

AQUINAS COLLEGE

GREEN REVOLVING FUND



- 1) Purpose Statement: A sustainable investment mechanism to make energy-reducing enhancements and increase renewable energy on the campus of Aquinas College.
- 2) Goals: Facilitate the carbon neutrality goal of Aquinas College while also reducing operating costs; Promote the ideals of sustainability in line with the Strategic Plan’s aspiration to “Transform the College based on the guiding principles of the 6 Es (Economics, Environment, Ecology, Ethics, Empathy, Education) to enhance our reputation regionally and nationally”; Engage and bring together students, faculty, and staff; Engage the broader Grand Rapids community; Promote the use of renewables both on campus and to the community at large.¹
- 3) How it works:
 - a) Initial seed money from designated Wege Foundation grant funds
 - b) Project proposals are solicited from students, faculty and staff
 - c) Projects are evaluated based on cost, payback time, and campus impact
 - d) Approved projects will borrow from the fund to make campus enhancements
 - e) Said enhancements will reduce energy cost or promote renewable energy to the college
 - f) Such savings will be put back into the GRF to replenish and grow it.
- 4) Green Revolving Fund (“GRF”) Committee:
 - a) The initial GRF committee is borne out of the current Community Sustainability Committee, made up of students, faculty, and staff.
 - b) In addition, representatives from the Business Office, Physical Plant, as well as Administration will take part in project review and approval.
 - c) The reliance upon the Community Sustainability Committee as the GRF committee will be determined, in part, by the continuation of the sustainability committee pilot program. However, three criteria should apply to the committee:
 - i) As much as possible, made up of students, faculty, and staff.²
 - ii) The GRF committee sets the agenda of the GRF.
 - iii) The GRF committee recommends the use of GRF money.
 - d) The committee will create reports each semester to track project performance which will be distributed to administration and posted to the GRF website. The committee will present project performance to the campus at large once said reports are completed.

¹ Definition of terms can be found in Appendix A

² There exists a great opportunity to engage students in quantitative skills development as they assist in GRF project analysis.

- 5) Criteria for proposal³:
- a) Proposal(s) must come from current student, staff, or faculty member.
 - b) Proposal(s) must have a clear and measurable impact on energy conservation, energy efficiency, or renewable energy on campus.
 - c) A preferred project would not exceed \$50,000 in cost or a 5 year payback (see 7.d.i below).
 - d) On-site renewables or energy generated on Aquinas' campus are generally preferred to decrease or eliminate energy loss from transmission. However, proposals related to the purchase of renewable energy generated off-campus will also be reviewed and considered.
- 6) Evaluating proposals:
- a) How well does the proposal match the objectives of Aquinas' [Sustainability Initiative](#), the College's vision of Economicology. This includes our commitment to achieve carbon neutrality as a signatory of the ACUPCC.
 - i) Improve the health of natural systems;
 - ii) Enhance the quality of life for the Aquinas community and our neighbors;
 - iii) Increasing long-term financial stability of the college
 - b) Does the proposal meet all of the stated criteria of the GRF?
 - c) How well does the payback period align with the current status of our fund?
 - d) Are there any educational opportunities from this proposal, especially for students?
 - e) How well does this proposal engage the students, staff, and faculty?
 - f) To what degree will this proposal decrease the college's consumption of traditional energy sources (i.e. coal, nuclear, crude oil) and/or increase the use of renewable energy sources?
- 7) Payback (Return on Investment):
- a) Where does the money come from?
 - i) Initial seed money for GRF was realized from a sizable grant given by the Wege Foundation.
 - ii) The College will engage in additional fundraising to enhance the fund.
 - iii) Once projects begin reducing energy costs for the college, savings are then returned back to the fund to replenish and grow for future projects.
 - b) How is the money managed?
 - i) The GRF is set aside from the general fund, and can only be used for projects recommended by the GRF committee.
 - ii) The GRF committee will approve projects through a deliberative approval process and initiate disbursement of money directly from the fund.
 - iii) The GRF committee will utilize best practices in accounting in conjunction with the Aquinas College Business Office to ensure proper management.
 - c) How will the money be used?
 - i) Given the size and operations of Aquinas, the disbursement system will utilize a grant-payback mechanism.
 - 1) This is the preferred system for two reasons: 1) Nearly every campus improvement uses money from the general fund currently; and 2) Cuts down on the number of channels the money must move through.
 - ii) Money (the grant) will be disbursed from the GRF's line into a separate fund line (also a restricted account) where the money will be used for project expenses.

³ A sample proposal form can be found in Appendix C

- iii) Facilities or responsible department will make proposed changes and allocate the funds from the designated restricted account with the authorization of the CFO.
- iv) Savings realized in the general fund (i.e., from unrestricted budget lines) from successful projects will be “repaid” back to the GRF until a designated end period. Such savings allocations will be based on actual energy usage (established by either actual metering or informed estimates). (E.g., change in kilowatt usage times current market prices; Fluctuations in energy prices will be reflected both positively and negatively in repayments to the fund. See example.
 - 1) The realization of savings will require, until sub-metering is installed on all buildings, estimations and industry expertise as to the potential energy reductions induced by the project.⁴
 - 2) The evaluation of utility bills and other expenses will provide metrics for actual savings.
 - 3) End periods will be based on projected risk and potential for depreciation of projects.
- d) How will the timing (payback) of projects be handled?
 - i) Initial preferred projects, through December 2016, would have costs no greater than \$50,000 or a 5 year payback.
 - 1) This preference may be relaxed if proposed projects present substantial short-term benefits, even if cost or payback exceeds the above preference.
 - ii) After this period, the fund will expand limits on payback times, with future projects only requiring –6 -7 year payback times.
 - 1) It will typically be the case that larger projects will have longer payback times, so concern will be given to the size, scope, and cost of proposed projects.
 - iii) Hypothetical Example
 - 1) Project to replace outdated windows with more energy efficient windows.
 - a) Cost of the project is \$10,000 in year 1.
 - b) Est. savings is \$3,500 per year – estimated payback time = $\$10,000/\$3,500 = 2.8$ years.
 - 2) The project will include risk (or depreciation). In order to account for this, payback times will be extended.
 - a) If we estimate a 3 year payback, the actual payback period will be extended into the 5th year to account for potential risk/depreciation. (see Appendix B)

Appendix A: Definitions

⁴ It is the recommendation of the Green Revolving Fund Committee that initial GRF seed money be considered for use to install sub-metering on the major buildings on campus.

1) Definitions:

- e) Energy Conservation
 - i) Reducing or going without a service to save energy
 - 1) Example: Turning off a light
- f) Energy Efficiency
 - i) Using less energy to provide the same products or service (*E.O. Lawrence Berkeley National Laboratory*)
 - 1) Example: Replacing conventional light bulbs with LED lights
- g) Renewable Energy
 - i) The term renewable energy generally refers to electricity supplied from renewable energy sources, such as wind and solar power, geothermal, and various forms of biomass. These energy sources are considered renewable sources because their fuel sources are continuously replenished (*Green Power Partnership Glossary*).
- h) Payback- The length of time required to repay the project's financial investment.
 - i) $\text{Payback period (years)} = \text{Upfront cost of project} / \text{annual project dollar savings}$.

Appendix B: Green Revolving Fund Example with discounting

Project to replace old windows with newer and more energy efficient windows:

Initial cost = \$10,000

Estimated Savings:

Savings (Optimistic): Year1=0; Year2=3500; Year3=3500; Year4=3500; Year5=3000; Year6=1500

Savings (Pessimistic): Year1=0; Year2=3000; Year3=3000; Year4=2750; Year5=2750; Year6=1000

Discount Rate = 4%

	year1	year2	year3	year4	year5	year6	Total
Cost	10,000	0	0	0	0	0	\$10,000
PV of Savings (optimistic)	0	3,362.99	3,231.34	3,104.84	2,557.11	1,228.50	\$13,484
Payback (optimistic)	0	3,300	3,200	3,100	2,500	1,200	\$13,300
PV of Savings (pessimistic)	0	2,882.56	2,769.72	2,439.52	2,344.02	819.00	\$11,254.82
Payback (pessimistic)	0	2,800	2,700	2,400	2,300	800.00	\$11,000

	Benefits - Costs (after 5 years)	Return on Investment
GRF payback (optimistic)	\$13,300 - 10,000 = 3,300	\$3,300/10,000 = 0.33 = 33%
GRF payback (pessimistic)	\$11,000 - 10,000 = 1,000	\$1,000/10,000 = 0.10 = 10%

AQUINAS COLLEGE GREEN REVOLVING FUND

Aquinas College Green Revolving Fund Proposal Form

If you are a current student, faculty, or staff member at Aquinas College, the Green Revolving Fund (GRF) committee invites you to submit proposals for energy enhancing projects on campus. See below for proposal criteria before submitting your project idea.

Criteria for proposals:

- A. Proposal(s) must be submitted by current student, staff, or faculty member.
- B. Proposal(s) must have a clear and measurable impact on energy conservation, energy efficiency, or renewable energy on campus.
- C. Preferred project(s) will not exceed \$50,000 in cost or a 5 year payback.
- D. On-site renewables, or energy generated on Aquinas' campus, is generally preferred to decrease or eliminate energy loss from transmission. However, proposals related to the purchase of renewable energy generated off-campus will also be reviewed and considered.

Name: _____ Phone: _____ Email: _____

Your association with Aquinas College (*circle one*): Student / Faculty / Staff

Project Proposal(s):

How will this reduce energy usage and/or increase renewable energy on campus?

Estimated Costs (*optional*):

Estimated Savings (*optional*):

Any Additional Comments (*optional*):