IPRO 328
CHURCH GREEN
A NEW COLOR FOR A NEW WORLD

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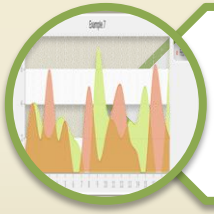
Overview

Introduction

Team Development



Research and Development

Achievements and Outlook

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Introduction

“If you light a lamp for somebody, it will also brighten your path.”
-Buddhist Proverb

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Clean Urban Energy

Affordable solution for limited resource churches

Website as a multi-tasking tool

Old St. Mary's Church and School

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Team development

“The whole is greater than the sum of the parts.”

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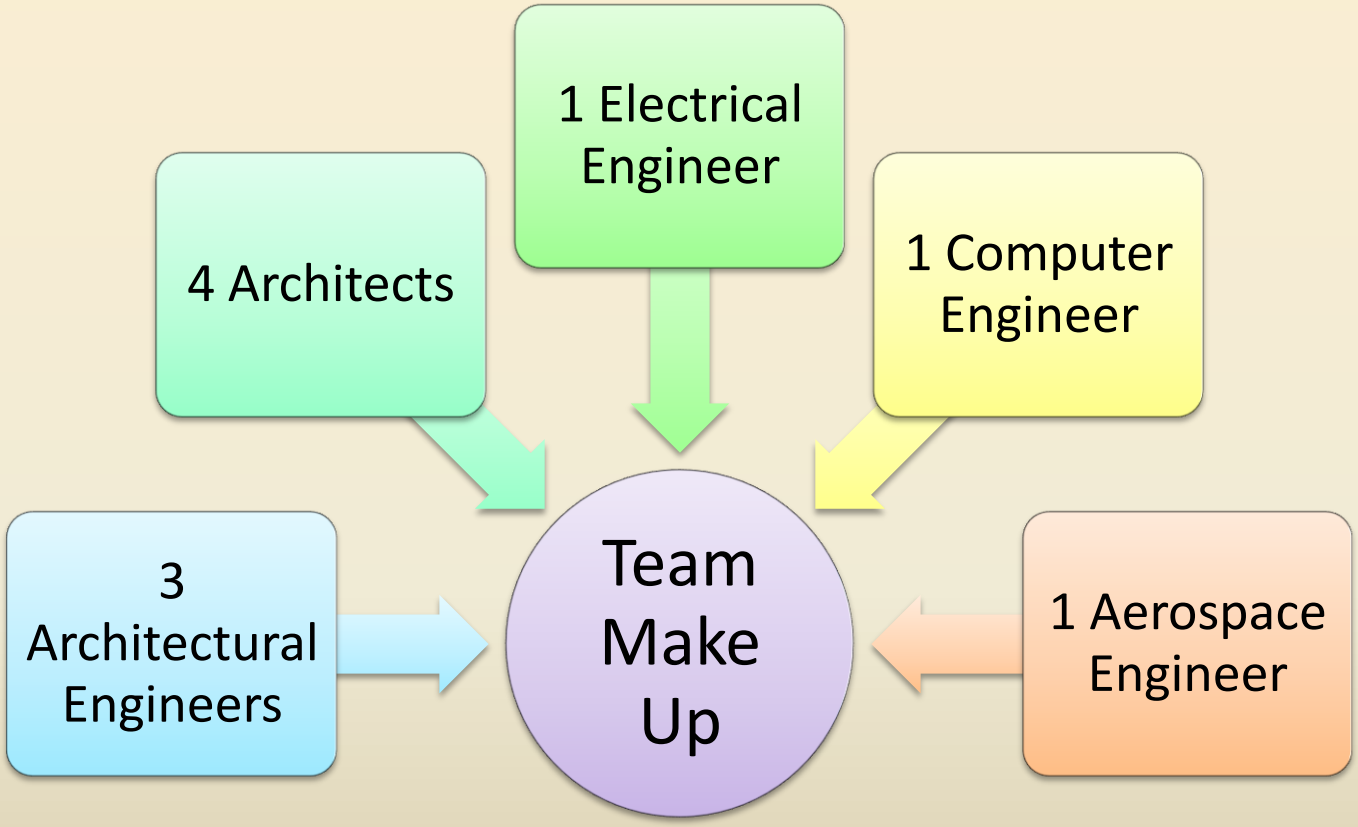
SYNERGIZING



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Synergizing

Name	Strengths	Needs
Patrick Bauer	Good organization skills, some experience using Microsoft office and good communication skills	To develop an understanding of websites
Emily Chen	Leadership and commitment	To develop better research skills
Shaun Doran	Electrical engineering skills	Team skills
Max Morgenthaler	Knowledge of building construction and HVAC and an interest in improving energy efficiency in existing buildings.	Assessment of building construction and systems to determine ways to improve efficiency. Working with energy monitoring equipment and energy professionals. Marketing the idea to those with little knowledge of the issues.
Beth Nielsen	Organization and communication	To develop better website design skills
Jongpil Park	Valuable skills in many necessary computer software programs	To develop research skills
Priyanka Patel	Patience	Learn more about technologies
Saagar Patel	Leadership skills and familiar with Comcheck and HVAC Loader modeling systems. I am also very comfortable with AutoCAD, Lighting modeling, and EXCEL.	Have a good team experience
Dennis Radtke	Experience that comes with my age	Uncertain
Phillip Soderling	Computer engineering skills	To develop team work skills

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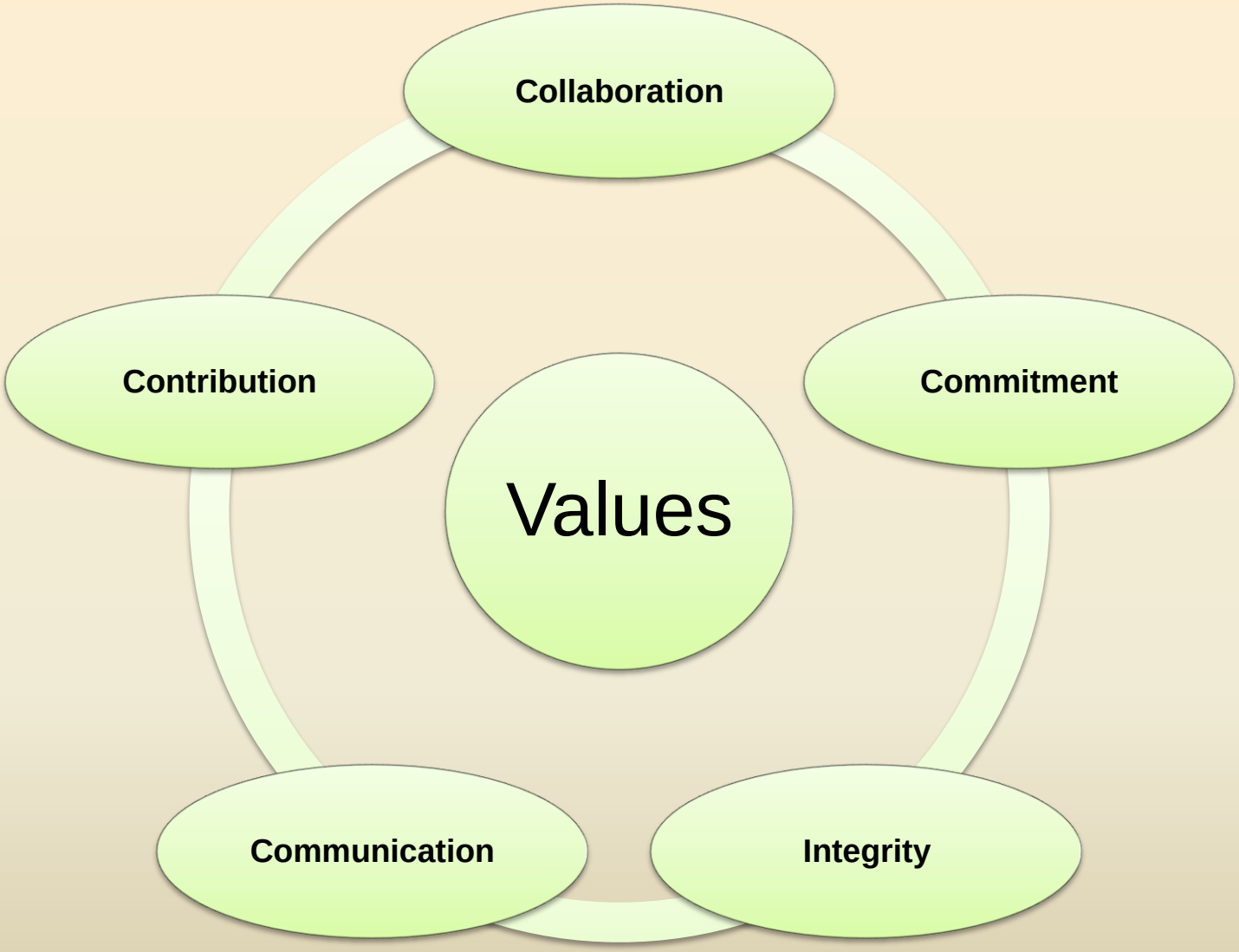

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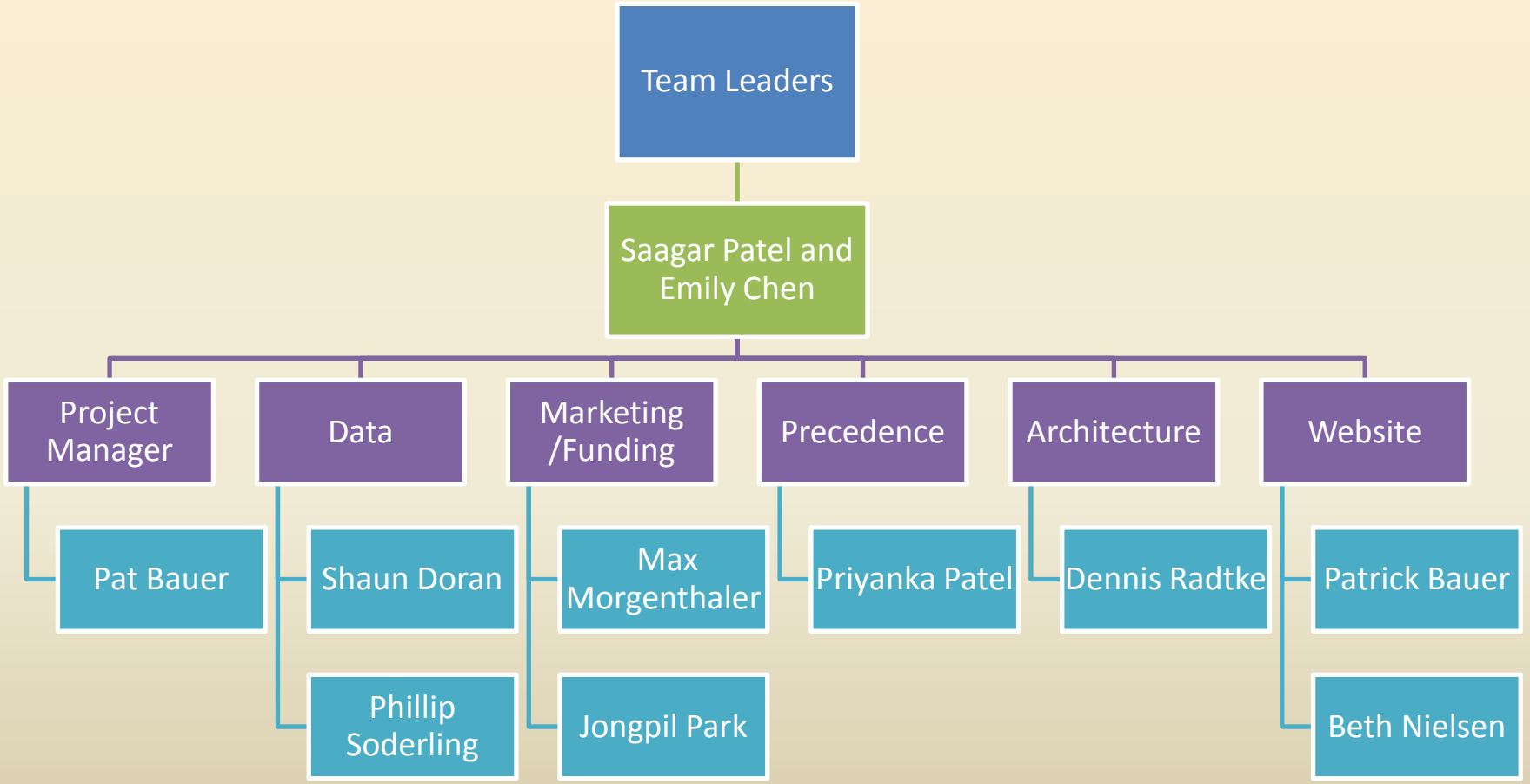
Objectives

- Set up a data monitoring system
- Design a promotional and functional website
- Research funding options for energy efficiency programs
- Research past energy usage improvements
- Create a metric that can be used for possible candidates
- Identify easy, low-cost solutions for facilities

TEAMWORK



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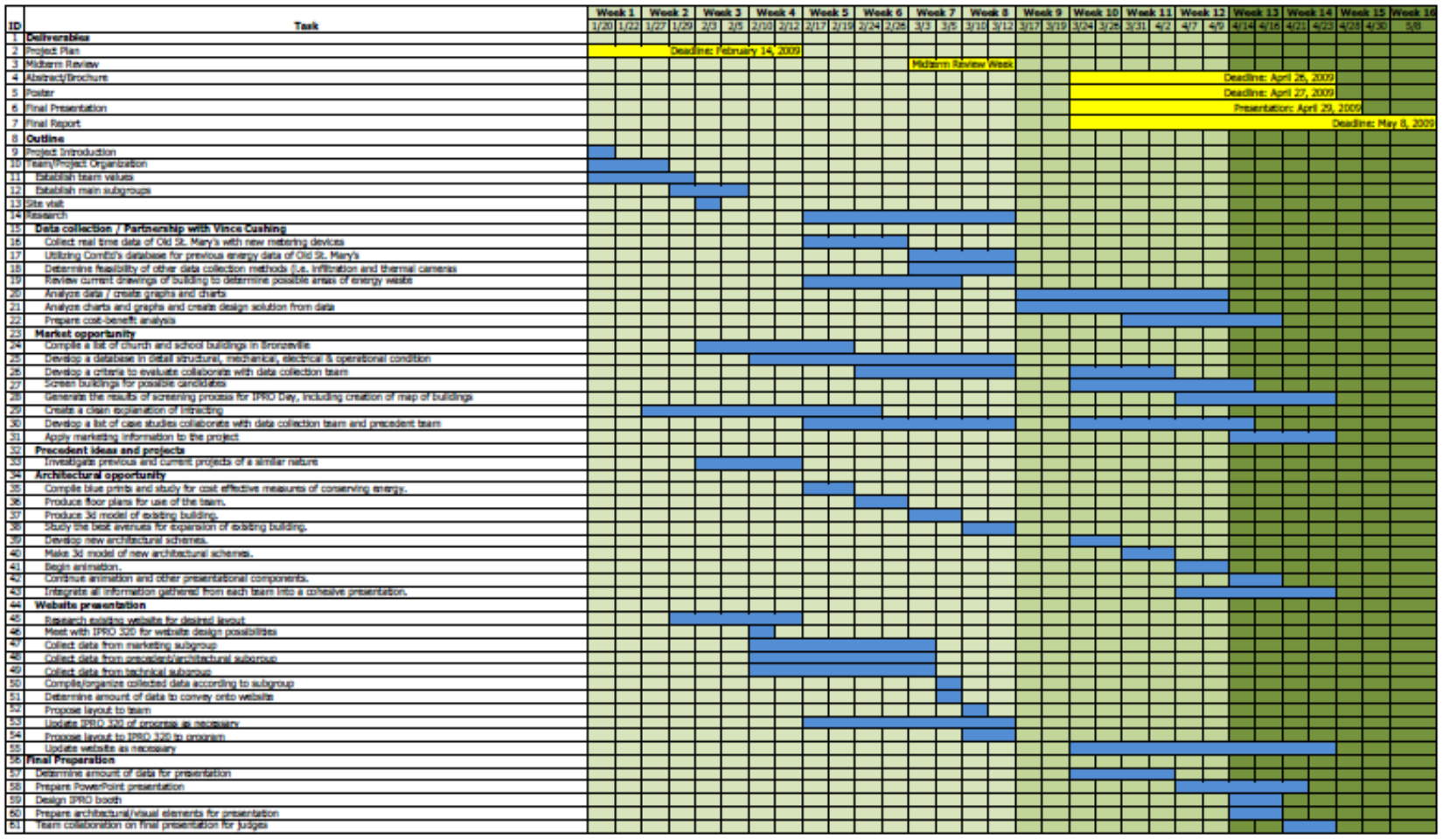
SYNERGIZING



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Research and development

“If we knew what we were doing, it wouldn't be called research"

- Albert Einstein

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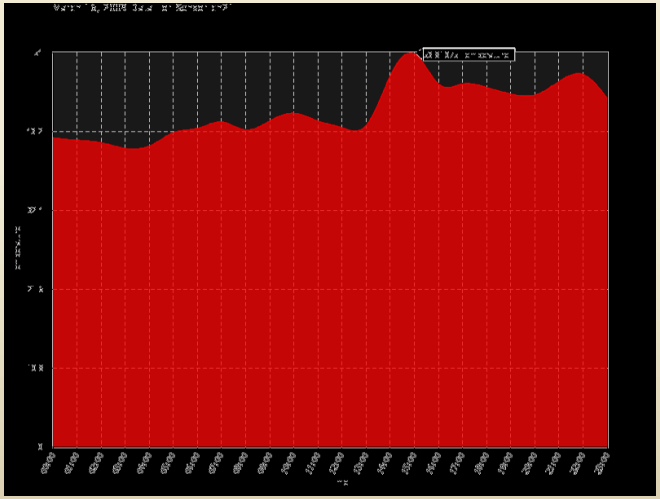
Data sub team

Collected and analyzed data gathered from the meters

14 Meters were installed; updated data to a central server

Developed a free program to analyze the data

2 Month delay in meter installation



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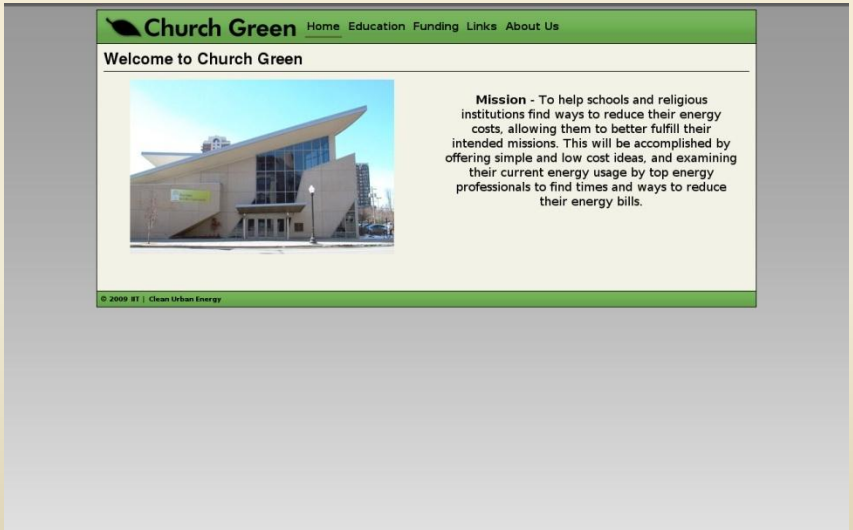
Website Sub Team

Functions as a One stop shop

Many considered as the targeted audience

It is a Multi-tasking tool

Collaboration with IPRO 320



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Website: Simple Solutions

Church Green Home Education Funding Links About Us

Education

10 Tips for Being Green

1. Programmable Thermostats installed in good locations. This will allow for several ways to save energy. Installing them in places that are helpful for telling the temperature of the entire building will not allow some rooms too become to hot, and others too cold. Being programmable will allow for the temperature to be changed for the different occupations of the building.
2. Perform routine maintenance on heating and cooling systems. Change the filters and perform tune-ups when necessary. This will make everything run at top efficiency, so there will be no wasted energy.
3. Make sure the entire building is sealed. Any spots where air can enter or escape will cause extra energy to be used either to heat or cool the building. Insulation is a great way to do this, as it will keep the building at the desired temperature and seal it.
4. Use energy efficient light bulbs where possible. This will save money on the lighting of the building, and is easy to do and maintain.
5. Remember to turn off lights and appliances when not in use. Then energy will not be wasted by devices not in use.
6. Check the ventilation system to make sure it is running properly. Blockages, damages, or leaks will make for wasted energy and cause the system to run longer and draw more power than it should.
7. Make sure appliances are running at top performance. Appliances that are drawing too much power to do their jobs or not running at peak efficiency wasted energy.
8. Use energy efficient or low energy devices to cool or heat buildings where possible.
9. Watch your water usage. Water requires a great deal of energy to heat, so the less hot water used, the less energy used.
10. Use as many low energy or energy efficient methods to heat or cool buildings. The sun is a great way to heat a building, and using curtains to keep the sun out is a great way to keep a building cool.

Map of Bronzeville Schools and Churches

View Bronzeville Schools and Churches in a larger map

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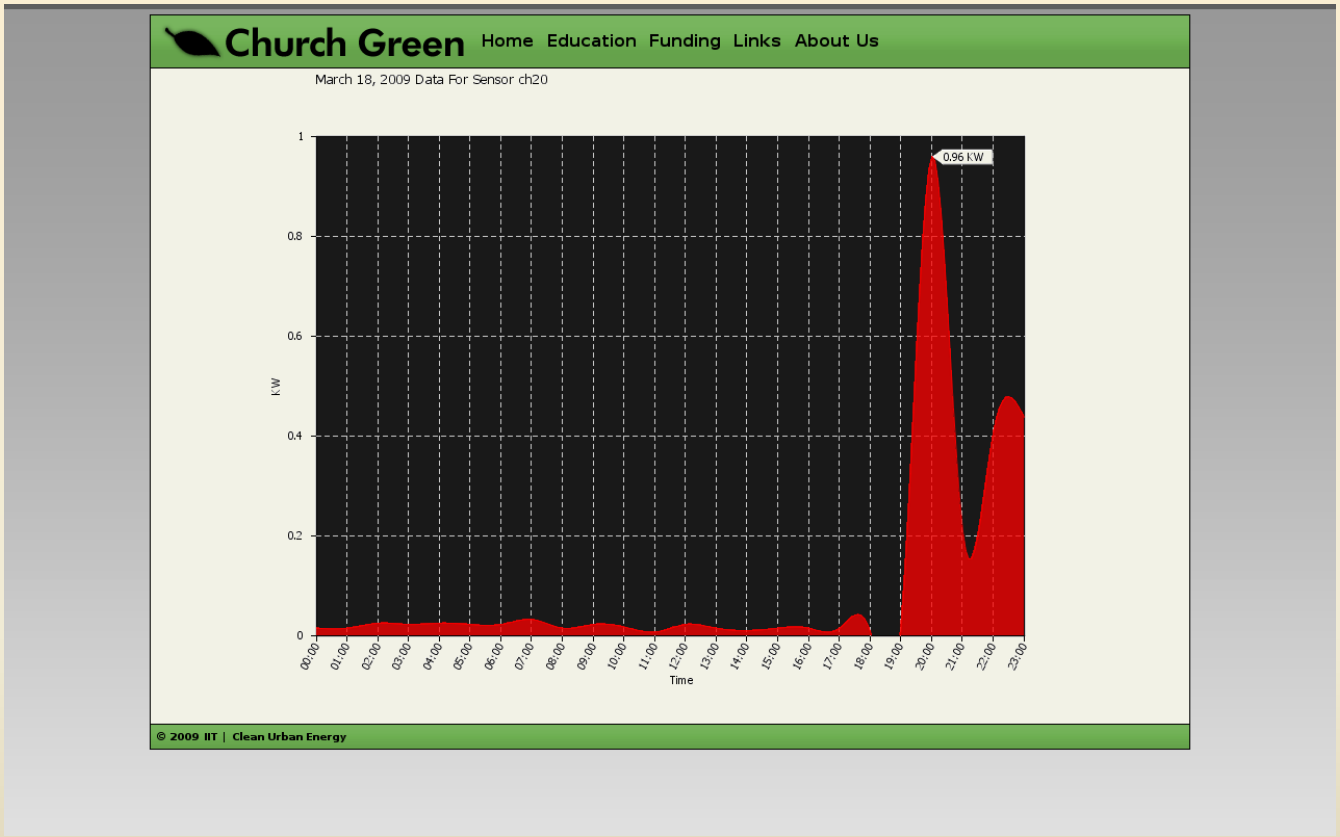
Website: Data Analysis



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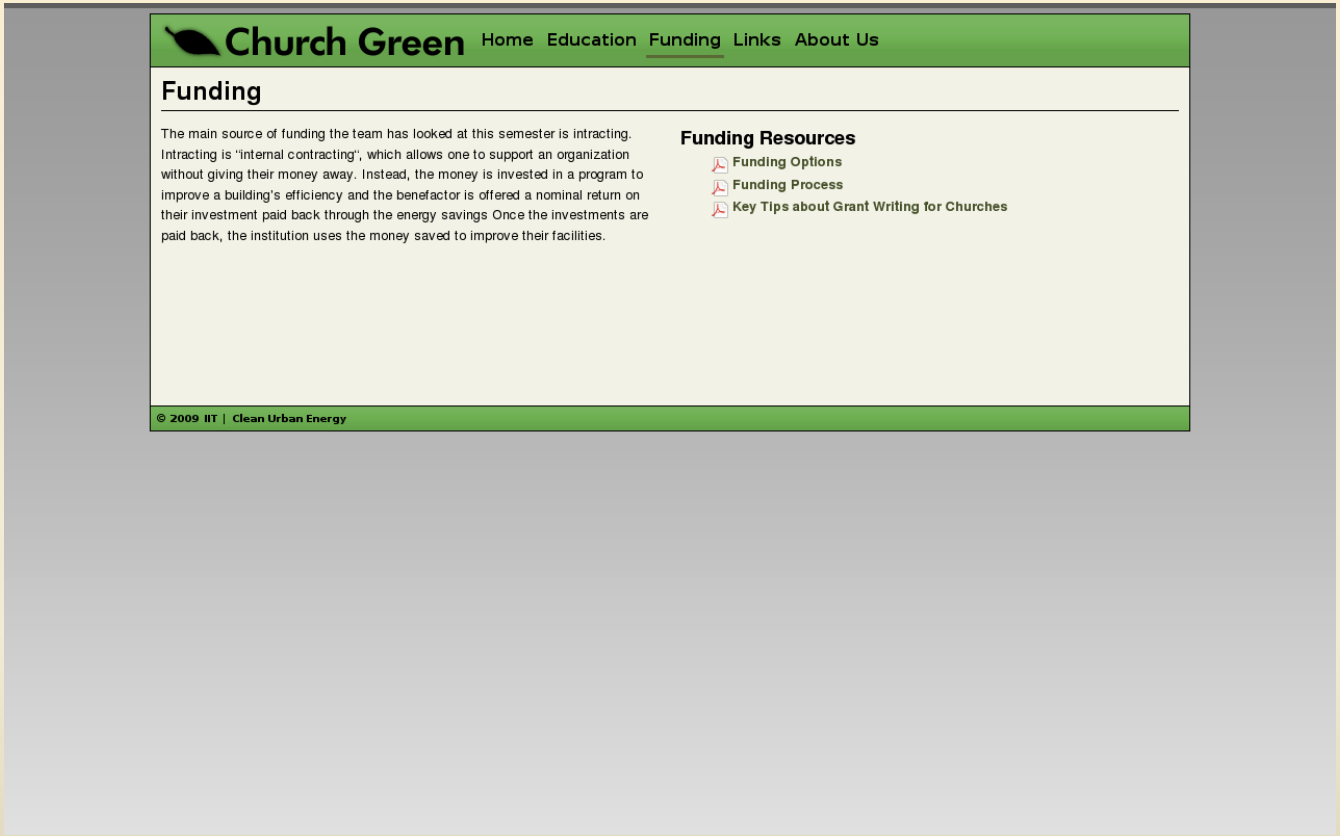
Website: Funding



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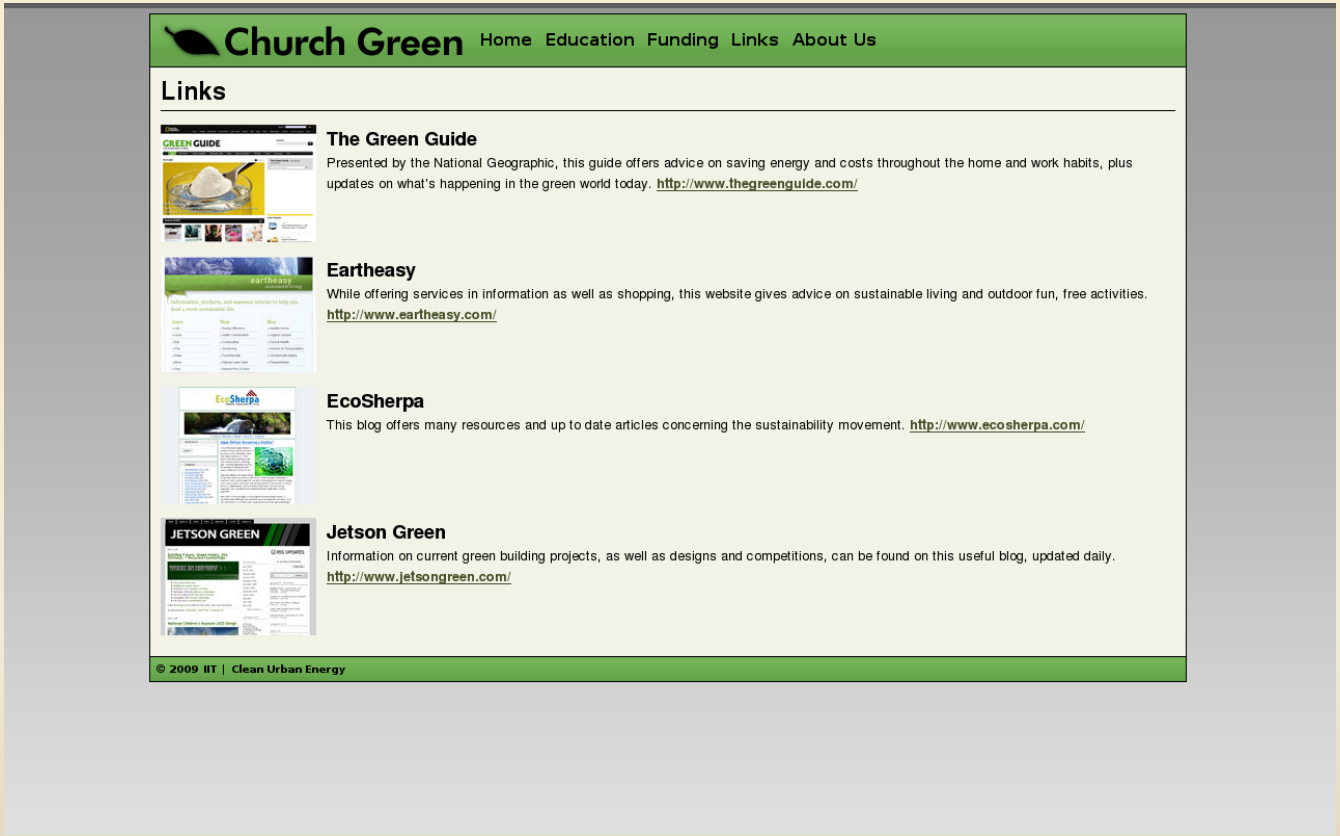
Website: Networking



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Precedence sub team

Search for the ideal building

Applicable Energy efficient systems

Feasibility study for advanced technologies

Realization to use more pragmatic approaches

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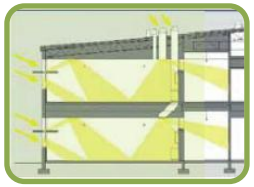
Simple solutions



Light Shelves

- Reflect light to maximize day lighting a space
- More sunlight=less sunlight

Insulating Pipes

- Amount of time needed to heat water is lessened
- Over 10,000 gal/yr wasted waiting for water to warm up

Dimmer Switch

- Control amount of light used at specific times
- Dimming light 10% doubles life of a bulb

Use of Light Colors

- Absorb less heat ; example: Cool Roofs
- Less A/C

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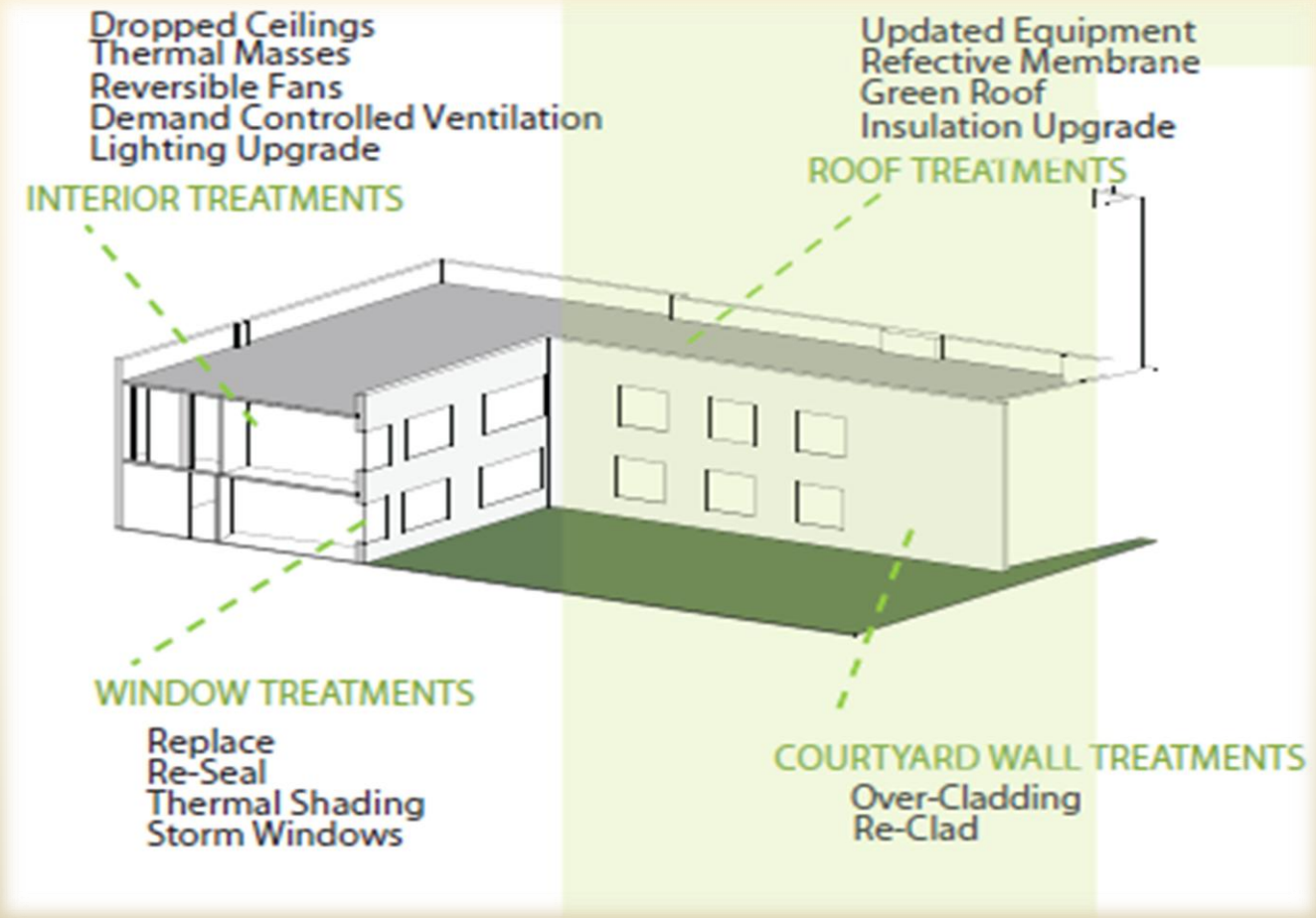
Solutions for old st. Mary's



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Marketing sub team

- Surveys sent to potential church candidates
- Five have already responded

Survey from Schools and Churches around Bronzeville Area

Marketing Opportunity Team Research

(Last update [illegible])

ID	CHURCH NAME	PICTURE	FUTURE PLAN	YEAR OF CONST.	FREQUENCY OF OCCUPANCY	TYPE OF CONST.	TYPE OF WINDOW	TYPE OF HEATING SYSTEM	AIR CONDITIONING	TYPE OF LIGHTING	NO. OF ELECTRIC METERS	ATTEMPT ON REDUCING ENERGY USE	REMARKS
[illegible]	St. Barbara church [illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	No	Mercury Vapor	One for each building on the parish grounds	No	[illegible]
[illegible]	St. Barbara school [illegible]			[illegible]	[illegible]	Brick	Aluminum Windows	[illegible]	No	[illegible]		Some Modifications	
[illegible]	[illegible]		[illegible]		Daily	[illegible]	[illegible]	[illegible]	Yes	Fluorescent	One	[illegible]	
[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	Brick	[illegible]	[illegible]	Window units and Central Units	Fluorescent	[illegible]	[illegible]	

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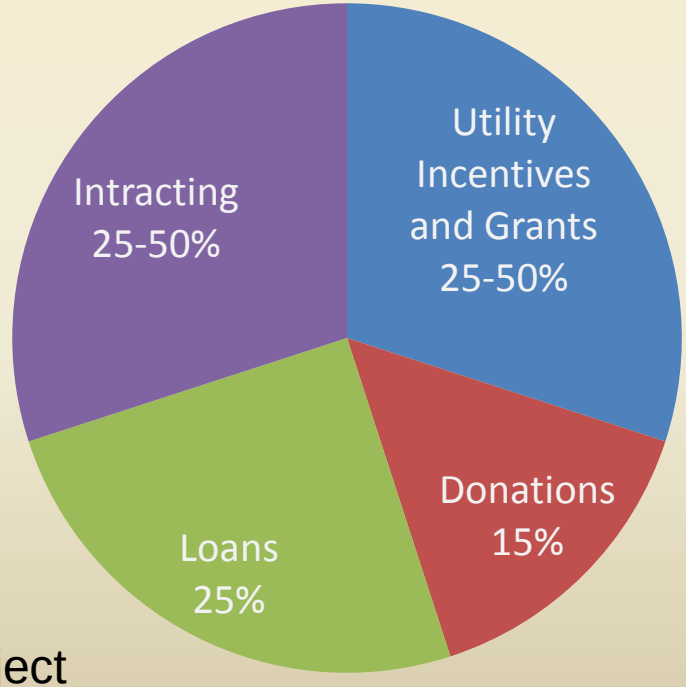
Funding sub team

25-50% of a Project can be funded with:

- Utility Incentives (ie: ComEd's Smart Ideas for Your Business)
- Grant Programs (ie: The Illinois Clean Energy Community Foundation)

The Remainder funds would be:

- Bank Loans (ShoreBank)
- Pure Donations
- …Intracting



*The ranges will vary with project

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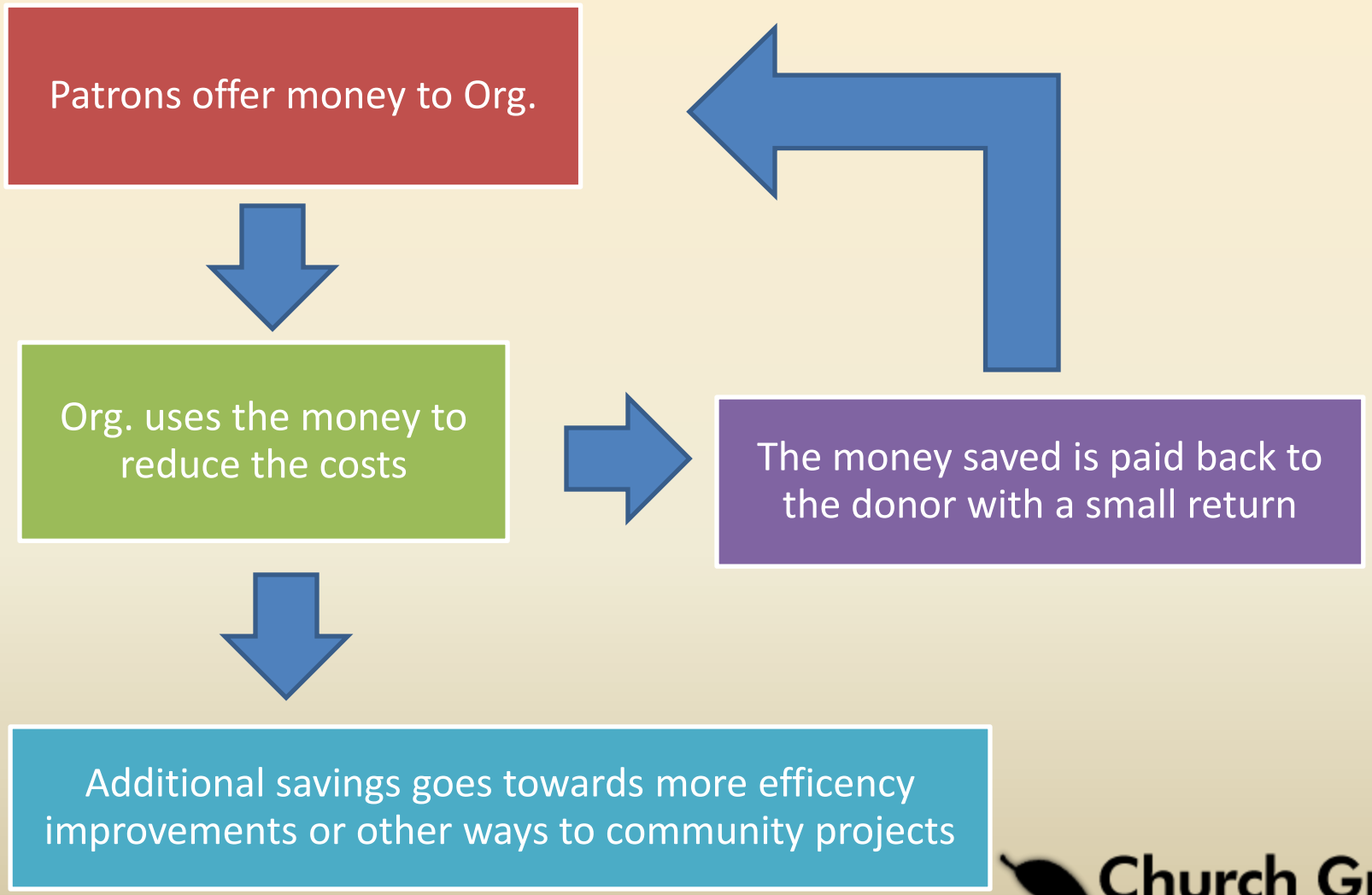
Intracting



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Achievements and outlook

"The will to win, the desire to succeed, the urge to reach your full potential… these are the keys that will unlock the door to personal excellence."

- Eddie Robinson

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Accomplishments

- Meters were installed and analysis program developed
- Designed a promotional and functional website
- Developed a list of funding options
- Generated a list of low cost solutions for churches
- Identified candidates for future IPROs

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Outlook: training

Students currently have no background on energy

Trained on equipment and gain field experience

Utilize energy professionals as trainers; use IIT buildings as “labs”

Provide technical and professional training to students for energy audits

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Outlook: stakeholders

Established a list of Stakeholders

Identify key proponents and opponents

Must find supporters within that group

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Conclusion

More to these projects than installing technologies

Must remember the Human Element

Positive responses to the project

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Acknowledgements

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Office of Community Outreach
IPRO 320
IPRO Office

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Questions

“Nobody made a greater mistake than he who did nothing because he could do only a little.”

-Edmund Burke

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