St. James of Jerusalem Church, Building Upgrades
Report #2
January 25, 2024
Ad Hoc Building Improvement Committee: Wendy Goldstein and William (Coty) Keller[1]

Executive Summary

St. James of Jerusalem in Long Beach aims to make our church accessible to all and, in the interest of caring for God's Creation, to eliminate our greenhouse gas emissions. This is the second in a set of recurring reports, designed to explain how we plan to achieve these goals, detail progress made to date, and **to solicit feedback from all stakeholders** so we can adapt and move forward.

We are committed to both goals with equal priority, and therefore intend to support them both equally with resources from our building fund.

As a mission of the Episcopal Diocese of Long Island, St. James is not an independent parish, and we do not have authority over our property or financial resources. For our plan to be realized, it must be approved by the diocesan trustees and then executed by the Senior Construction Manager in the Diocese Real Estate Division.

Based on the information we have now, the whole project is comprised of eleven jobs and the expected cost is $262,000. The project would be funded by:

1. $68,000 From the Parish Building Fund
2. $9,000 from Alternative Energy – Direct Payment Tax Credits
3. $7,000 from House of Worship Designer Tax incentives (179 D Deductions)
4. $7,000 from PSEG Rebates
5. Almost $40,000 from Metro IAF
6. $25,000 from National Grid's HEAT program
7. $1,700 from appliance rebates from Electrification Incentives courtesy of the Inflation Reduction Act (IRA)
8. $25,000 from external funds to be determined by the Diocese Construction Management office.
9. $40,000 from ADA advocacy foundation grant(s)
10. $40,000 from Fundraising

In addition to the construction and installation, we must provide for the future maintenance of the new improvements. Two options are included in this report.

We want and need the buy-in of all stakeholders: St. James' Bishop's Committee, members of St. James Church, Bishop Provenzano, diocesan officers, supporting agencies, and our neighbors in

[1] The Building Improvement Committee, consisting of Wendy Goldstein and Coty Keller, was created for the purpose of creating a plan to upgrade the church and rectory buildings. It is as a temporary committee.

Long Beach. Thus, we ask you all to look carefully at this report and offer feedback, suggestions, and constructive criticism that will help us adjust our plan and move forward in a way that works for all.

What we need to know:

- Do you approve of the plan as we present it here? If not, what needs to change to gain your support?
- Do you have any suggestions for improvements to our plan?

Please let us know.

Whom to call or message with your feedback:

- ADA job and funding: Wendy Goldstein wendy@wlgcommunication.com, (516) 375-2946
- Building integrity, resiliency, sustainability jobs and funding: Coty Keller wckeller@earthlink.net, (941) 627-8053
- Big picture: the Reverend Susan Bock, therealgirlpriest@yahoo.com, (566) 872-7883

If we don't hear back from you, we will reach out.

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Overview

St. James of Jerusalem in Long Beach aims to make our church accessible to all and, in the interest of caring for God's Creation, to eliminate our greenhouse gas emissions.

St. James seeks to reflect the wide open-hearted God we believe in, so WELCOME is our church's primary ministry. We are determined to make it possible to welcome all who want to worship and gather with us. The way we describe our ministry is that "absolutely everyone – those of great faith or great doubt, regular churchgoers, the 'spiritual but not religious,' the merely curious, noisy children, skeptical teens, over-worked parents, honored elders, and everyone in between – is wanted, expected, and awaited here."

St. James' open-hearted and inclusive approach to spirituality has attracted many new members to our church, including a local family with a daughter who is wheelchair-bound and numerous residents of a local assisted living facility. Many of our existing members are getting older and have trouble navigating the stairs that must be used to access every area of the church. People with physical limitations are not able to worship in the Sanctuary or join us for coffee hour, bible study or events in the Undercroft because literally everything at St. James is up or down stairs.

Our parish is dedicated to the reduction/elimination of greenhouse gas emissions in the interest of restoring and preserving God's creation. For us it is a moral issue, articulated well by the Pope and our Bishop. As Pope Francis taught us:

> "The natural environment is a collective good, the patrimony of all humanity and the responsibility of everyone. If we make something our own, it is only to administer it for the good of all. If we do not, we burden our consciences with the weight of having denied the existence of others. Many things have to change course, but it is we human beings above all who need to change. We lack an awareness of our common origin, of our mutual belonging and of a future to be shared with everyone." – Pope Francis in Laudato Si or "Praise Be to You" 2015.

The Pope has made it clear that what needs to change most is for humans to stop emitting the heat trapping gases that have caused the climate crisis.

In his announcement of our Diocesan initiative for Creation Care, Bishop Provenzano wrote that "[our] Diocese is committed to the pursuit of the elimination of fossil fuels." This specific commitment flows from the recognition that "[as] Christians, who understand that God has entrusted us with the care of Creation, we are called to do all we can to protect this fragile earth and the people who live on it." The transition away from fossil fuels is thus a top priority not just for our church and our Diocese, but for the world God entrusted to our care.

Our plan is a work in progress. This is our second and hopefully penultimate report explaining how we plan to achieve these goals. Our project is now comprised of 11 jobs and funded from 10 different sources.

The decision process is shown in the following flow diagram. The logic starts on the top left with the gathering of estimates and funding information and the project is completed on the lower left with the completion of the jobs and paying the venders. We have gathered estimates from contractors and researched funding possibilities. Integrating this information, we have brainstormed to create a preliminary plan for accomplishing our goals. See the **bold printed area** in the flow chart. This is where we are now - presenting our plan to the stakeholders for feedback.

Once stakeholder feedback is received, we will adjust and present a formal plan to the parish Bishops Committee (BC, our leadership body). If the BC does not approve the plan, we will make adjustments as needed until approval is granted. The plan must be approved by the Bishop's Committee before being presented to the diocesan trustees.

As shown in the flow chart, once the plan is approved by the trustees, the work will be put out for bid through requests for proposals (RFPs). Vendors will be selected, and contracts will be drawn up by the Senior Construction Manager in the Diocese Real Estate Division, who then oversees the work and pays the contractors with the funding sources described in the plan.

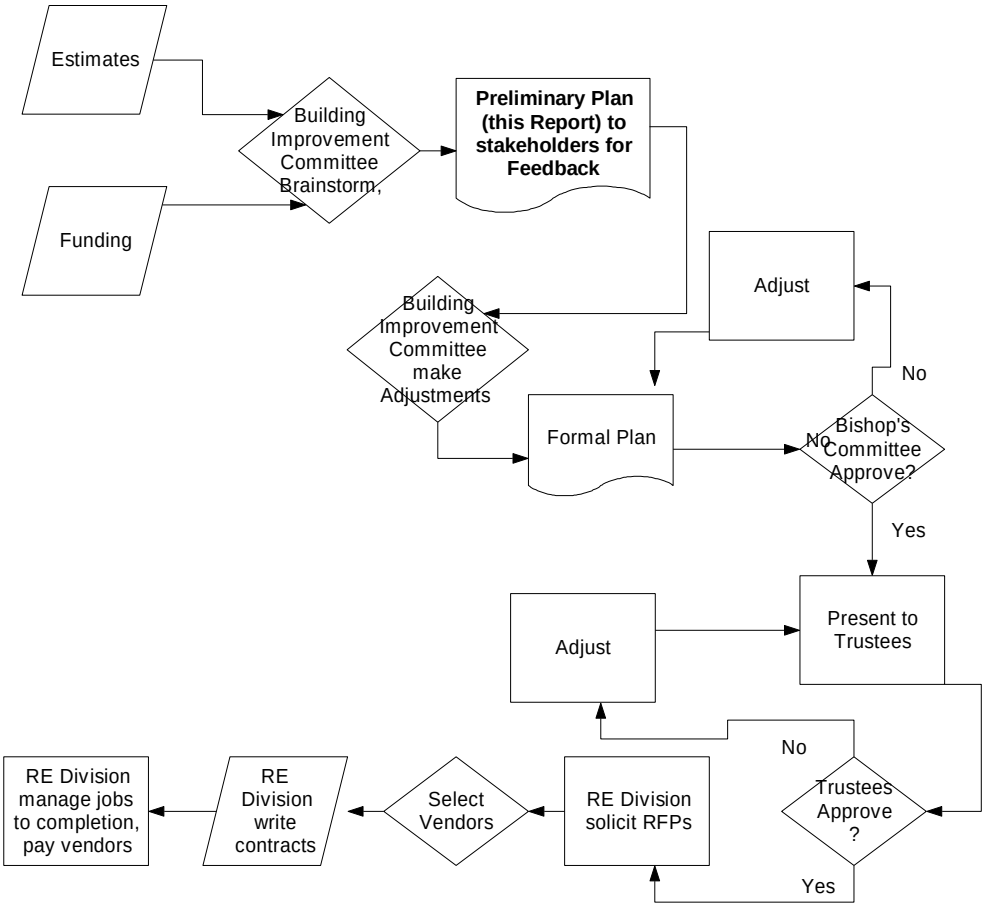

Figure 1- ADA, Emission Reduction/Elimination Decision Process

Achievements

Progress already made towards zero emissions:

This Fragile Earth, Our Island Home

In the winter and spring of 2021, working with the Interfaith Association of Greater Long Beach, St. James created a program, ***This Fragile Earth, our Island Home*.** The program was a series of webinars designed to help people learn about the climate crisis – the causes, solutions, and actions to take. Our aim was to empower folks to act to reverse global warming. In doing so, we empowered ourselves to eliminate our parish emissions.

Creation Care Retreats

The underlying concepts of our program were presented at the Diocese Creation Care Retreat on October 1, 2022 in a half-hour slide show: "What to Do (About Global Warming)."

Additionally, in a breakout session, A Framework for Parish Action, the Diocese emission reduction committee applied the concepts and tools taught in the "This Fragile Earth" series to explain what needs to happen in a serious effort to eliminate parish emissions:

- Our plan is based on the widely accepted notion that we must electrify (almost) everything, and then generate our electrical power from ***non-emitting power sources.*** This is done with two strategies:
    1. Electrify by "fuel switching." i.e., changing from natural gas furnaces and hot water heaters to electricity - using high efficiencyheatersric heat pumps and water heater.
    2. Generate that electricity from solar (i.e., Community solar or rooftop solar with batteries to sustain us during power outages)

- We must also reduce energy consumption making the generation of 100% clean energy achievable. This is done through both behavior changes (thermostat management, turning off lights when not in a room), and efficiency measures (insulation and sealing, and shifting to more efficient HVAC/appliances).

At the 2023 Diocesan Retreat, we offered a 20-minute presentation, Reduce/Eliminate Emissions at St. James of Jerusalem Long Beach, an update on our effort to reduce our parish emissions. A highlight of the talk was an explanation of the many government programs available for non-profit organizations to fund energy conservation and the shift from fossil fuels.

We at St. James are on a path to do all of this. Here is what we have achieved in terms of tangible action:

Determining our Energy Conservation Measures (ECMs)

A parish problem solving, decision-making process started with determining our church's footprint: counting our emissions (and continuing to count them, to track progress).

Next was an Energy Audit, a key step in identifying opportunities to reduce energy expenses and carbon footprint. Our energy audit included our:

- Analysis of building and utility data, including a study of the existing equipment and analysis of energy bills.
- Survey of the real operating conditions.
- Understanding of the building usage and of the relationship with weather, occupancy, and operating schedules.
- Selection and evaluation of energy conservation measures (ECMs).
- Estimation of energy-saving potential.

The following table lists our Energy Conservation Measures (ECMs). These established the goals of our emission reduction/elimination program.

Energy Conservation Measures (ECMs)
• Switch PSEG electric supply to community solar, providing 100% zero emission electricity. • Heat church facility with existing mini-split heat pumps rather than gas boilers. • Increase capacity of Undercroft (church basement) mini-splits and replace the Rectory air conditioner with a heat pump to further the progress of fuel switching (the heat pump provides heat as well as air conditioning, allowing us to eliminate the gas furnace). • Replace existing gas water heaters with electric heat pump water heaters for fuel switching and efficiency. • Air-seal both buildings; insulate uninsulated portions of the Rectory and church Undercroft. • Upgrade faucets, lights, and appliances to enable fuel switching and reduce energy use. Source: EMS Energy Audit October 2021

Table 1 - St. James' Energy Conservation Measures (ECMs)

ECM items completed to Date

We have achieved the following ECMs.

1. Switchedfrom PSEG electric supply to Community Solar with Harvest Power, which now supplies 100% of our electrical needs.
2. Shifted to use of electric heat pumps in the church Santuary, Sacristy, and Overcroft (office) instead of gas heat.
3. Managed thermostats in the Rectory and Sanctuary to conserve energy, following EPA guidance: Set to 68 degrees when occupied during the heating season, 76 degrees in summer.
4. Replaced lighting with LED.
5. Assured all faucets are low flow.

A parishioner has purchased an electric heat pump clothing dryer for the Rectory. It will replace the natural gas dryer currently in use once the wiring is upgraded (see "Electrical Upgrade" in the Jobs section). A heat pump dryer is a type of condenser dryer. These dryers are extraordinarily energy efficient, as they recycle heat in the process of extracting moisture – often resulting in energy efficiency ratings of up to 6 stars (the best possible). Thanks to their gentle, highly efficient drying action, heat pump dryers have been a popular eco-friendly option in Europe and the US for many years.

Funding

The various sources of funding fall into three categories:

Sources of Funding
1. **Known sources.** We consider these givens that we can count on, as good as money in the bank. 2. **Possibilities**: These offer good chances of coming to fruition. Active negotiations are in progress. 3. **Uncertainties:** these potential sources are being pursued; some are more promising than others.

Table 2 - How to Pay for It.

We do not expect any financial support from our Diocese. Bishop Provenzano announced in June 2023 that, "For the remainder of the 2023 Ministry Plan, there will be no new spending, new initiatives, or new grants provided from the Ministry Plan."

Known Sources

We have four sources of funding we feel very confident in: our building fund, direct payments of alternative energy tax credits, house of worship designer tax incentives and PSEG rebates.

1. Parish Building Fund

As of June 30, 2023, the balance in our building fund was $146,976. St. James has established an emergency reserve amount in the Building Fund of $80,000. The reason for this reserve is based on cash flow requirements in the wake of Superstorm Sandy.

Given our emergency reserve, St. James has almost $68,000 available for the building improvement jobs. Since we feel the ADA and Emissions Reductions projects are of **equal priority**, we suggest allocating $34,000 of the building fund to each.

2. Alternative Energy – Direct Payment Tax Credits

This is one of two federal tax benefits. The other is the 179 D Deduction

Homeowners and businesses are eligible for alternative energy credits towards their income tax. For example, if we were a tax paying entity we could get a tax credit of 30% off the cost of a heat pump water heater. But since St. James, as a non-profit organization, does not pay income tax, these sorts of tax credits are of no benefit to us.

Thanks to the Inflation Reduction Act of 2022 (IRA), this 30% tax credit can be directly paid to non-profits for certain items like solar PV, including batteries. Air-source heat pumps are not included, but ground-source (geothermal) heat pumps are. (Note in the PSEG rebate section that air source heat pumps are eligible for significant rebates from PSEG).

And there can be an additional 10% if the project meets the United States domestic content requirements, for a total of 40%. (Ground source heat pumps tend to qualify since they are made in the USA. Air source tend to be made overseas). According to Charles Goulding at Energy Tax Savers, Inc, the guidance, as it currently stands, makes it very difficult to qualify for this 10% bonus. Our most likely eventual credit will be 30%.

In addition, the payment of the credit could take up to 15 months after the project is completed, which may be reason to consider borrowing from the building fund reserve and/or considering a short-term loan).

3. House of Worship Designer Tax Incentives (179 D Deductions)

This is the second federal tax benefit.

According to Charles Goulding at Energy Tax Savers, Inc in Syosset, the Energy Policy Act of 2005 (EPAct) created potential tax savings for building owners or architects and engineers based on the use of energy-efficient improvements. The Inflation Reduction Act of 2022 (IRA) allowed designers of energy systems in nonprofit buildings to claim the 179D deduction for qualifying projects. Designs that include the benefit of lifelong energy savings results in a tax deduction. The IRA also provides for the maximum deduction being available every four years on a not-for-profit building. So, for example, if we defer the installation of rooftop solar with batteries, we could take advantage of another $17,500 - $35,000 deduction after four years.

The IRA increased the qualified deduction range*, for projects that meet prevailing wage and apprenticeship standards, to between $2.50 and $5.00 per square foot*, depending on the building's energy efficiency level. *This translates to $17,500 - $35,000 for St. James* with a total church and Rectory area of about 7,000'sq. If our contractors do not meet prevailing wage and apprenticeship requirements, the deduction benefit dwindles to $1.07 per square foot (roughly $7,490).

Because of the difference, we will want to question our potential contractors in this regard, and factor in their prevailing wage/apprenticeship status in the selection process. It can amount to as much as $35,000 in deductions for vendors who participate in the design work, and who meet prevailing wage and apprenticeship requirements.

It is important that the actual value to the vendors depends on their tax bracket. $35,000 might be the value of the deduction (7,000 sq feet @$5). However, the cash value to the company would be the value of the tax avoided or the deduction amount times the taxpayers' marginal tax rate. The cash flow value of $35,000 in deductions for a firm in the 27% tax bracket (state and federal combined), using prevailing wage and apprenticeship would be $9,450 (.27 x $35,000). If they did not meet prevailing wage and apprenticeship requirements, the cash flow value would be (.27 x $7,490) $2,022.

We will initially estimate $26,250 in House of Worship Designer Tax deduction incentives ($17,500 + $35,000)/2) for this plan, assuming a mid range of energy efficiency level and prevailing wage and apprenticeship requirement would be met. We will assume a 27% marginal tax rate for the vendors, and therefore estimate a total cash flow benefit of $7,000 (.27 x $26,250, rounded).

4. PSEG Rebates

PSEG is the subcontractor for our electric utility company (the Long Island Power Authority – LIPA). PSEG bills customers, runs rebate programs and operates and maintains the grid for LIPA). In 2021 we enrolled in PSEG's community solar program ("Community Distributed Generation") and began receiving most of our electricity from a solar farm operated by Harvest Power. PSEG considers Harvest Power one of their 3rd party providers, and thus we qualify for PSEG's rebates.

PSEG offers two kinds of rebates:

- Point-of-sale rebates

  Rebates of $1,000 for the electric high efficiency heat pump hot water heater are available under the Residential Appliance Rebate program. Procedures for obtaining this rebate are described on the PSEG website for Appliance Rebates. Heat pump water heaters that are ENERGY STAR certified use a highly efficient heat pump to transfer heat from the surrounding air to water in the storage tank. This process uses much less power than traditional water heaters, which saves energy and cost.

- Rebates through contractors.

PSEG's Home Comfort Program offers rebates on heat pumps such as we are considering to replace/upgrade the Rectory AC and the Undercroft mini-splits. Rebates are only available through PSEG participating contractors. The HVAC contractors we have consulted with so far are certified by PSEG.

The rebate on a replacement heat pump for the Undercroft mini splits could be as much as $1,400 (assumes 4 tons @ $350/1200 BTU). The rebate on a whole house heat pump for the Rectory could be as much as $4,000 (4 tons @ $1,000/1,200 BTU) for an air source heat pump.

PSEG's heat pump rebates are for both air source and ground source (Geothermal) heat pumps. The PSEG rebates for ground source heat pumps are much higher than for air source: $1,500-$2,000 per ton of heating instead of $1,000 per ton. This is because geothermal units generally perform better than air source at lower temperatures. In addition, geothermal heat pumps come with Direct Pay 30% (+10% for domestic content) Tax Credits.

Possibilities

We have four sources of funds that have a good chance of coming to fruition: Metro IAF, National Grid's HEAT program, various electrification incentives and loans.

1. Metro IAF

New York State has created a coalition to help promote reduction in use of fossil fuels through conversion of buildings to electric energy (including use of heat pumps) from oil and gas use. They are soliciting houses of worship and other community institutions to serve as demonstration projects for clean, energy-efficient heating & cooling in New York State.

The coalition includes Metro Industrial Area Foundation (IAF), and NY State Energy Research & Development Authority (NYSERDA).

According to Joe Morris, Lead Organizer of the Metro IAF Clean Energy Initiative, the focus of their programs is on disadvantaged areas. However, Metro IAF can consider projects like ours on a lower priority basis. Metro IAF may help us with our project in three ways:

(1) Up to $16,000 for **planning, permitting, and contracting**.
(2) **Direct subsidy for energy savings**. The subsidy is calculated by $75 per million BTUs saved annually by the project.

If we undertook ALL the ECMs in our energy audit, we would save an estimated 81,113 kWh annually. Since 1kWh is 3,412 BTU, we would be eligible for an energy savings subsidy of $20,757.[2]

If we do not insulate the church roof and walls, or the Rectory and church basement walls, the estimated annual savings would be about 2/3 of what the total savings would be if all other ECMs were accomplished. That would translate to a Metro IAF Energy Savings Subsidy of $13,930.

(3) **Decommissioning expenses** for removing fossil fuel equipment (gas boilers and hot water heaters) are funded by Metro IAF in the $5,000-$10,000 range.

NYSERDA wants all its projects to be under contract by 3/30/2024. If we can meet that deadline (which is unlikely – see our projected timeline in Table 10 on page 34), or get an extension (our main hope) we would like to work with Metro IAF to:

- Do the overall design work including (A). Calculating the projected electrical load after addition of an ADA lift elevator, all the upgrades to HVAC, hot water, and electrical generation systems. (B). Calculating the energy savings (in BTUs and kWh) from each of the jobs (Energy Conservation Measures – ECMs) so we can nail down the dollar value of the NYSERDA rebate, and (C). Detailing the HVAC load calculations so we can choose the correct size heat pumps and have the data needed for PSEG rebates.
- Take advantage of the energy saving subsidy in the range of $14,000, which would include a third-party functional testing of our heat-pump systems before approving the rebate.
- Funding the removal of the natural gas heating and hot water equipment in the range of $5,000-$9,000.

2. National Grid HEAT

National Grid has a program called Home Energy Affordability Team (HEAT) Income-Eligible Program. Low-income residential customers can receive the following energy-saving products and services at no cost:

Programmable or Nest smart thermostats
Low-flow faucet aerators and showerheads
Attic insulation
Weatherstripping
Duct-sealing
Air-sealing of leaks

We have learned that this program has been scaled back for now, but more importantly, a similar beta program has been made available to non-profit organizations. The beta

[2] 81,113 kWh X 3,412 = 276,758,000 BTU (or 276.76 MMTBU). 276.76 X $75 =$20,757

program is offered for now only through one insulation company (Econo Therm, who by chance has already estimated the cost to insulate and air seal our buildings).

We were visited on August 18th, 2023 by CLEAResult, contractor for National Grid to collect information and manage the HEAT program. CLEAResult informed us that they have petitioned National Grid for the insulation and air-sealing of our Rectory, and air-sealing the church and insulating the church basement ceiling.

The first week of January 2024 we got the good news that National Grid agreed to fund the insulating and air sealing of our Rectory for free! No liens or strings attached. We are told this is Phase I of the program. We hope to learn in the coming months that Phase II will include insulation and air sealing for our church building as well as additional insulation for the Rectory basement ceiling.

Paperwork from National Grid, to allow this project to move forward, is in the office of the Chancellor at the Diocese for review. The form is a "Rental Property Agreement" which requires a signature and documentation showing the Diocese of LI owns the property.

3. *Electrification Incentives*

We are waiting to hear more on the implementation of the Inflation Reduction Act. Here are some ways beyond heat pumps that will eventually get to the public:

- $1,750 rebate for heat-pump water heater
- $840 rebate for heat-pump clothes dryer or induction stove
- $4,000 rebate to upgrade electrical panels to accommodate new, high efficiency appliances.
- $1,600 rebate for insulation and air duct sealing
- $2,500 for electrical wiring improvements

4. Loans

Borrowing money is an option. However, even a zero-interest loan would burden our budget with payments on the principle. Accordingly, we do not plan on borrowing to fund new systems.

Short term loans, however, could be a bridge between the paying contractor and receipt of Tax Credit Direct Pay for solar, including batteries, and/or geothermal heat pumps.

Uncertainties

Grants, fundraising, and To Be Determined are three funding options in the uncertain category.

1. Grants

- Episcopal Ministries of Long Island (EMLI)

A separate entity from the Diocese of LI, EMLI offers grants for ministries. Since accessibility and eliminating our carbon footprint are two primary missions of this parish, we applied for two $25,000 grants in mid-December 2023.

Our applications were rejected because our projects were capital improvements and not ongoing programs.

- ADA advocacy foundations

We plan to solicit grants for the accessibility project from agencies such as **Citizens United to Remove** Barriers (C.U.R.B.) in Long Beach.

- The Episcopal Church

There is a national church Creation Care Grant which, as we learned last year, uses criteria such as service to the wider Church and engagement with strategic partners such as the Long Island Progressive Coalition (LIPC). We don't score high in these areas.

We will look at this year's grants to see if the criteria have changed.

We will also investigate the Episcopal Church for a grant for our ADA project.

2. Fundraising

To fund the ADA project, we are considering a Capital Campaign: Direct outreach to stakeholders including church members past and present, with 3 naming opportunities – the main exterior door to the lift, the Sanctuary door to the lift, the Undercroft door to the lift.

We also considered a Go Fund Me crowdsourcing fundraiser via social media including paid boosts regionally. This option has been nixed by the Diocese real estate office.

3. To Be Determined (TBD)

While the Diocese has no funds available to fund our projects directly, the construction management office advised us in mid-December that external sources of government funds may become available in the February 2024 timeframe for emission reduction projects.

While we have not been promised anything, and this source is uncertain, we are estimating (hoping) that $35,000 in TBA funds will be available.

Jobs

Eleven jobs comprise the overall project. Jobs are grouped in four categories:

1. **Building integrity and resilience:** The two jobs in this group have to do with upgrading our electrical system to manage the additional loads involved with fuel switching and

protecting our equipment from flooding associated with rising seas and increasingly violent weather events.

2. **Accessibility**. Creating accessibility by providing an elevator-style lift to the Sanctuary and Undercroft.
3. **Sustainability.** The six jobs in this group establish sustainability through tasks that directly impact emissions by achieving the ECM's described in Table 1. These jobs include insulation and air sealing, upgrading of heating and air conditioning systems, conversion to electric hot water heating and electric appliances. Also included is rooftop solar with a battery back-up capability that would sustain us in the event of the loss of grid power.
4. **Supporting jobs.** The two jobs in this work provide design work and energy certifying work to support the overall project.

Priorities

Our goals are to provide accessibility and eliminate our emissions. This will not happen until the ADA and certain jobs in the sustainability category (air sealing & insulation, HVAC, heat pump hot water heater, replacing gas appliances) are completed. These jobs are therefore the highest priorities.

It would be impossible and impractical to electrify everything without upgrading the electrical distribution system, so the electrical upgrade job joins the highest priority list.
Likewise, to jump into this work without a professional design plan would also not be prudent – we must be assured that the various components will complement and support each other. Not to mention that HVAC load measures are a prerequisite for rebates.

Jobs by Priority	
<u>Top Priority</u> • ADA lift elevator • Electrical upgrade • Design work • Air sealing & insulation • HVAC • Heat pump hot water heater • Replacing gas appliances	<u>Secondary Priority</u> • Flood protection, • Removal of gas equipment • Rooftop solar with batteries • Energy certifying work

Table 3 - Jobs by Priority

The remaining jobs are assigned secondary priorities: Flood Protection, Removal of Gas Equipment, Rooftop Solar with Batteries and Energy Certifying work. If the basements flood, it will be an inconvenience, but we can continue to function. Removal of the old boilers, gas hot water heaters, and associated piping will be nice, but it can wait forever if necessary. We are

anxious to make our own electricity from the sun and have the capability to have power when the grid is down. But in the meantime, we are receiving emission-free electricity via the community solar program. We can have accessibility and zero emissions without these jobs. Energy certifying work is important but is relegated to secondary priority because it applies to a limited number of jobs.

Building Integrity and Resilience

Electrical Upgrade

The **scope of work** including design features

a. All equipment must be located above design flood elevation. This is higher than 8" above the church's first floor or 2'2" above the first floor of the Rectory. [3]
b. Upgrade electrical service from 200 to 400 amps (to handle the additional load of space heat and hot water heat pumps and ADA machinery[4]) and elevate the entire electrical distribution system above design flood elevation.
c. We envision the creation of a utility room in the Sacristy for the main electrical panel, the church sub-panel, and the telecommunications panel. Accommodation would be made for future Solar PV equipment and the electric heat pump hot water heater. There would also be a new subpanel in the Rectory.
d. 220v wiring would be supplied for:
    1. A heat pump water heater in the Sacristy
    2. Electric stoves (in the Rectory and church kitchen).
    3. Electric drier in the Rectory
    4. EV charging station in the Rectory driveway.
e. We also want internal sub-meters to monitor the kWh use between the main panel and the Rectory HVAC and Rectory sub-panel.

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[3] The design flood elevation at our location in Long Beach is 16'. The first floor of the church has an approximate elevation of 15'-4", while the First Floor of the rectory has an approximate elevation of 13'-10". To be above flood elevation, all equipment must be located above design flood elevation. This is higher than 8" above the church's first floor or 2'2" above the first floor of the rectory. (Source FPM Engineering and Geology, PC. 2022 "Master Plan for Efficiency Upgrades". A report prepared for the Trustees of the Estate Belonging to the Diocese of Long Island. September 20. https://www.ecopapak.org/CreationCare/MasterPlan220920.pdf).

[4] Electrical requirements for ADA lift elevator (as of December 2023):

- 120v
- Electrical cutoff
- Need lockable, fusible disconnect with auxiliary contact.
- Commercial cut off wiring
- Two legs at 10 gauge for aux
- Three legs at 12 gauge for the 110
- 10 gauge wire on 30 amp fuse

The reason for the sub-meters is that only one electric meter currently services both buildings making it impossible to determine how much energy is being used by which building, a determination important for monitoring energy use.

f. Since the church and Rectory are old, with original wiring dating to the 1930s, we are asking the contractors to include in their estimate the cost for replacement of any unserviceable or dangerous wiring.

Estimated Cost

We estimate a basic cost of $27,000 for the electrical upgrade. This estimate is based on one contractor's proposal. This does not include engineering fees, environmental fees, permitting fees, contingencies, and other incidentals which need to be considered. For planning purposes, we add 10% to the basic cost for a total of **$30,000**

It is possible that, after evaluating the final design of the new HVAV and ADA systems, we might be able to retain 200-amp service, which would reduce the cost of the electrical distribution system by several thousand dollars.

Sources of Funds

Parish building fund: $10k
TBD Funds: $20k
Total Funding $ 30k

Concerns

1. There is talk of the Inflation Reduction act providing $4,000 rebates to upgrade electrical panels to accommodate new, high-efficiency appliances, and $2,500 for electrical wiring improvements. We will stay alert to these provisions becoming active.
2. A member of the parish has expressed a desire to expand the EV charging capability from 1 in the driveway for the Rector to a more expansive vision of providing EV charging to the community. Another member suggested that we contract with Tesla or some other such entity for the donation of charging stations and providing them with electricity as an Outreach ministry to the community. Since the objective of our project is to eliminate parish emissions, we will not include anything in this plan that does not directly support our clearly stated objectives.

Flood Protection

While our primary aim is to mitigate climate change (The IPCC defines it as "A human intervention to reduce heat-trapping emissions or remove carbon already in the atmosphere"), we also want to adapt to global warming so we can protect our property

(The IPCC defines Adaptation is “The process of adjusting to actual or expected climate change.”).

Toward these ends, this project includes measures to protect our new systems and the basements of both buildings against the risk of flooding. All the components in this project require that equipment be located above design flood elevation. This is at least 8” above the church’s first floor or 2’2” above the first floor of the Rectory.

Additionally, low vents and opening in exterior walls will be closed as part of the air sealing and insulation job.

This job provides for added flood protection for **outside basement entries.**

The **scope of work** including design features

a. The Rectory basement entry door opens in, which makes it easier for flood water to force it open. It will be replaced with a steel rehung 30x80 outswing door with 4 9/16” frame.
b. The stairs and opening to the Undercroft will be protected with a Dam Flood Barrier / Shield. The barrier slides in and out of pre-mounted channels. This flood barrier is fitted with marine grade aluminum and closed cell sponge neoprene strips. A rubber gasket at the bottom of the barrier has a triple fin design which ensures a water-tight seal along the bottom.

Estimated Cost: $3,000 including:

c. Rectory door $1,600 ($800 door, $800 installation, and paint)
d. 24” high flood barrier $1,400 ($900 material, $500 installation)

Source of Funds $3,000 building fund

Concerns: We are located a block from the ocean, and like all in the global community are subject to rising seas and increasingly frequent violent weather. Flooding is imminent. Shy of elevating our buildings, we believe the precautions we have taken are prudent. However, we should not expect they will protect our buildings from the worst mother nature might bring. Nothing would.

Accessibility

St. James of Jerusalem church seeks to reflect the wide open-hearted God we believe in, so WELCOME is our church’s primary ministry. We are determined to make it possible to *welcome all who want to worship and gather with us.*

But, for now, people with various physical limitations are not able to worship in the Sanctuary or join us for coffee our, bible study or events in the Undercroft because literally everything at St. James is *up or down stairs.*

We have done extensive research and consulted with several experts to explore the feasibility of ramps, chair lifts, and more – both indoor and outdoor options – to determine the best way to make our church accessible.

We have secured a proposal for what we believe to be the best solution: an enclosed lift that would connect ground level from the outside of the church to both the Sanctuary and the Undercroft. A copy of the proposal is in the Appendix.

The scope of work for the accessibility job:

a. As per the Building Integrity and Resilience section (page 17, 18 of this report), all machinery should be located above design flood elevation. The entry doors must be waterproof, so as not to allow floodwater to enter the Undercroft.
b. Three stops, fully-enclosed lift tower
c. Access to ground level, Sanctuary, and Undercroft.
d. Located to the right of the church's front door.
e. Electrical wiring from the electric panel to the lift.

Estimated Cost: $114,000. This includes the proposal price of $103,600 plus 10% to cover engineering fees, environmental fees, permitting fees, contingencies, and other incidentals.

Sources of Funds.

Building fund: $34,000
ADA advocacy foundation grant (s): $40,000
Fundraising: 40,000
Total Funding $114,000

Concerns

a. The vendor has informed us that additional electrical work may be required in preparation for the installation. To address this concern, we plan to assure that the electrical upgrade (see pages 17-18 of this report) considers the following electrical requirements for the ADA lift:
   - 120v
   - Electrical cutoff
   - Lockable, fusible disconnect with auxiliary contact.
   - Commercial cut off wiring
   - Two legs at 10 gauge for aux
   - Three legs at 12 gauge for the 110
   - 10-gauge wire on 30 amp fuse

b. Members of the parish have expressed a need to add more than the lift elevator to the ADA project. One suggestion is to include automatic doors to the main entrance, to provide easier entry. The doors would help families with small kids as well as the elderly to get into the Sanctuary and Undercroft.

Another request is that we make all restrooms accessible.

At this point in time, we are focused on meeting the objective of *welcoming all who want to worship and gather with us.* That is limited to providing access to the Sanctuary and Undercroft with the lift elevator. The budget barely allows for this. Adding automatic doors and/or bathroom access is beyond our means -currently. We will solicit volunteers to brainstorm the design and funding of these features, to keep them on the back burner.

c. The church's classic (1934) appearance fits in nicely with the surrounding Penn Street buildings, including the Historical Society next door. One parishioner believes we should take care to safeguard our (undefined) "landmark status". To assure we keep our status in good standing, the president of the Historical Society will be included as a stakeholder in the distribution of this report. We should be prepared to share information on the appearance of the ADA lift.

Sustainability

The purpose of the six jobs in the "sustainability" category are to directly reduce and eliminate our greenhouse gas emissions by conserving energy and using only zero emission sources of energy, and to provide the capability to operate If power from the electrical grid is lost.

The **church** building has 4 envelopes: 1. Sacristy 2. Church office (Overcroft) 3. Sanctuary 4. Church basement (Undercroft) – includes stairway and hall outside Sacristy.
The **Rectory** has one envelope- consisting of the first and second floors. The attic and basement are outside the envelope because they are unheated spaces.

Table 4 - Building Envelopes

The concept of building envelopes is a prerequisite for understanding the conservation of energy. The building envelope is the boundary between the heated (or cooled) space and the unheated (or uncooled) space. Heat loss takes place from the container that is being heated. That container is known as the building envelope. Because different portions of the church are

operated for relatively brief periods on different schedules, we have identified several building envelopes within our church. The Rectory is a single envelope.

Air Sealing and Insulation

Our energy audit tells us that 88% of the buildings (Rectory and Church) are NOT insulated. Our plan is to air seal both buildings and insulate those portions of the buildings that are frequently used: the Rectory and the church Undercroft (the basement which hosts meetings daily). The Sanctuary is used for only a few hours each week. Our energy audit concedes that insulating an old, custom-built church is expensive. The energy savings payback approaches 25 years. Meanwhile, the energy used to heat and cool the Sanctuary with electric heat pumps is from zero emission solar. While we don't like "wasting" energy through the Sanctuary roof and walls, we can meet our zero emission goals as long as we eliminate the use of natural gas.

The scope of work:

a. Air Seal and Blower-Door Test both the Rectory and the church

The blower-door test should be done **after** preliminary sealing including but not limited to

- Low vents and opening in exterior walls will be closed as part of the air sealing and insulation job. Flood protection as well as insulation from air flow.
- Vent fan in the church office ceiling,
- Fireplace in the Rectory
- Gap around the vertical AC ducting in the 2nd floor closet of the Rectory, aligning and weather-stripping the Rectory front door **before** the Rectory insulation is installed.

b. Insulate the Church basement (Undercroft) rim joists and ceiling (Goal R-30)

Together with the natural insulation of the earth around the foundation, this will provide compete insulation of this envelope. It can be done by installing dense pack insulation in the ceiling, above the dropdown tiles, and achieve R-30. This applies to the whole basement – meeting room, kitchen, rest rooms, and hallway (except the stairway).

c. Insulate Rectory Walls (Goal R-13)

Walls should be done before the ceiling (attic) or basement rim joists are insulated to allow access from above and below. For the Rectory walls, the best access is from the attic, which avoids drilling into the walls. Some or all wall cavities have horizontal cross beams (which they should have for fire code) and will require inside drilling below those cross beams to blow in the insulation.

Basement access may be helpful, so the walls should be insulated before the rim joist is insulated.

d. Improve Insulation Rectory Ceiling (Goal R-30)

The Rectory ceiling has R-30 fiberglass batt insulation. The insulation itself is in functional condition, but it is "faced" insulation, with integral tar paper on one side. Faced insulation is not appropriate for attics (or really anywhere else) because it blocks water vapor from escaping through the ceiling. The vapor barrier needs to be at the ceiling (by carefully sealing all wiring penetrations, duct penetrations, etc. and maintaining a continuous painted surface) and any vapor getting through the ceiling needs to be released. The facing acts as a condensation plane, trapping the moisture next to the joists and the ceiling. This facing can be carefully peeled to minimize insulation loss, which is the first step to the next - better fitting the insulation to ensure all cavities are snugly filled and that the remaining 3 inches extend above the joists without compacting. The uncovered joists should then be covered with R-13 batt insulation cut into 2" strips so there is a continuous insulation blanket across the ceiling.

The goal is a continuous insulation blanket with a safe, clear service path to the HVAC equipment (see j below).

e. Insulate Rectory Rim Joints and basement ceiling (Goal: R19)

The Rectory sits on a flooring system that rests on the basement concrete walls with perimeter beams called rim joists. This area is often left uninsulated and is often not well air sealed. Rim joists should be insulated using either spray foam or foam board pressed into the joist pocket and caulked. Since the basement is below ground and the rim joist is above ground - and of a location that is frequently penetrated with utility wires, pipes, etc., it is the most important part of the basement to insulate.

Insulating the ceiling with R-19, 6 ½" fiberglass batts will complete insulation on all sides of the Rectory envelope.

f. Design and Install a Walkway in the Rectory Attic**,** for Access to Service HVAC Air Handler and Ducting.

Estimated Cost: $25,000 based on contractor visits and proposals.

Source of Funds: $25,000 National Grid HEAT program. This is a theoretical number. If the HEAT program comes to fruition, the contractor will be paid directly by National

Grid. St. James and the Diocese will not be privy to the amount Econo-Therm is paid for the job.

Concerns: Good news: National Grid has agreed to pay Econo-Therm for the work in Phase I, which includes:

- Air Seal and Blower-Door Test for the Rectory (not the Church)
- Insulate Rectory Walls
- Insulate the Rectory rim joists (not the basement ceiling)
- Improve Insulation in Rectory attic
- Provide a walkway in the Rectory Attic

But, Phase I has yet to be finalized. Construction is waiting on the Diocese to sign the agreement.

There is no guarantee or obligation on the part of National Grid for Phase II. Hopefully it will be approved in the coming months and include:

- Air Sealing and Blower-Door Test for the Church
- Insulating the ceilings in Rectory basement and Church Undercroft.

Heating, Ventilation and Air Conditioning (HVAC*)*

The HVAC job is important in the move to electrify both buildings, which will help us eliminate the use of natural gas. It will also improve resiliency to flooding by elevating all key systems above the designated flood elevation. Finally, interior air quality is an important health factor. We aim to meet CDC standards for healthy buildings.

There are **three parts to this job:**

- Replacing the Rectory AC with a heat pump (either air source or geothermal), such as a 52,000 BTU heat pump for heating and cooling the Rectory. The existing Rectory air handling system needs to be upgraded.
- Increasing the capacity of the church building's mini splits. The existing three Samsung mini-split units in the basement, while suitable for cooling, do not have sufficient capacity to heat the basement (which includes a meeting space, kitchen, two restrooms and stairs to the Sanctuary level). By contrast, the Fijitsu units servicing the main floor and 2nd floor (church office /Overcroft) provide ample heating, as well as cooling. They have about 2 ½ times the heating capacity of the Samsung units. We want to upgrade the mini splits in the Undercroft to units capable of providing sufficient heat as well as cooling.
- Installing a piece of equipment called a fresh air heat exchanger or "Energy Recovery Ventilator" (ERV). The ERV provides an exchange of stale inside and fresh outside air at a rate of 5+ times an hour and would be activated when the

building is occupied. This together with effective filtration (MERV 13 or above) makes for a healthy building as per the CDC.

The fresh air heat exchanger component of this equipment is important. It takes in outside air into a chamber where it exchanges heat or cold from a like-amount of exiting air. This system is also referred to as Heat Recovery Ventilation, and a primary benefit is that it doesn't waste all the energy invested in heated or cooled air. The stale air being exhausted transfers up to 60% of its invested energy with the incoming fresh air.

The Geothermal Issue.

There are two types of heat pumps: Air Source (what we normally see) and ground source (geothermal). The pros and cons are shown in the table:

Air Source (Traditional)	Ground Source (Geothermal)
Less costly to install	More costly to install
Less efficient, consume more energy, more costly to operate	More efficient, consume less energy, less costly to operate
Not eligible for direct tax credit payments	Eligible for 30-40% direct tax credit payments
Eligible for utility rebate	Eligible for utility rebates

Table 5 - Comparing Air Source and Ground Source Heat Pumps

Ground source heat pumps are much more efficient, but more costly up front. The larger the installation the faster the recovery of the investment. In our case, it would be wonderful to enjoy the lower operating costs and reduced energy consumption of the geothermal heat pump. But the upfront costs are so dramatically different, we cannot afford to go geothermal. It would cost more than $50,000 for a ground source heat pump for the Rectory. Even with 40% of that paid for by a direct pay tax credit, it would cost nowhere near the $14,000 price for an air source heat pump.

The scope of work including design features

a. All equipment must be located above design flood elevation. This is higher than 8" above the church's first floor or 2'2" above the first floor of the Rectory.
b. Replace existing Rectory AC with a heat pump model to heat and cool. Back-up heat for emergency heat will be included. Upgrade air handler
c. Upgrade the Church Undercroft mini-split heat pumps with models capable of providing ample heat as well as cooling.
d. Install air exchange equipment (Energy Recovery Ventilator) to provide 5+ air exchanges per hour, with MERV 13 filtration in the Rectory and Undercroft.

Estimated Costs: $33,000 based on the following:

- $14,000 Rectory 3 ton 29 SEER cold climate heat pump (Based on $12,500 quote from a local contractor plus 10%+ for engineering fees, environmental fees, permitting fees, contingencies and other incidentals)
- $14,000 for two 36k btu/hr 15.5 SEER cold weather inverter heat pumps for Church Undercroft ($12,800 quote from a local contractor plus almost 10% for engineering fees, environmental fees, permitting fees, contingencies and other incidentals)
- $5,000 for two ERVs. Based on Inch Estimator's $2,300 average price in Long Beach plus 10% for incidentals.

Sources of Funds

Parish building fund: $7,000
PSEG grant: $6,000 ($1,000 per ton)
Metro IAF NYSERDA subsidy: $14000 (100% of the estimated subsidycalculated in the Funding section)
TBD Funding: $6,000
Total Funding $33,000

Concern: We must test the Undercroft mini splits during a cold spell to make sure they need to be replaced, instead of adjusted or repaired

According to one of the HVAC contractors, the 34,000 btu existing mini-splits should heat the Undercroft. This is based on initial measurement of the area of the conditioned spaces. • 2,000 sq. ft. Undercroft in envelope includes stairs, baths, utility room.

Table 6 - Must Test Undercroft Mini-splits

Heat Pump Water Heater

The Church and Rectory each have their own natural gas water heater. We plan to replace both with a single electric heat pump water heater which will provide all the hot water needed, use less energy, and help us move away from the use of fossil fuels.

The scope of work including design features

1. **A 50-gallon high efficiency heat pump water heater** will be installed in the utility room/Sacristy and plumbed to provide hot water to the church and Rectory.
2. All equipment must be **located above design flood elevation**. This is higher than 8" above the church's first floor or 2'2" above the first floor of the Rectory.

Estimated Cost: $4,000 based on Energy Audit, and an internet search including $2,000 installation with permitting fees, etc.

Sources of Funds

Parish building fund: $3,000
PSEG point of sale rebate: $1,000
Total Funding $4,000

Concerns: We have been warned not to purchase heat pump water heaters from Home Depot or Lowe's. According to local repairmen, Home Depot and Lowes have made arrangements with the manufacturers to use cheaper components in their appliances. They have unique model numbers so you can't price compare.

Replacement of Gas Appliances

The gas ovens in the Rectory and church, along with the gas clothes drier in the Rectory, need to be replaced with electric appliances as part of our fuel switching strategy. There is also an opportunity for operating-cost savings because of the new high-efficiency models available. Another benefit is getting rid of the health concerns associated with gas cooking appliances.

The induction stove is a new type of cooking surface that has been gaining popularity in the past several years. It's an electric range with a smooth glass or ceramic cooktop that uses a magnetic field to heat pots and pans. The heat is generated directly in the pan, so there's no need for a burner under the pot. This type of cooking surface is fast, efficient, and easier to clean.

A heat pump dryer is a type of condenser dryer. These dryers are extraordinarily energy efficient, as they recycle heat in the process of extracting moisture – often resulting in energy efficiency ratings of up to six stars (the best possible). Thanks to their gentle, highly efficient drying action, heat pump dryers have been a popular eco-friendly option in Europe and the US for many years. Such a ventless dryer would allow us to close the exhaust-hole in the Rectory wall, which presents a flood risk.

The **scope of work** including design features:

Purchase two induction stoves.
A heat pump drier has already been purchased and delivered (donated by a parishioner).
Wiring for these appliances is included in the Electrical Upgrade job – see pages 17, 18.

Estimated Cost: $**2,600 delivered** (two stoves. Dryer already purchased by parishioner)

Source (s) of Funds

Parish building fund: $920

Point of Sale rebate: $1,680
Total Funding $2,600

Concerns

a. According to Rewiring America, rebates on point-of-sale purchases will be available in early 2024. Households can save up to $840 on an induction stove purchase. We will be alert to the unveiling benefits of the Inflation Reduction Act.
b. A parishioner suggested that appliance replacement can be done as the old ones die. Another church member brought up the idea of not replacing the church kitchen stove, which is hardly used.

Both ideas have economic merit. However, we need to remember our overriding principle explained earlier in the Overview: use of fossil fuels must stop, now. Continuing the use of natural gas would prevent us from achieving our goal. We also have the health issue of the use of natural gas stoves.

A viable option is to remove the church kitchen stove, not replace it immediately, and defer final judgement. We could then, in the future, consider the costs and benefits of being able to cook in the kitchen.

Removal of Gas Equipment

After electric heat pumps and hot water heater are installed and running, we plan to remove the gas meter, hot water heaters, and gas boilers from the church and Rectory. Gas piping and wiring should also be removed.

The scope of work: remove two gas boilers and two gas fired hot water heaters (one each church and Rectory), along with associated piping. Gas meter is also removed.

Estimated Cost: $7,500

Source of Funds $7,500 Metro IAF

Concerns: Need a firm estimate from local contractors.

Rooftop Solar with Batteries

Right now, we are getting our electricity from the Community Solar program through PSEG, and the emissions from our use of electrical power is essentially zero.

However, there are other benefits (besides the zero emissions we have already achieved) of adding power to our buildings, not the least of which is cost savings. An investment in rooftop solar would be offset by tax credits of at least 30%, with the

possibility of another 10% for domestic content[5]. And once the solar is generating electricity, our electric bill will be reduced dramatically. The return on investment can be estimated once we know more about the actual loads with the new heat pumps, ADA equipment, and solar installation costs.

Another benefit from rooftop solar, if we also include battery storage, is the backup power feature which can be employed in the event the grid is lost due to a storm or other causes. In such an event, St. James could be a community sanctuary.

The **scope of work** including design features

a. All equipment must be located above design flood elevation. This is higher than 8" above the church's first floor or 2'2" above the first floor of the Rectory
b. Provide enough energy to power all our needs, estimated at 11,500 kWh annually.
c. Battery storage to provide power when the grid is down

Estimated Cost $30,000 based on a 25% adjustment to a 2021 proposal (a smaller system, no batteries)

Sources of Funds

Parish building fund: $8,000
Alternative Energy Direct Pay Tax Credit: $9,000 (funded initially by loan from Building Fund reserve- see concern below)
House of Worship Designer Tax Incentive: $5,000 (See concern below)
TBD funding: $8,000
Total Funding $30,000

Concerns

e. If the solar contractor can provide materials made in America, there will be an additional 10% tax credit for "domestic content.[4]"
f. Direct Pay tax credit is normally paid 18 months after project completion. A loan from our building reserve could be used to pay the contractor upon completion.
g. Contractor will have to consent to take the House of Worship Designer Tax Incentive as a tax break. And to take full advantage of the benefit, contractors must meet prevailing wage and apprenticeship requirements.
h. A parishioner asked if it would be possible to further supplement our efforts towards solar energy with discreet wind turbines? There's almost always a breeze off the ocean. Wind power is possible. However, it is unlikely to be financially feasible since solar is eligible for 30-40% in direct pay tax credits.

[5] The rules for domestic content are complex. Basically, the iron and steel in the project must be 100% manufactured in the US. Also, at least 40% of other components must by manufactured in the US.

We are not eligible for subsidies on wind power. Another factor to consider is the availability of wind turbine installation contractors. There are not many, unlike solar.

Supporting Jobs.

Design Work

We need an energy expert to integrate information from the various contractors to make important determinations, including:

- Calculating the projected electrical load after addition of ADA lift elevator, all the upgrades to HVAC, hot water, and electrical generation systems. We need this to size the upgraded distribution system (200 amps? 400 amps?) and determine the capacity of rooftop solar with batteries. We want to ensure that in the end our buildings are making more energy than they are using.
- Calculating the energy savings (in BTUs and kWh) from each of the jobs. This is important to verify the value (savings) of each job. In a practical sense, this will also enable us to determine the dollar amount of the NYSERDA rebate.
- Detailing the HVAC load calculations (including the ERVs) so we can plan for the correct size heat pumps and have the data needed for PSEG rebates. This includes the heating load calculation, which is more important than the cooling load is because we require more heating than cooling.
- Verify our current information on the design flood elevation. This is reported to be higher than 8" above the church's first floor or 2'2" above the first floor of the Rectory. [6]

The scope of work:

a. Determining electrical load and assuring that, in the end, we will be making more energy than we consume,
b. Calculating energy savings of each job,
c. Calculating HVAC load, and
d. Verifying design flood elevation information.

Estimated Cost: $10,000 based on discussion with people in the field.

Sources of Funds

$**8,000 Metro IAF** Up to $16,000 for planning, permitting, and contracting.
House of Worship **Designer Tax Incentive: $2k** (See concern below)
Total funding $10,000

[6] See "Master Plan for Efficiency Upgrades". A report prepared for the Trustees of the Estate Belonging to the Diocese of Long Island. September 20. https://www.ecopapak.org/CreationCare/MasterPlan220920.pdf)

Concerns: Contractor will have to consent to take the House of Worship Designer Tax Incentive as a tax break. And to take full advantage of the benefit, contractors must meet prevailing wage and apprenticeship requirements.

Third-Party Energy Certifying

To claim the 179D Energy Tax Incentive, the designers of the energy-efficient improvements must obtain a certification of energy savings from a qualified third party. The certification process involves an inspection and a review of the claimed energy-efficient improvements.

The IRS rules are strict. We will need the services of a qualified third party to calculate the projects' total House of Worship Deduction and allocate it among the various contractors providing design inputs. This sort of firm can also help us apply for Direct Pay Tax Credits.

The **scope of work:**

a. Calculate the whole projects' total House of Worship Deduction and allocate it among the various contractors.
b. Assist in our filing for Alternative Energy Direct Pay Tax Credits

Estimated Cost $2,000 This is the most we would consider paying for this service, because $2,000 is the low end of the possible benefits the House of Worship Tax Deduction would provide.

Source of Funds

Building Fund: $2,000
Total Funding: $2,000

Concerns: The value of using the House of Worship Deduction must be carefully assessed. Many factors are involved. The overall question: is it worth it?

Maintenance

St. James administrative structure does not include a person charged with responsibility for buildings or systems. Unlike a full-fledged parish with a Junior Warden tasked with oversight and management of a formal and budgeted building maintenance function, our mission is not presently equipped to manage the types of systems we want to install.

To safeguard the hundreds of thousands of dollars in investment we have proposed here, it is imperative that we commit to, establish, and fund a viable maintenance function. We propose two options: Creating an in-house capability or outsource (contract out).

The **in-house capability** could be established by updating our by-laws to include:

- Adding another responsibility of the Bishop's Committee – the care of the buildings and ground of the mission.
- The election of a maintenance manager, who would be a member of the Bishop's Committee.
- Requirement for the funding of a maintenance budget, sufficient to cover the prescribed routine maintenance, inspection and testing of vital systems (for example, the ADA elevator has annual maintenance costs of about $1,100,* heat pump and hot water systems have routine checks that must be funded and completed), and a reasonable amount for corrective maintenance).
  *The ADA vendor's proposal provides the first year of maintenance.
- Quarterly reporting to the BC of preventive and corrective maintenance completed or deferred.
- The expectation that repairs will be made when equipment fails. Authority for contracting for corrective maintenance when things break.

Outsourcing the building maintenance function might be achieved with the assistance of the Diocese real estate office, who has an interest in the property and has experience in contracting out. The idea would be to contract with a firm who would schedule and perform routine inspections and preventive maintenance on vital systems, including periodic checks to ensure the systems are performing as designed. These services should include regular reports on maintenance completed and performance of the vital systems.

Financial Summary

Here we present a summary that shows the cost and funding for each job broken down into sources of funding. The table on the next page shows the total estimated cost and where we (the ad hoc committee) imagine the funds coming from. Let us emphasize that these are preliminary numbers that will need to be refined. This has not been approved by the Bishop's Committee.

On the left side of the table are the titles of the 11 jobs that comprise the project. On the right side of the table, you can see the estimate for the job cost in the sub-total column.

1. Electrical Upgrade $30,000
2. Flood Protection $3,000
3. Accessibility (ADA) $114,000
4. Air Sealing and Insulation $25,000
5. Heating, Ventilation and Air Conditioning (HVAC) $33,000
6. Heat Pump Water Heater (Domestic hot water -DHW) $5,000
7. Replacement of Gas Appliances $2,600
8. Removal of Gas Equipment $7,500
9. Rooftop Solar with Batteries $30,000

10. Design Work $10,000
11. Third-Party Energy Certifying $2,000

Based on the information we have now, we estimate the whole project cost at $262,000.

At the top of the matrix are the funding sources that are being considered. As shown in the bottom row of the table (sub-total), the project could be funded by:

1. Parish Building Fund $68,000
2. Alternative Energy – Direct Payment Tax Credits $9,000
3. House of Worship Designer Tax incentives (179 D Deductions) $7,000
4. PSEG Rebates $7,000
5. Metro IAF $29,500
6. National Grid HEAT $25,000
7. Electrification Incentives from the Inflation Reduction Act (IRA) $1,700
8. Funds To Be Determined by Construction Management (TBD) $35,000
9. ADA advocacy foundation grant(s) $40,000
10. Fundraising $40,000

Project Funding Summary in Thousands of Dollars											
	Build. Fund	AE Tax	179D	PSEG	Metro IAF	HEAT	IRA	TBD	ADA fdtn	Fundraise	Sub total
Elec Upgrade	10.0							20.0			$30.0
Flood Prot	3.0										3.0
ADA	34.0								40.0	40.0	$114.0
Insulation						25.0					$ 25.0
HVAC	7.0			6.0	14.0			6.0			$ 33.0
DHW	3.0			1.0				1.0			$ 5.0
Appliances	0.92						1.68				$ 2.6
Removal					7.5						$ 7.5
Solar	8.0	9.0	5.0					8.0			$ 30.0
Design			2.0		8.0						$ 10.0
Energy Cert	2.0										$ 2.0
Sub total	$67.9	$ 9.0	$ 7.0	$7.0	$29.5	$ 25.0	$1.7	$35.0	$40.0	$40.0	$ 262.1

Table 7 - Project Funding Summary

Contingencies

We need to be prepared for contingencies. For example,

d. What would we do if the construction management office cannot come up with $35,000 in external funds? If most of the TBD funds do not materialize, the project could proceed without the installation of rooftop solar and batteries, a secondary priority. Keep in mind that St. James is already using 100% zero mission energy from a community solar farm.
e. What if fundraising goals for the ADA lift elevator fell short of goals? We could defer that part of the project until a later date.

What's Next

This report contains the information gathered so far, which includes feedback received from the stakeholders in 2023. It is part of the process shown in Figure 1 at the beginning of this report. We look forward to getting another round of feedback in the coming weeks. We will integrate your feedback, update this plan, and present it to the Bishop's Committee for approval.

After that, the plan will be presented to the diocesan trustees for approval.

Once approved by the trustees, the work is contracted out by the real estate division, who will oversee the jobs (with our help, of course – we will be involved in every step) and then pays the bills from the funding sources.

The estimated timeline for implementation is shown in the table below:

Milestone	Approximate Date
Feeback from stakeholders received, plan updated for presentation to Bishop's Committee	Mid-February 2024
Plan approved by St. James Bishop's Committee	End of February 2024
Approval by Trustees	End of March 2024
Real Estate Division solicits RFPs	Early May 2024
Real Estate Division writes contracts	Early June 2024
Construction	July, August, September 2024
Completion	Late September 2024

Table 8 - Timeline for Implementation

Feedback is solicited, encouraged, and needed!

We want and need the buy-in of all stakeholders: St. James' Bishops Committee, all congregants, the bishop, the diocesan staff, supporting agencies, and neighbors. This is why we ask you all to carefully read this report and offer feedback, suggestions, and constructive criticism, allowing us to adjust and move forward in a way that considers the needs and concerns of all stakeholders.

Please let us know:

- How do you like the plan now?
- Have you any suggestions for improvements?
- Do you know of a rebate, grant, or subsidy we have overlooked? Let us know.
- If we don't hear from you, we will reach out.

Points of Contact

Who to call with your feedback:

- ADA job and funding: Wendy Goldstein wendy@wlgcommunication.com, (516) 375-2946
- Building integrity, resiliency, sustainability jobs and funding: Coty Keller wckeller@earthlink.net, (941) 627-8053
- Big picture: the Reverend Susan Bock, therealgirlpriest@yahoo.com, (566) 872-7883

Report Distribution

St. James Bishops Committee
St. James Green Team
St. James Congregation
The Right Rev Lawrence Provenzano, Bishop, Diocese of Long Island
Diocese Creation Care Team (Matthew Moore, Rita Griffith, Lilo Carr Rivera, Anna Dengler)
Diocese Senior Construction Manager Anthony Natalie
Diocese Chancellor, James Weller
Episcopal Ministries of LI (Director, Mary Beth Walsh; Communications Manager, Mary Grace Paszka; Director of Programs, Sandra Senior).
Metro Industrial Area Foundation Lead Organizer Joe Morris
Long Island Progressive Coalition Ryan Madden
Energy Tax Savers, Inc. Charles Goulding
Energy audit author Phil Jones
Master Plan for Efficiency Upgrades author Chris Schwarz
Geothermal adviser Billii Roberti
Long Beach Historical & Preservation Society President Jeanne Browne

Appendix A – ADA LIFT Proposal

ALPHA CARE SUPPLY
Accessibility Solutions Specialist

CONTACT:	BILL TO:	INSTALLATION:
Susan Bock 586-872-7883 Wendy 516-375-2946 wendy@wlgcommunication.com		St. James of Jerusalem Episcopal Church 22 W Penn St Long Beach, NY 11561

We hereby propose to Furnish and Install (1) Quiet Hydraulic Vertical Platform Lift by Savaria with the Following Specifications:

1. 3 Stops, Full Enclosure with Plexiglas Door, Steel Panels, Rooftop Dome and Vent Fan
2. Tower Location: Right Hand
3. Travel Height Up to: 70"
4. Entry/Exit Configuration: Straight-Through
5. Interior Non-Skid Platform Size: 36x54
6. (1) 36" x 80" Enclosure Door with Plexiglas Panels, (2) 36" x 80 Fire Rated Steel Pro Door, all With Manual Operation
7. Capacity: 750 lbs. Travel Speed: 20 Ft per Minute, 110Volt, 20 amp, 60 Hz
8. Public Building Package - ASME A18.1 Code Compliant w/ADA Hands Free Phone
9. Emergency Battery Lowering
10. Weather-Resistant Finish and Controls, Emergency Stop Switch, Audio/visual alarm
11. Continuous Pressure Keyed Call/Send Controls on Platform and All Landings (Flush Mount Call/sends)
12. Delivery, Complete Installation and Setup by Certified Accessibility Technicians

LIFT 1:**$53,000.00**

Construction Work Needed:

1. Replace window at front of building with a 36 by 80 inch exterior door Opening
2. Remove Bushes, 25 x 8 concrete path from sidewalk to building with a 3 inch pit for lift
3. Dig 50" Down to Basement and Install Door, Retaining Wall, and Sump Pump
4. Replace main entryway doors & Frame, 36 by 80 includes finishing Work.
5. Electrical Line to Lift with Outdoor GFI Outlet

$39,000.00

TOTAL: $92,000.00

OPTION 1: 1 Year Maintenance Contract	$1,100.00
OPTION 2: Automatic Door Operation 3 Doors	$6,500.00
OPTIOM 3: Clear Plexiglas Enclosure Panels	$4,000.00

Grand Total $_____

This Proposal/Sales Agreement is Dated 3/8/23

* Method used for deposit will be used for balance once lift is installed. No permits.There are no verbal agreements that are not included on this agreement. Price does not include any unforeseen obstacles inside walls/ceilings or the possible need for a structural engineer. Customer responsible for emergency phone line to lift if desired. Current Eta for delivery of lift is 8-10 weeks.

Cell 516.778.0038 | **Tel** 516.568.3010 | **Fax** 516.256.3442 | **E** Frank@alphacaresupply.com
Corporate Office | 21 Stringham Avenue | Valley Stream, NY | 11580
Suffolk County Showroom | 1361 Lincoln Avenue | Holbrook, NY | 11741 **www.AlphaCareSupply.com**