



Proposal to replace all the Colesville Road property interior and exterior lighting with LED lamps and other lighting equipment

Key Dates:

- **Vote:** Congregational Meeting on September 17, 2017 after worship service
- **Informational Meeting** to learn and provide feedback is on August 27, 2017 after worship service

Motion:

To replace interior and exterior lighting with LED bulbs and fixtures at the Colesville property. To accomplish this, we will use incentives from State of Maryland through PEPCO to reduce the cost of the project and finance the remaining cost of the project using not more than \$41,000 of the approximately \$138,000 available in the Unrestricted Endowment Fund. We intend to repay the Unrestricted Endowment Fund using savings from reduced spending on lighting costs at a rate of 5.5% interest over 10 years.

Statement of Support: Approved and recommended unanimously to the CCC membership by the Coordinating Council.

Background:

CCC is an environmentally conscious congregation that takes our stewardship of the Earth seriously. The Coordinating Council recommends the congregation replace CCC's lighting with LED bulbs and fixtures to tangibly reduce CCC's energy consumption and provide energy cost savings for the church. The State of Maryland is administering financial incentives through PEPCO for energy reduction projects. These incentives would reduce the cost of this project by roughly one third, but the incentives may not be available beyond the current calendar year. The church will likely replace light fixtures with LED lights at some point in the future, so it makes sense to utilize the financial incentives while they are available from the state.

This proposal is beyond the fiduciary scope of what the Coordinating Council can authorize independently because it requires a significant expenditure to initiate the LED replacement, so a congregational meeting is necessary to pass a motion to replace our lighting with LED fixtures. The Coordinating Council recommends financing the LED project to have a net neutral impact on the annual budget by using the financial incentives from the state and reserves in CCC's Unrestricted Endowment Fund. The motion includes the provision to replenish the principle of the Unrestricted Endowment Fund plus 5.5% annual interest over 10 years. This amortized payback of the "loan" from the Unrestricted Endowment Fund tracks with the historical growth the fund would have realized if not used for the LED project and sets a structure that is budget neutral over the 10 years. The Coordinating Council considers the LED project to be consistent with the purpose of the Unrestricted Endowment Fund, which is to enable special ministry that we are otherwise unable to fund, i.e., the ministry of being good stewards of the earth's resources by reducing our carbon footprint.

Costs of lighting at CCC:

CCC's Green Team has already replaced many hallway lights and some others with LEDs, but the bulk of the lighting still uses CFL bulbs, long-tube fluorescent bulbs, high intensity discharge bulbs (outside), and some incandescent bulbs. All of these bulbs burn out more frequently, use more energy for illumination, and the hardware for these bulbs is aging, requiring regular repair work. The parking lot lighting and fluorescent ballasts require electricians for their repair and replacement. CCC spends approximately \$1,450 per year to replace and repair bulbs, ballasts, and fixtures. New LED fixtures will come with 5-year warranties (and

much longer projected lifetimes) and will immediately reduce repair and replacement costs. LED bulbs, with much longer lifetimes than those presently in use, will require less frequent replacements. Additionally, the LED bulbs and fixtures are much more energy efficient, so replacing with LEDs will reduce the amount of power used for lighting by about half. Combining the cost of repairs, replacements, and higher energy costs of using the current bulbs, CCC is estimated to achieve average long-term savings of \$3,746 per year (based on current rates). Short-term savings of \$4,128 from reduced power consumption plus an estimated \$1,450 from savings of annual repair of current fixtures will offset the immediate cost of the project.

In order to replace the lighting with LEDs, CCC will need to cover the upfront cost of the project. The LED proposal will use money available through a financial incentives program from the state of Maryland to cover roughly one third of the cost of replacing fixtures and bulbs. The Coordinating Council recommends using money available in the Unrestricted Endowment Fund to cover the remaining \$41,000 (or less) required for the full project. This withdrawal from the Unrestricted Endowment Fund will be paid back over 10-years at a 5.5% interest rate. The Coordinating Council explored available loan options from banks, but these options do not offer more competitive loan rates, require collateral in some cases, and may complicate efforts to obtain loans for larger projects in the future.

There is presently about \$138,000 in the Unrestricted Endowment Fund. Taking \$41,000 from the Unrestricted Fund still leaves significant capital in the account available for special ministry. Furthermore, withdrawal of \$41,000 to fund the LED project does not prevent creatively financing other large scale projects that are anticipated to cost several hundred thousand dollars.

The cost of paying back the Unrestricted Endowment Fund is balanced by available incentives, energy saving, repairs, and replacement costs. This proposal projects to save the church money and should not impact the overall financial health of the church over the 10-year period of the loan; over the long-term this project will yield energy savings compared to the currently installed lighting. The Coordinating Council is recommending this proposal now because the financial incentives may not be available in future years, and these fixtures will be converted to LEDs eventually anyway.

LED proposal based on current electric rates, hardware, and labor costs:

Annual Costs	Current	Cost with Incentives	Cost without Incentives
Electricity Costs for Lighting ¹	\$7,478	\$3,350	\$3,350
Cost to Repair and Replace Existing Lights	\$1,448	No cost initially because fixtures are new ²	No cost initially because fixtures are new ²
Cost to Replenish Endowment Fund at 5.5% over 10 years		\$5,339 ³	\$8,024
Total Cost	\$8,926	\$8,689	\$11,374
Green Team Recommendation		Adopt proposal	Do not adopt proposal without incentives

¹ Based on extensive estimates of current hardware and projections provided by WatzLED, but verified and conservatively adjusted by Green Team

² Based on warranties and product performance projections, the new fixtures are estimated to last from 18 to well over 100 years, depending on actual hours/week of use. (Where bulbs are replaced within existing fixtures, projected bulb lifetimes are 6 years and up, depending on hours/week of use.)

³ The total cost of the LED replacement is expected to be about \$61,620. Financial incentives available from the State of Maryland would cover about \$20,760 of the cost of the project. The Coordinating Council recommends borrowing not more than \$41,000 from the Unrestricted Endowment for the remaining cost of the LED upgrade.