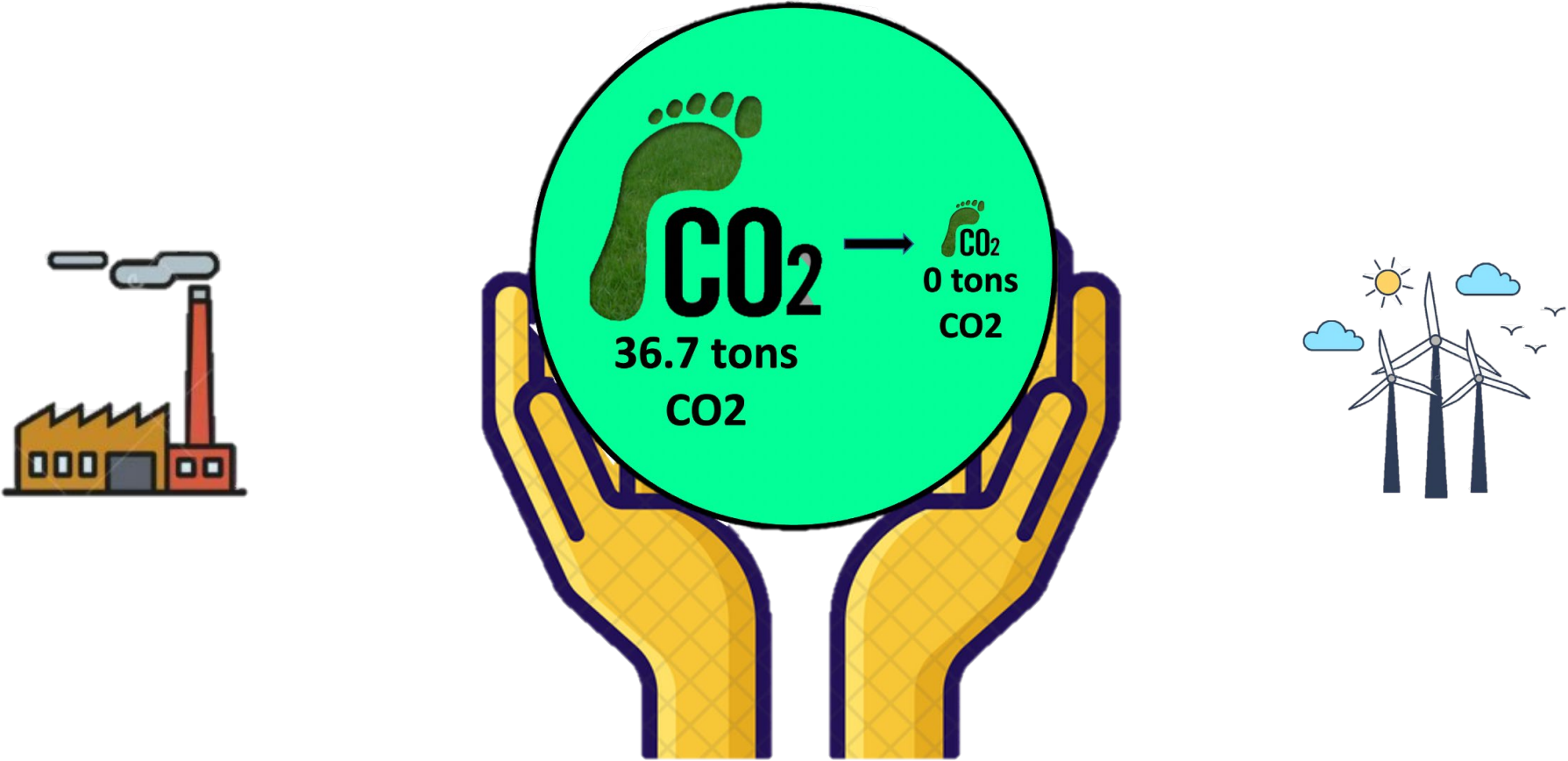


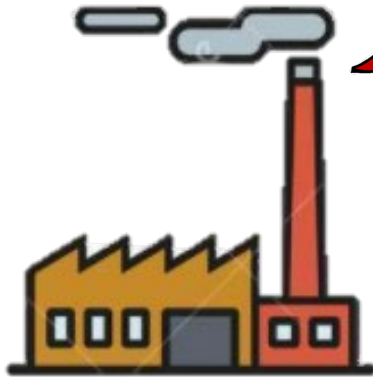
Zeroing Out Old St. Joseph's Carbon Footprint from Electricity Consumption

Bill Stigliani, Co-chair, Care for Creation Committee



Philadelphia's Brown Power Consumption & Its Carbon Footprint

6.2 million tons CO2
released to atmosphere per year



Brown Power



17.5 million MWh of electricity
delivered per year.

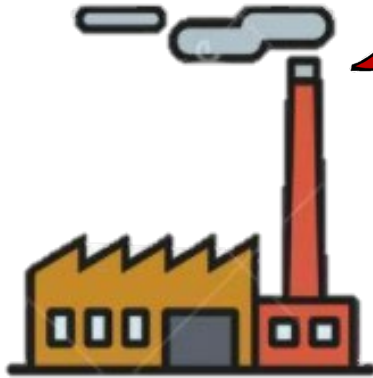
Philly area customers

Philly electric power portfolio

- Coal power (10.3%)
- Gas power (52.3%)
- Nuclear power (33.1%)
- Renewable power (4%)

Old St. Joseph's Brown Power Consumption & its Carbon Footprint

36.7 tons CO₂
released to atmosphere per year



Brown Power



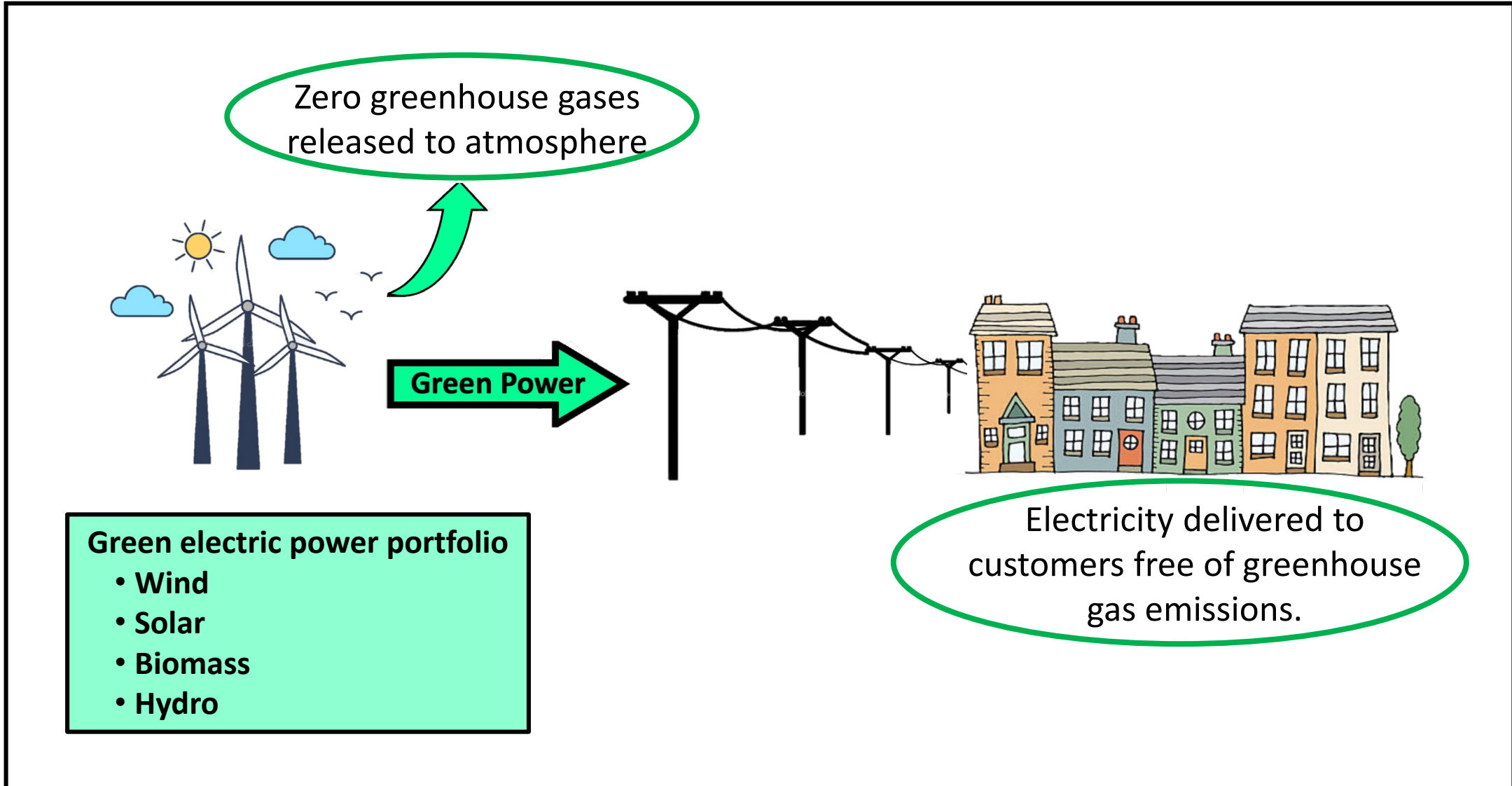
100 MWh of electricity
delivered per year.

Old St Joseph's Church

Philly electric power portfolio

- Coal power (10.3%)
- Gas power (52.3%)
- Nuclear power (33.1%)
- Renewable power (4%)

It Doesn't Have to be This Way! We Also Have the Possibility of Green Power



The Cost of Brown Power Versus Green Power



Brown power costs more than the price you pay for it!! There are huge costs on society and the environment that are largely externalized and not reflected in its market price.



Green power produces little or no air pollution, and it does not contribute to climate change. If the market cost of brown power reflected its true cost, renewable power would gain significant competitive economic advantage.

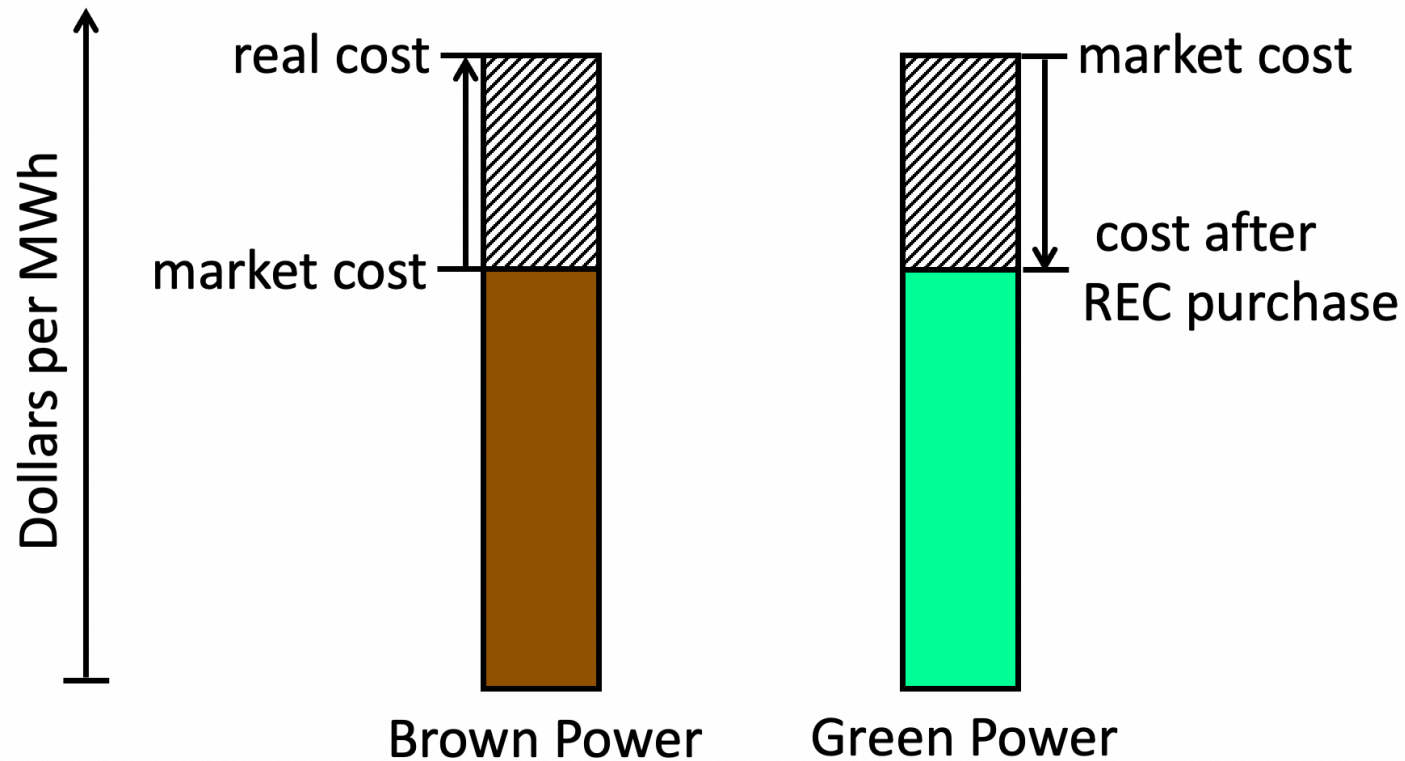
How We Matched 100% of Old St. Joseph's Brown Power Electricity with Green Power!

- In November 2021, our Care for Creation Committee (CFCC) responded to a call for proposals to the Victory Noll Sisters Small Grants Program.
- The grant offered up to \$1,000 to groups for “seeding sustainability and climate justice projects inspired by *Laudato Si*”.
- We proposed to reduce OSJ's carbon footprint from electricity generation through the purchase of **Renewable Energy Certificates**, as well as to host a **Carbon Footprint Teach-in Event** during Earth Week 2022.
- Thankfully, the Sisters accepted our proposal. We were one of 100 successful applicants nation-wide, and the only parish awarded a grant in the state of Pennsylvania.



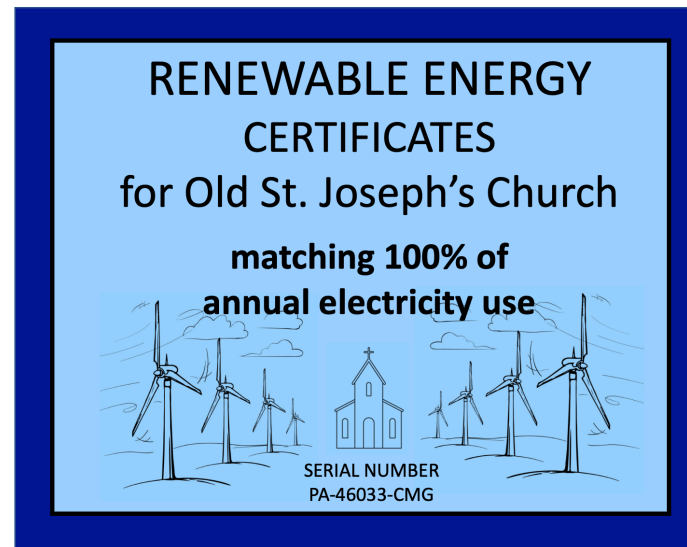
What is a Renewable Energy Certificate?

- Renewable Energy Certificates (RECs) seek to level the economic playing field by remunerating the producer of clean renewable energy for the social and economic benefits accrued from its generation.
- One can think of an REC as the mirror image of a carbon tax - rather than putting a negative value on carbon emissions, it puts a positive value on clean generation.



How We Matched 100% of Old St. Joseph's Brown Power Electricity with Green Power!

- Funding from the Victory Noll Sisters for \$1,000 together with a donation of \$400 from an anonymous parishioner enabled OSJ to purchase 100 Renewable Energy Certificates.
- This transaction added 100 MWhs of green power to OSJ's electricity portfolio, matching the existing 100 MWh of brown power purchased from the Philadelphia grid.



Old St. Joseph's Green Energy Portfolio

- Our purchase of 100 RECs bought us:
 - 56 MWhs from a wind farm in Oklahoma
 - 44 MWhs from a facility in Virginia that burns methane (CH₄) captured from fugitive coal mine emissions that would otherwise be vented to the atmosphere.
- Electricity generated from these sites obviously does not feed into the Philadelphia grid.
- But the overall effect of our purchase is to switch dirty electrons into green electrons where communities remote from us are consuming the green power we paid for.
- We are supporting the growth of the renewable energy market that is so essential for protecting our climate and caring for creation.



56 MWhs
from Oklahoma



44 MWhs
from Virginia

Global Impact of Ramping Up Implementation of Wind and Solar Power

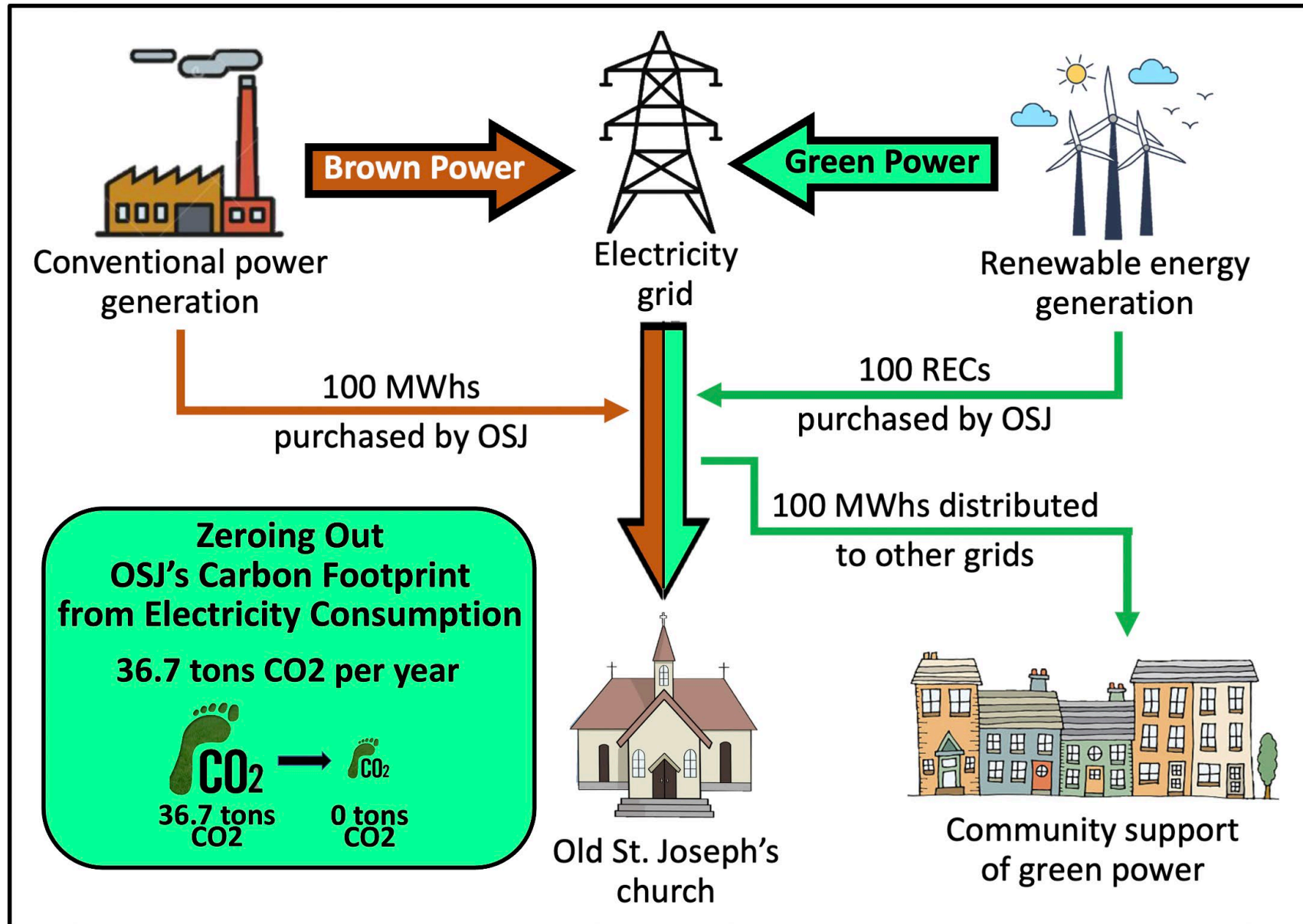
Renewable Source	Reduction in CO2 Emissions by 2050	Net Cost (30 years)	Net Savings (30 years)
Wind Turbines*			
(onshore)	84.6 billion tons	\$1.23 trillion	\$7.4 trillion
(offshore)	15.2 billion tons	\$545 billion	\$762 billion
Total Wind	99.8 billion tons	\$1.8 trillion	\$8.2 trillion
Solar Power**			
(<u>solar</u> farms)	36.9 billion tons	-\$80.6 billion	\$5.0 trillion
(rooftop)	24.6 billion tons	\$453 billion	\$3.5 trillion
Total Solar	61.5 billion tons	\$372 billion	\$8.5 trillion
Total Wind + Solar	161.3 billion tons	\$2.2 trillion	\$16.7 trillion

* Assumes onshore wind produces 21.6 % of global electricity by 2050, and offshore wind produces 4% of global electricity.

** Assumes solar farms produce 10% of global electricity by 2050, and rooftop solar produces 7% of global electricity.

Source: P. Hawken (ed.) (2017). *Drawdown: The Most Comprehensive Plan Ever Proposed to Reverse Global Warming* (New York: Penguin Books).

Overview of Old St. Joseph's Carbon Footprint Reduction



How to Purchase Renewable Energy Credits



Green-e

- Green-e® Energy is a consumer protection program designed to provide purchasers of renewable energy good product information, assurance of product quality and verification of product ownership.
- We purchased our RECs from ClimCo Corporation, listed as a certified provider on the Green-e.
- To explore list of providers:
 - Go to: <https://www.green-e.org/certified-resources>
 - Click on “Find certified energy & offsets
 - See list of certified providers

How Renewable Energy Certificates are Certified

- An REC is created every time 1 MWh of renewable energy is generated and put on the grid, about what an average home uses in a month.
- The REC certifies that the electricity added to the grid embodies all the green, environmental benefits associated with renewable energy.
- The owner of an REC retains exclusive rights to the beneficial attributes accrued from the generated electricity. This includes its zero-emissions profile, and the resulting reduction in the emissions footprint associated with the electricity use.



How Renewable Energy Certificates are Certified

- The sale and purchase of RECs are rigorously overseen by various certified tracking systems, and in some states, including Pennsylvania, RECs are regulated under the statutes of Alternative Energy Portfolio Standards.
- Once an REC is purchased, it is “retired,” meaning that it cannot be sold again to another buyer. This ensures that the accrued benefits are not subject to double-counting.

