cutout, write their name and at least three 40/40 actions they would commit to, then stick it onto the water glass. By the end of the afternoon the water glass was “full”. In May, at the end of 40 days, we are planning a “40 Day” celebration at the church.

Overall, this was a highly successful program, attracting not only church members, but also local Kent residents who don't normally attend our church. The workshops were very well attended, with numbers for each ranging from 8 to 15. Those who constructed rain barrels had pre-ordered them for \$30.00, and took them home after completion. One of the barrels will remain at the church for garden watering, etc.