

I PRO 328

CHURCH GREEN

A NEW COLOR FOR A NEW WORLD

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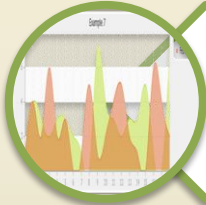
Overview



Introduction



Team Development



Research and Development



Achievements and Outlook

Introduction

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

-Buddhist Proverb

Clean Urban Energy

Affordable solution for limited resource churches

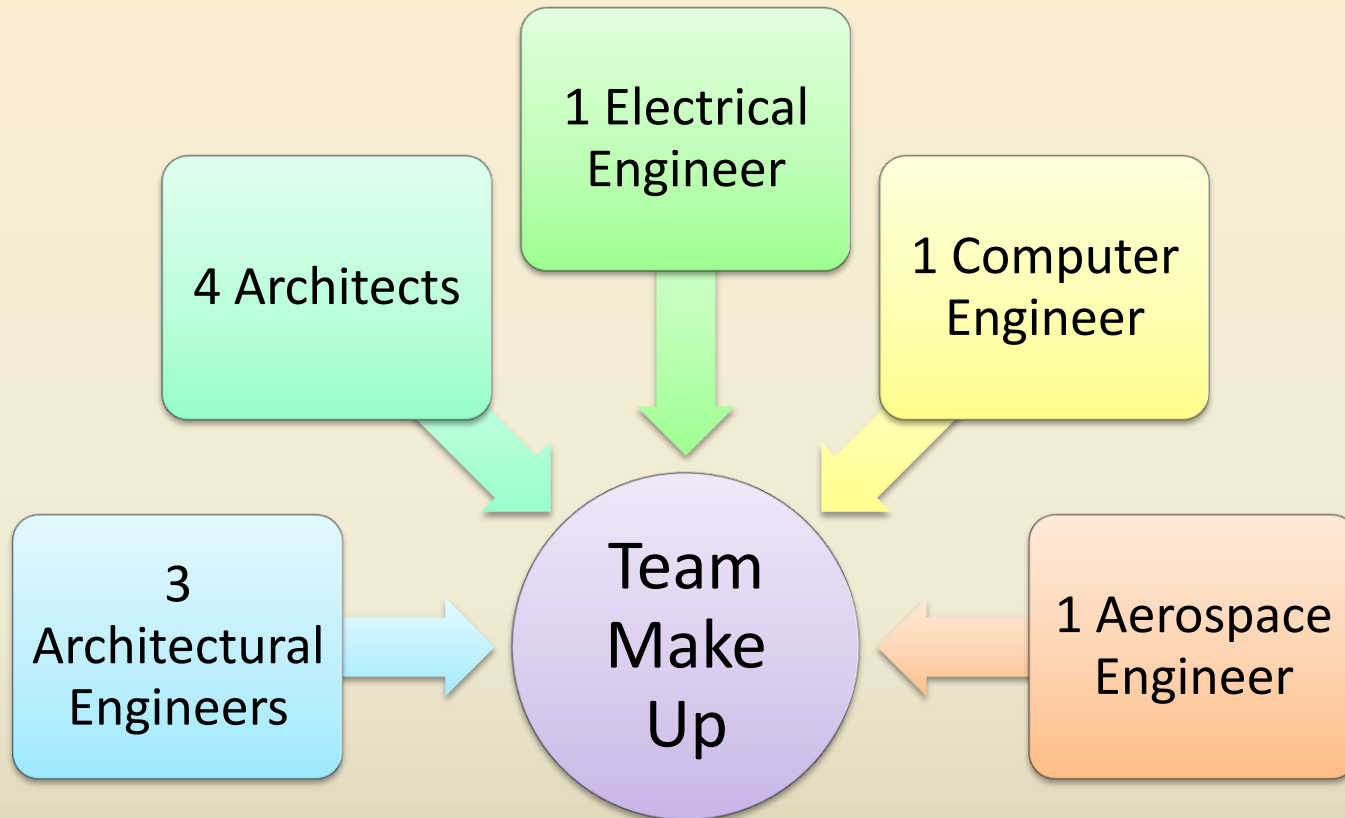
Website as a multi-tasking tool

Old St. Mary's Church and School

Team development

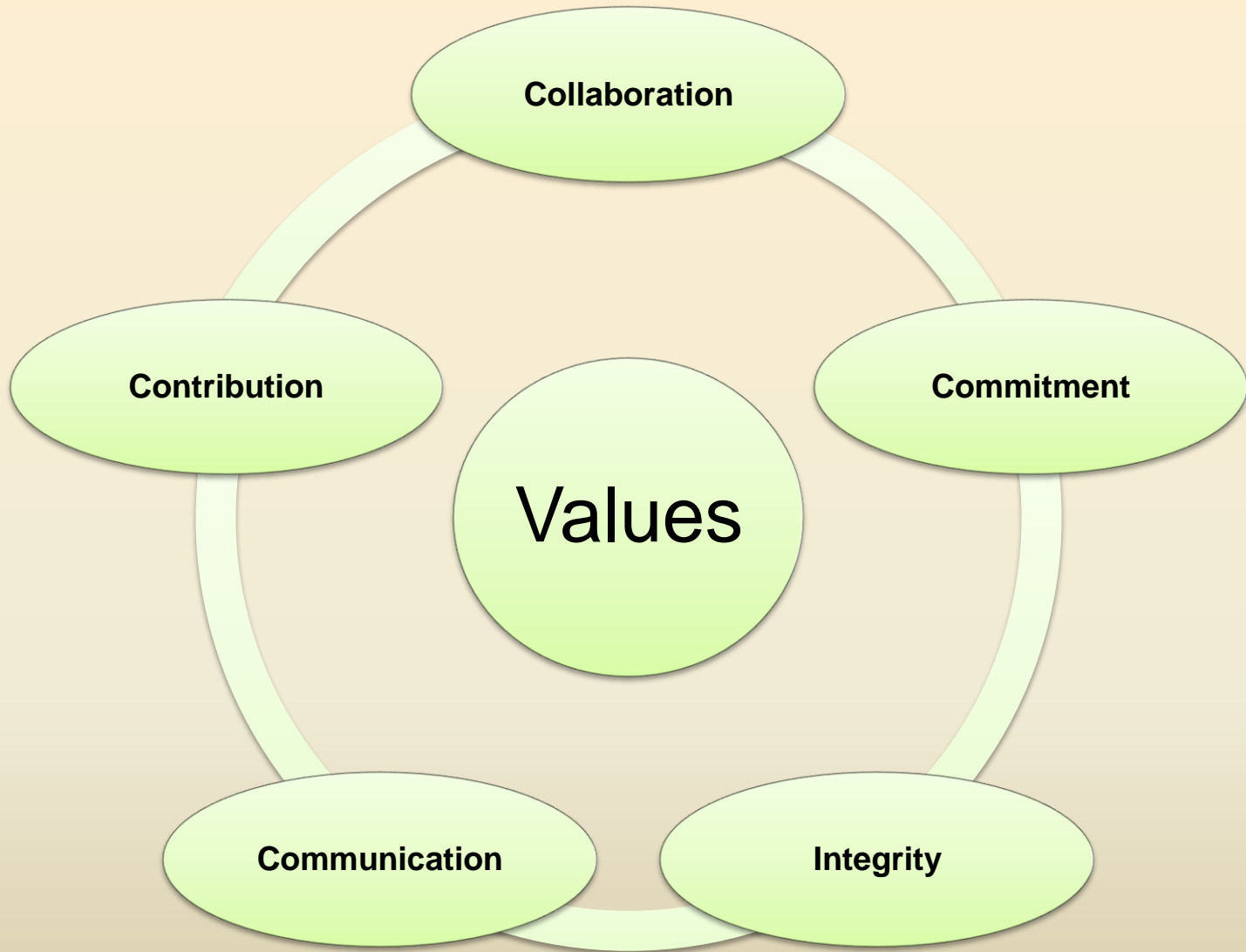
“The whole is greater than the sum of the parts.”

SYNERGIZING



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



Objectives

Set up a data monitoring system

Design a promotional and functional website

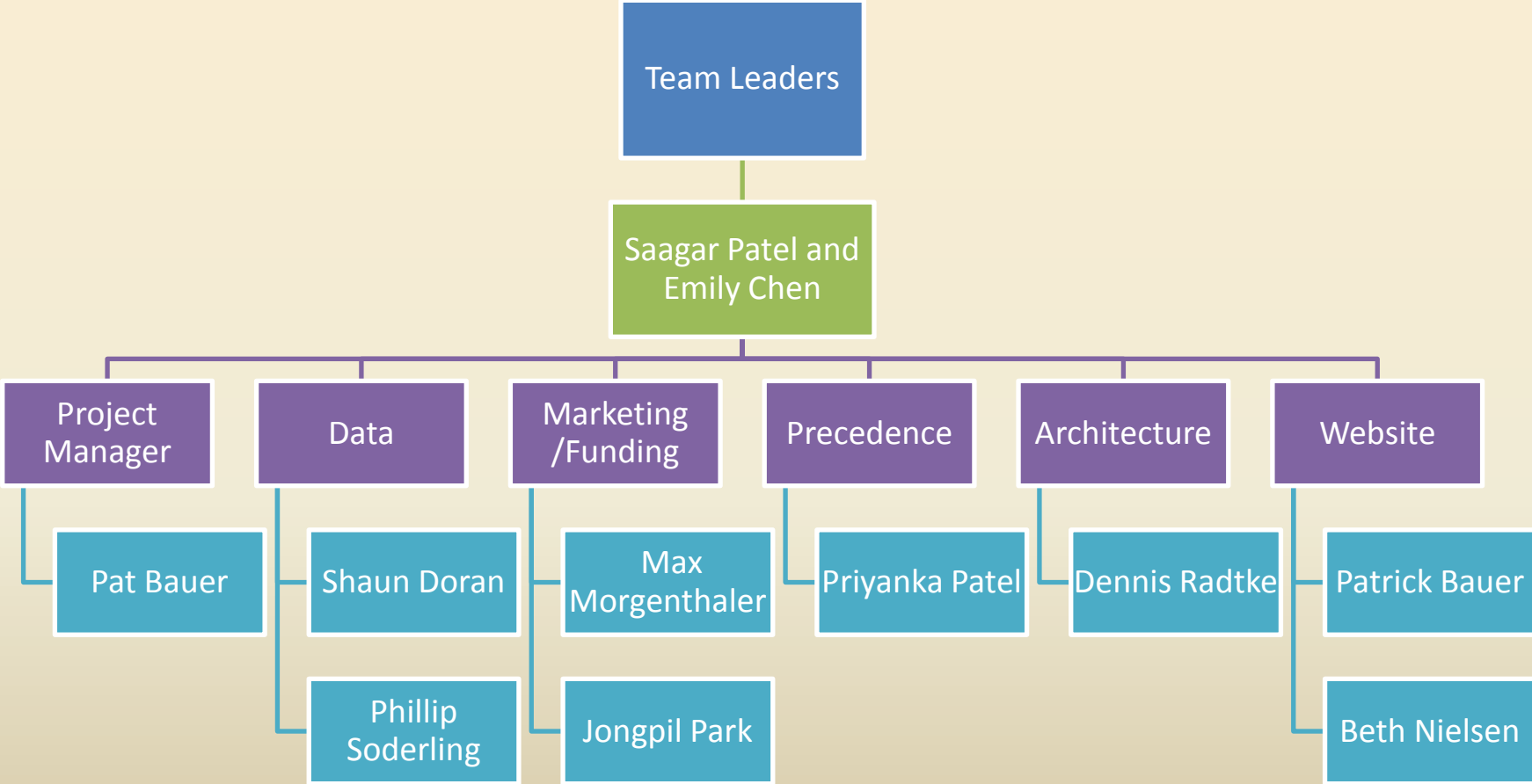
Research funding options for energy efficiency programs

Research past energy usage improvements

Create a metric that can be used for possible candidates

Identify easy, low-cost solutions for facilities

TEAMWORK



Research and development

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

- Albert Einstein

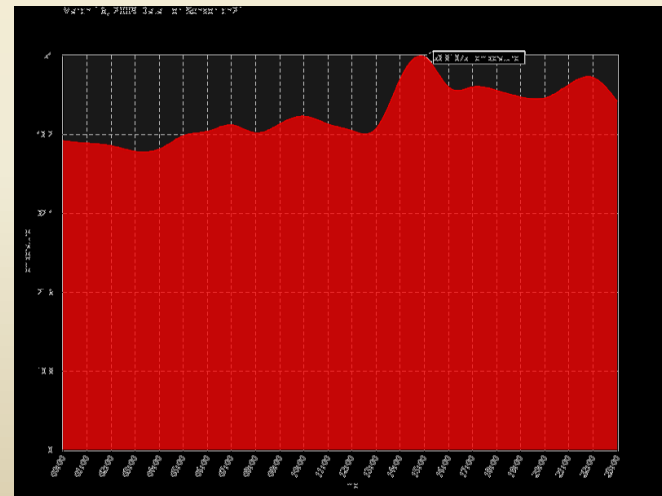
Data sub team

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



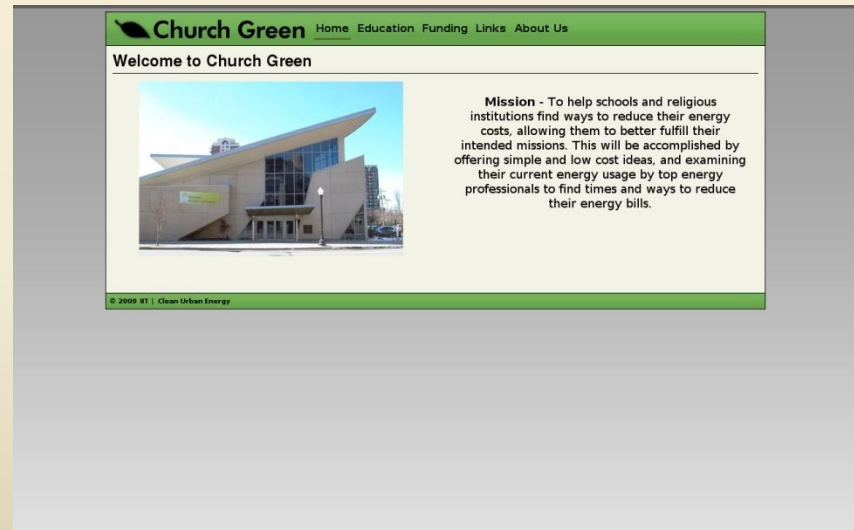
Website Sub Team

Functions as a One stop shop

Many considered as the targeted audience

It is a Multi-tasking tool

Collaboration with IPRO 320



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

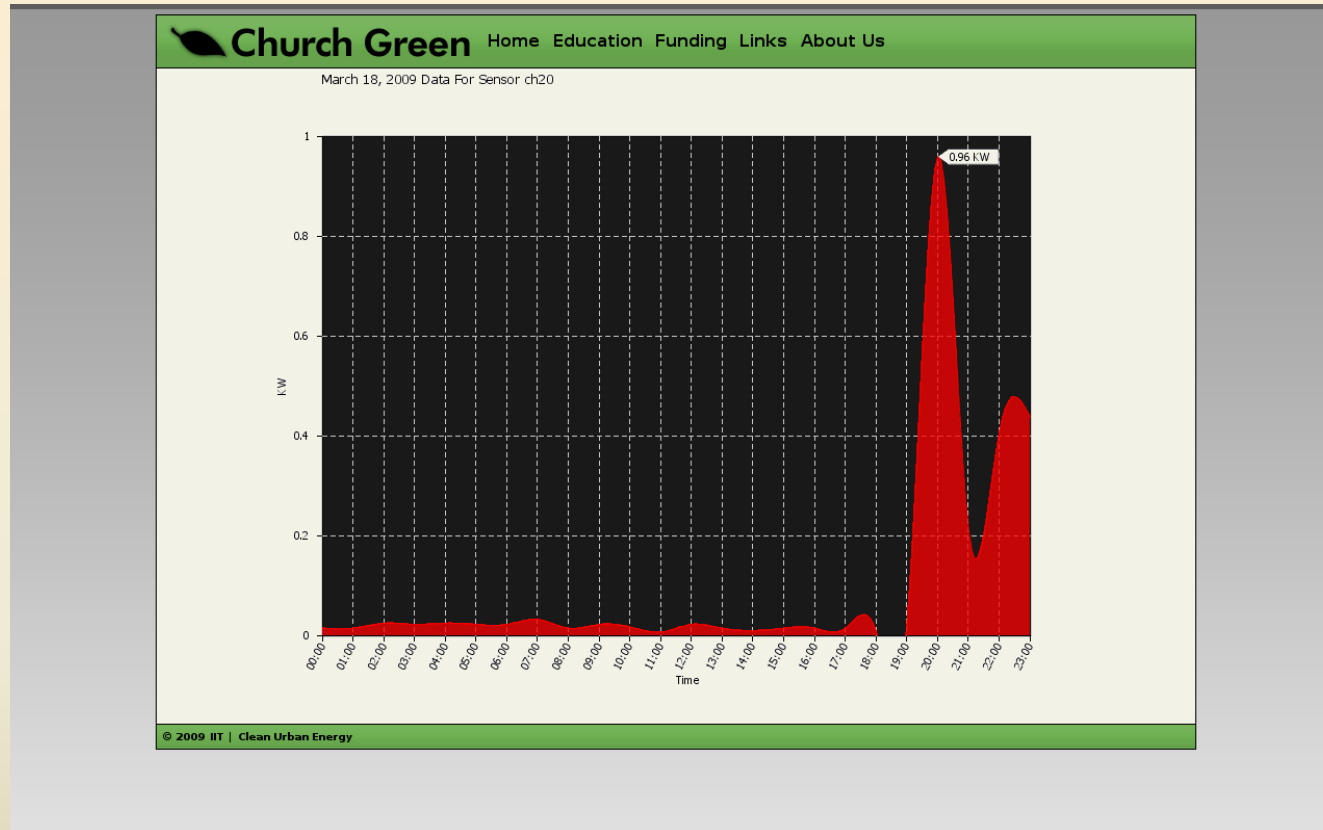


The map shows the Bronzeville neighborhood in Chicago, Illinois, with numerous yellow and blue pins indicating the locations of schools and churches. Major streets like W 31st St, W 39th St, W 47th St, and E 51st St are visible, along with highways 41, 54, and 55. Landmarks such as Cellular Field and Fuller Park are also marked. The map includes a Google logo and copyright information for 2009.

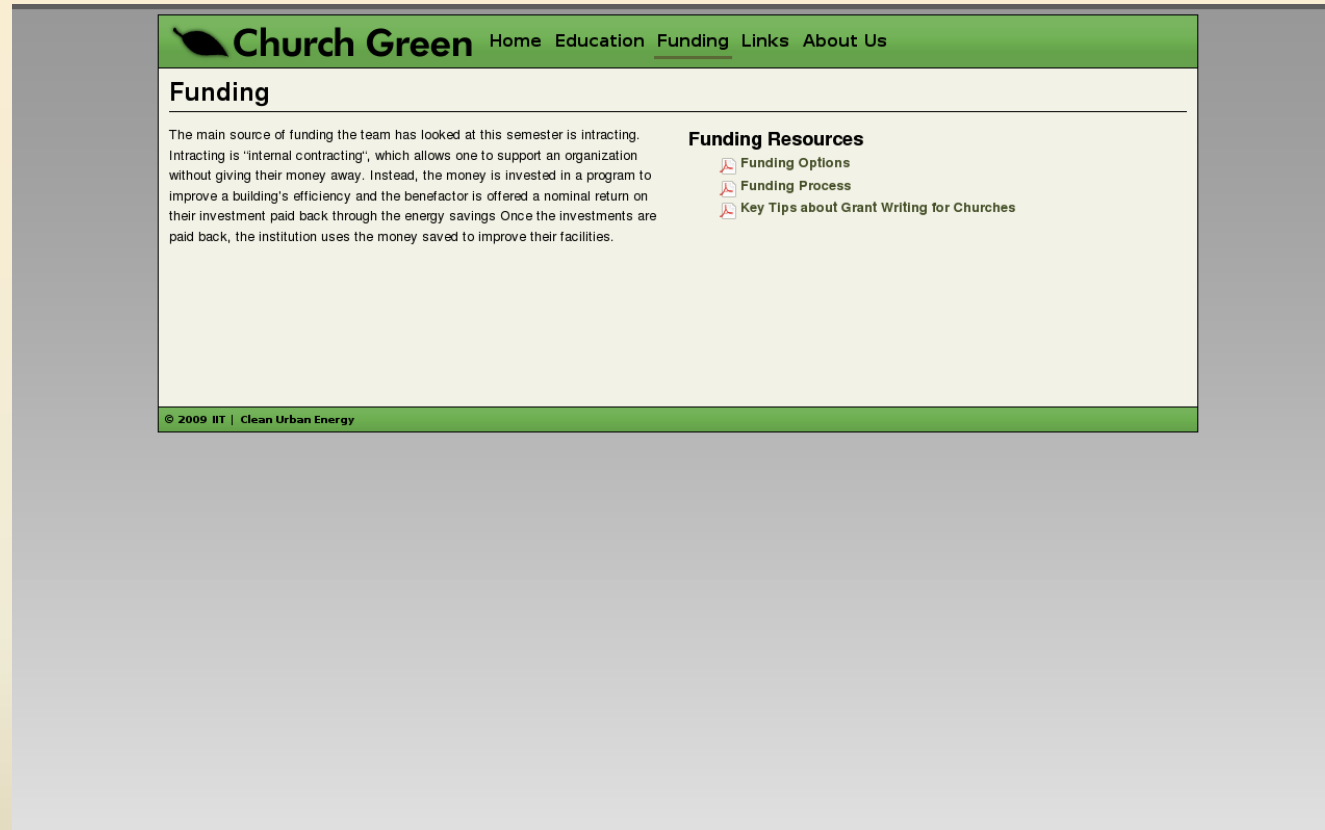
View [Bronzeville Schools and Churches](#) in a larger map

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Website: Data Analysis



Website: Funding






The screenshot shows a website page for "Church Green" with a green header and footer. The main content area is white and features a "Funding" section. The "Funding" section includes a paragraph explaining "intracting" and a "Funding Resources" sidebar with three links: "Funding Options", "Funding Process", and "Key Tips about Grant Writing for Churches".

Church Green Home Education Funding Links About Us

Funding

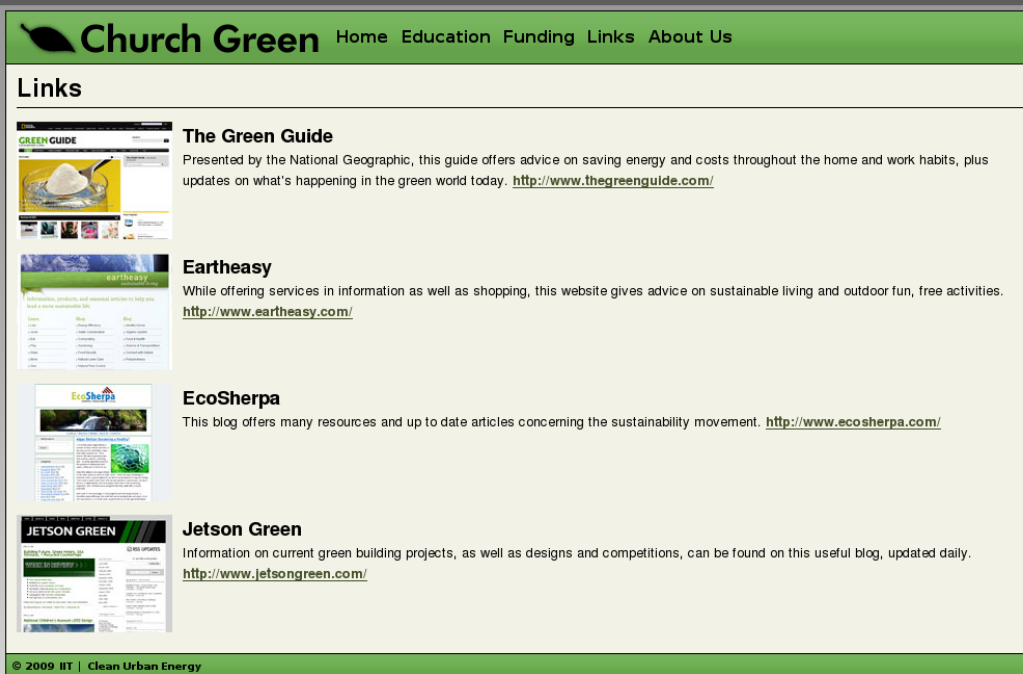
The main source of funding the team has looked at this semester is intracting. Intracting is "internal contracting", which allows one to support an organization without giving their money away. Instead, the money is invested in a program to improve a building's efficiency and the benefactor is offered a nominal return on their investment paid back through the energy savings. Once the investments are paid back, the institution uses the money saved to improve their facilities.

Funding Resources

-  [Funding Options](#)
-  [Funding Process](#)
-  [Key Tips about Grant Writing for Churches](#)

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Website: Networking



Church Green Home Education Funding Links About Us

Links

The Green Guide
Presented by the National Geographic, this guide offers advice on saving energy and costs throughout the home and work habits, plus updates on what's happening in the green world today. <http://www.thegreenguide.com/>

Eartheasy
While offering services in information as well as shopping, this website gives advice on sustainable living and outdoor fun, free activities. <http://www.eartheasy.com/>

EcoSherpa
This blog offers many resources and up to date articles concerning the sustainability movement. <http://www.ecosherpa.com/>

Jetson Green
Information on current green building projects, as well as designs and competitions, can be found on this useful blog, updated daily. <http://www.jetsongreen.com/>

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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



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

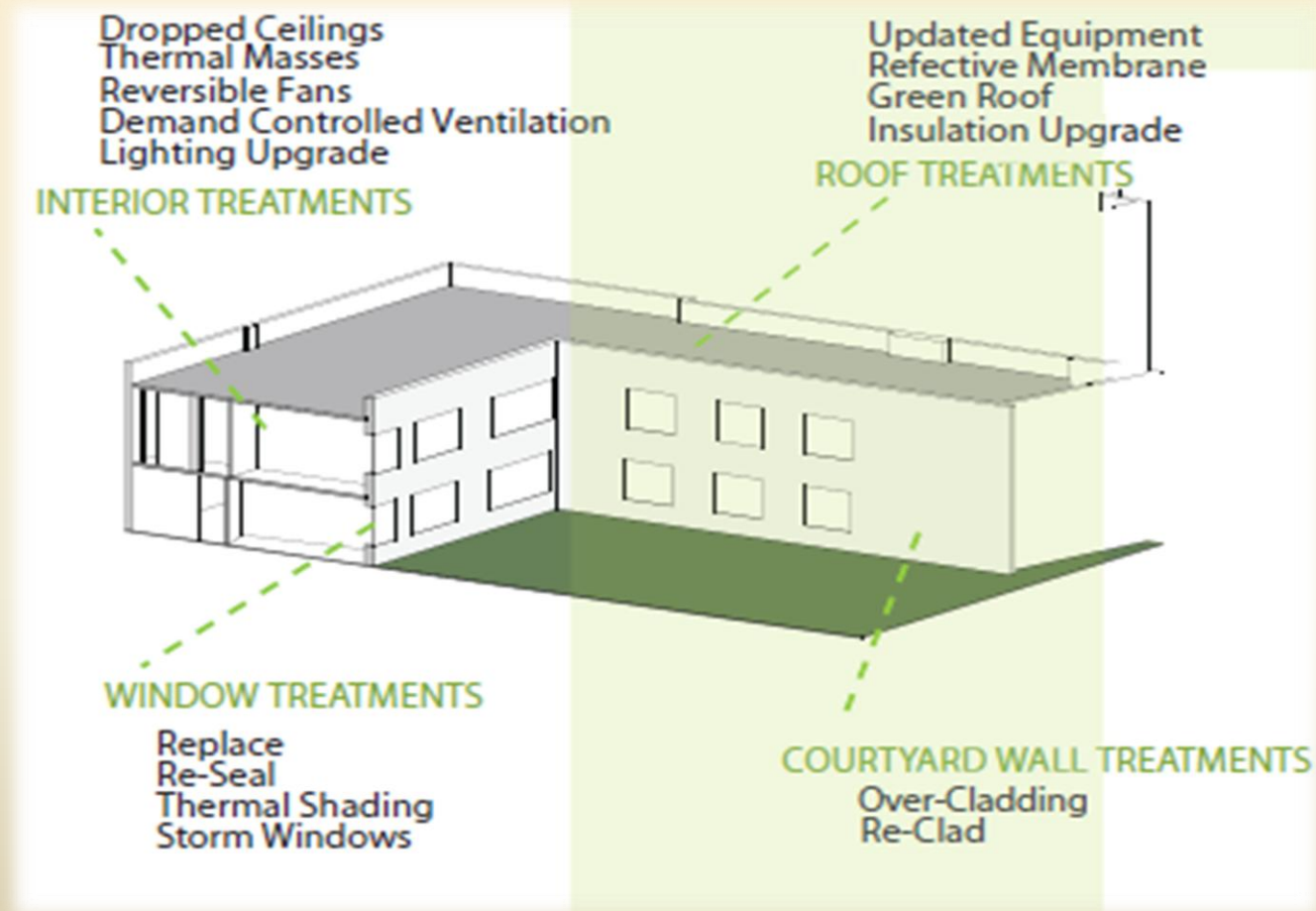
- Control amount of light used at specific times
- Dimming light 10% doubles life of a bulb



Use of Light Colors

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





Solutions for old st. Mary's



Marketing sub team

Surveys sent to potential church candidates

Five have already responded

Survey from Schools and Churches around Bronxville Area													
Marketing Opportunity Team Research													
(Last update: 04/21/21)													
ID	CHURCH NAME	PICTURE	FUTURE PLAN	YEAR OF CONST.	FREQUENCY OF OCCUPANCY	TYPE OF CONST.	TYPE OF WINDOW	TYPE OF HEATING SYSTEM	AIR COND. TOWERS	TYPE OF LIGHTS	N.O. OF ELECTRIC METERS	ATTEMPT ON AROUND ENERGY USE?	REMARKS
008	St. Barbara church Rev. Dennis J. Thomas 300 S. Thayer St Chicago, IL 60608		Reconstruction of Church interior for plans, including the sealing of the interior of the Church for an Cathedral in 2020	1914	1. Daily for liturgy 2. Family Mass 3. Pastoral Meetings	Brick, 20 ft. stone, No radiating foundation	Random Glass with leaded panelling on the outside	Steam heat, from low pressure boilers which heat the school, gym, and church. Boilers in a separate building from church	No	Mercury Vapor	One for each building on the parish grounds	No	1. Church scores tend to be outside 2. There are heating bills
009	St. Barbara school 300 S. Thayer St. Chicago, IL 60608			1910	1. Monday-Friday during school year 2. Weekends events	Brick	Random Windows		No	Incandescent		Energy Modifications	
001	St. Ann's Catholic Church Rev. Robert Jones 3075 S. Halsted Ave Chicago, IL 60608		Full Renovation (2022). General renovation of interior and exterior of 372,000 sq. ft. church. Renovation and reconstruction of educational facility to include three classrooms - 2000. Home of Police gas light case		Daily	Brick & Stone frame	Random Architectural	Water Hot Water & Forced Air	Yes	Fluorescent	One	Building Energy Audit Most of our energy reduction projects have been in place for some time. Reduced temps in 7 rooms areas, reduced lighting during off-peak heating and cooling etc.	
002	St. Elizabeth Parish School St. Elizabeth Andrew 307 S. 4th Street Chicago IL 60608		Renovation of the entire school building to include a new gymnasium and a new school		Daily - 24/24	Brick	Random, single paned	Various gas, steam, forced air hot water	Water tower and Central Units	Fluorescent	Around 8	Energy audit 10 years ago	

Funding sub team

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

Utility Incentives (ie: ComEd's Smart Ideas for Your Business)

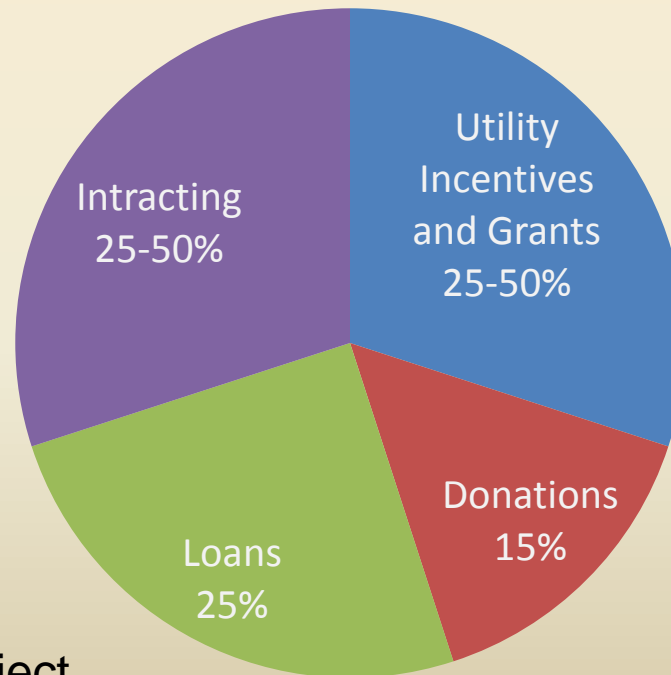
Grant Programs (ie: The Illinois Clean Energy Community Foundation)

The Remainder funds would be:

Bank Loans (ShoreBank)

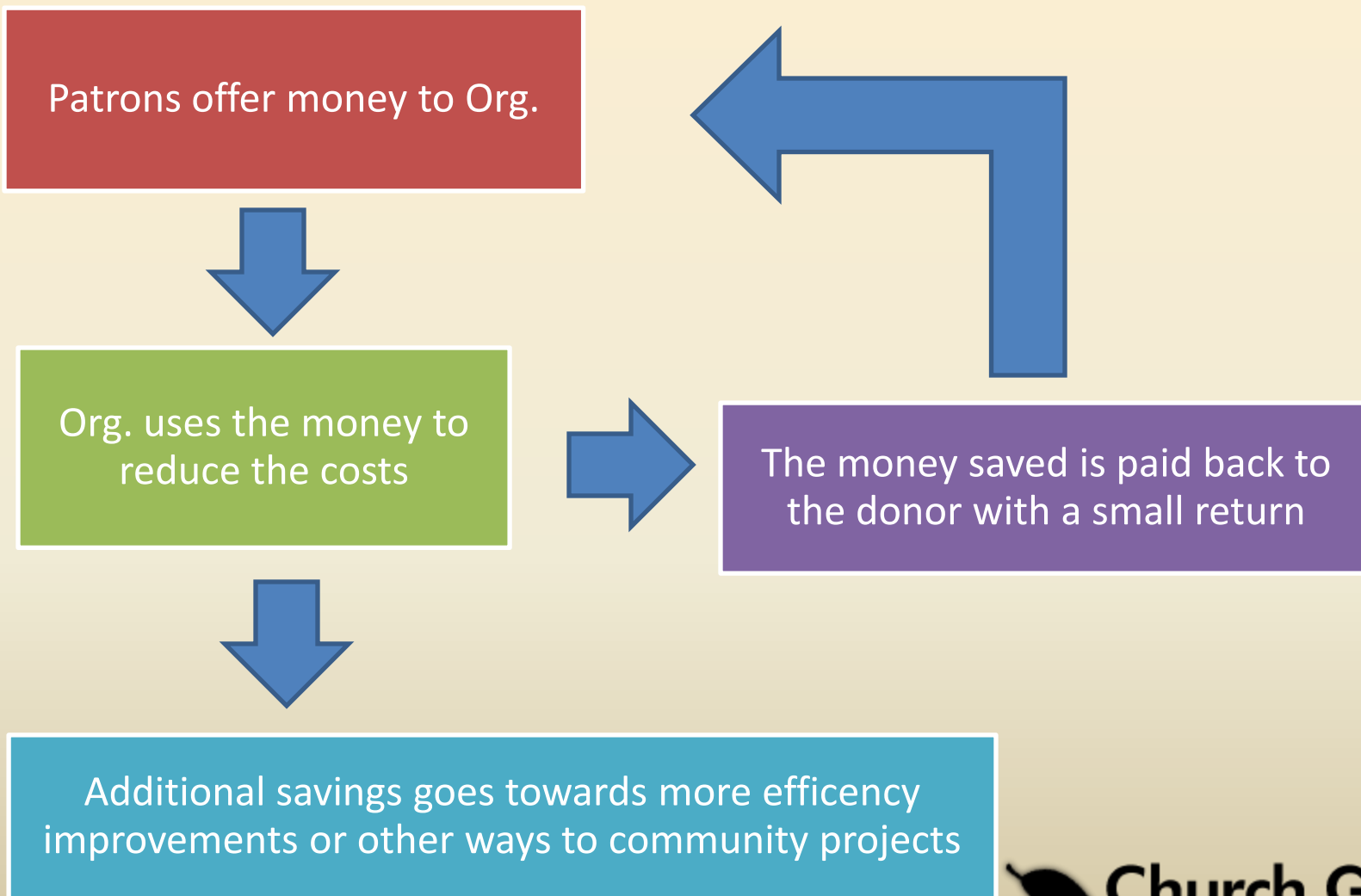
Pure Donations

...Intracting



*The ranges will vary with project

Intracting



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

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

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

Outlook: stakeholders

Established a list of Stakeholders

Identify key proponents and opponents

Must find supporters within that group



Conclusion

More to these projects than installing technologies

Must remember the Human Element

Positive responses to the project

Acknowledgements

Vince Cushing

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Office of Community Outreach

IPRO 320

IPRO Office

Questions

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

-Edmund Burke