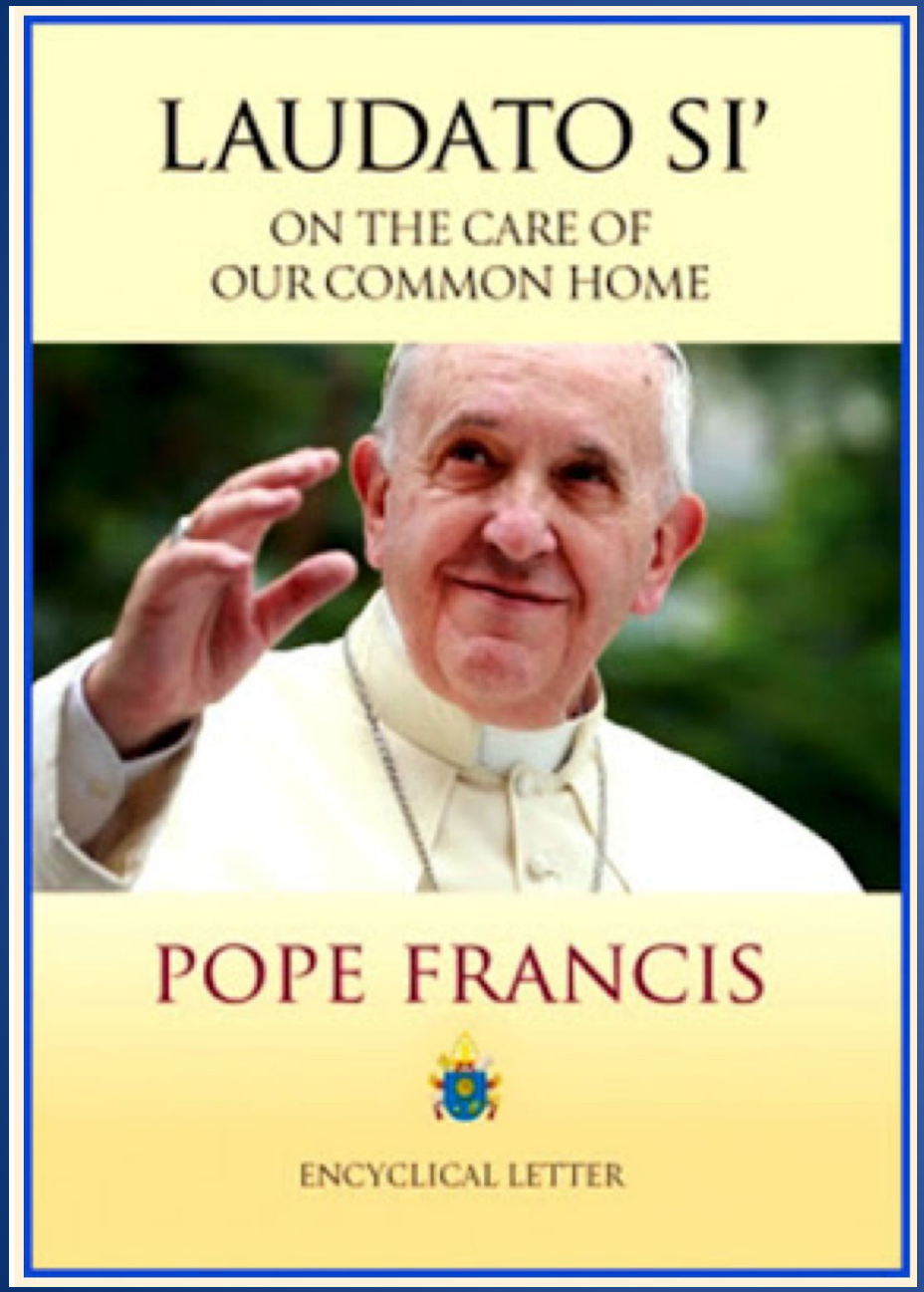
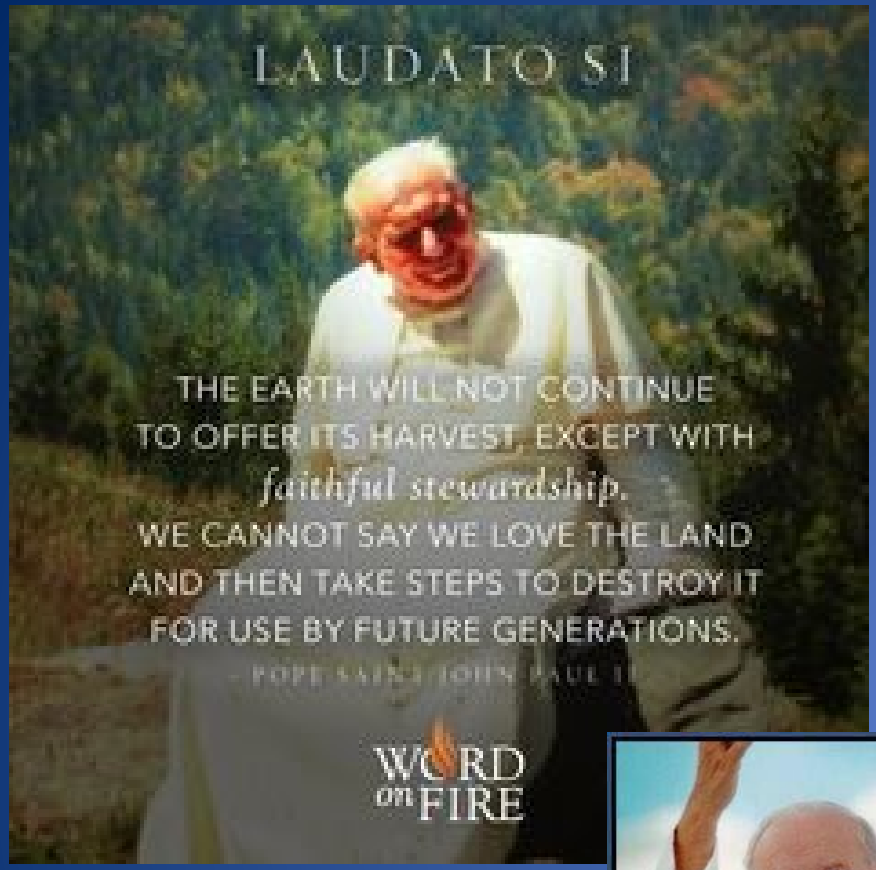
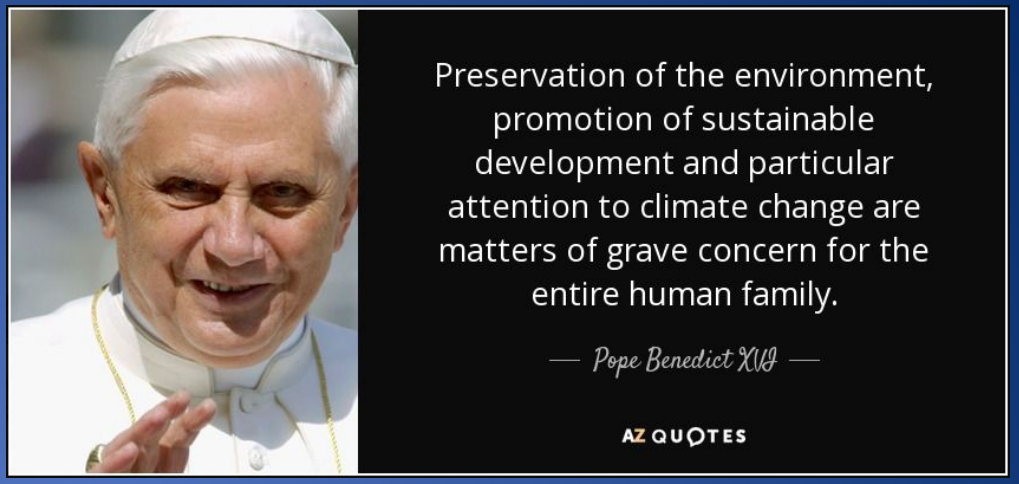


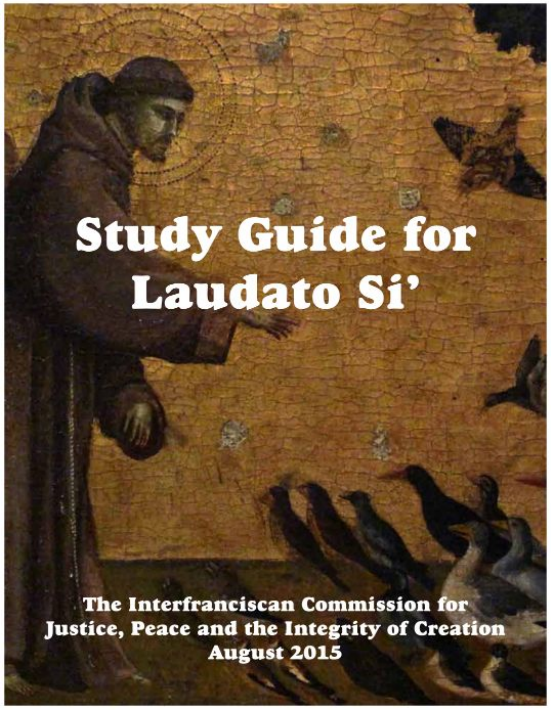
- *What?*
- *So What?*
- *Now What?*

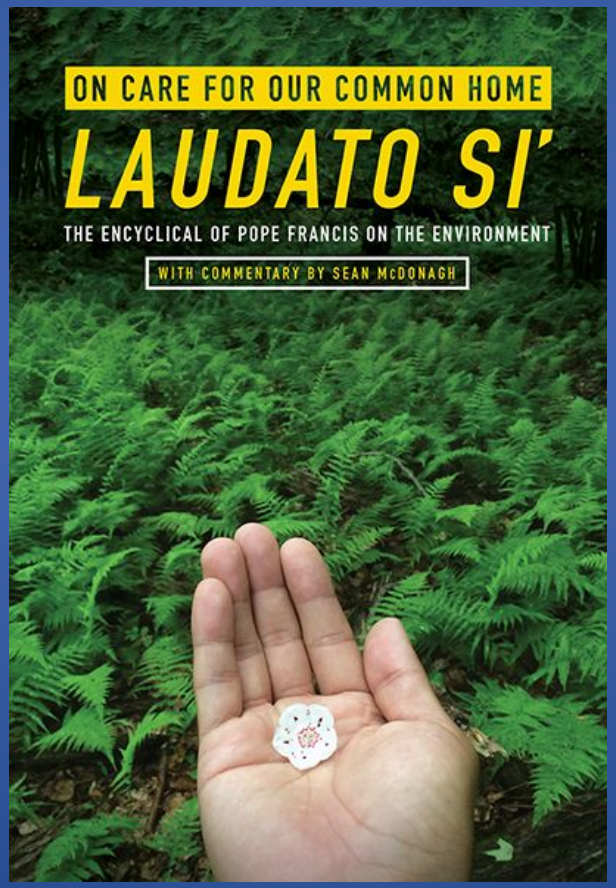

LAUDATO SI
THE EARTH WILL NOT CONTINUE
TO OFFER ITS HARVEST, EXCEPT WITH
faithful stewardship.
WE CANNOT SAY WE LOVE THE LAND
AND THEN TAKE STEPS TO DESTROY IT
FOR USE BY FUTURE GENERATIONS.
WORD on FIRE

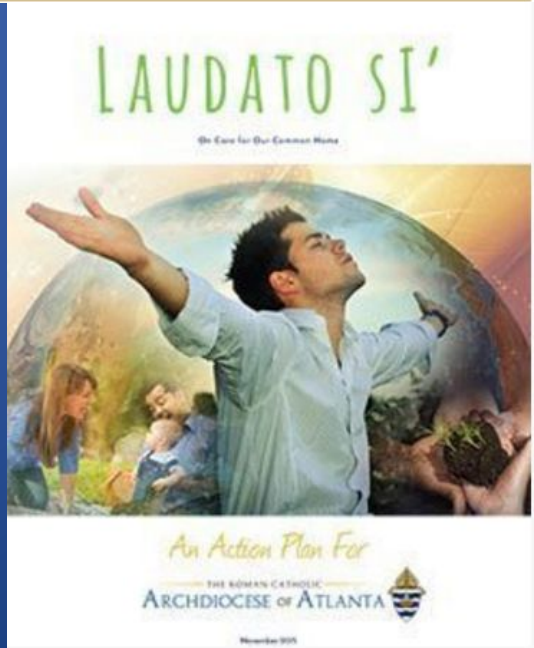

Preservation of the environment, promotion of sustainable development and particular attention to climate change are matters of grave concern for the entire human family.
— Pope Benedict XVI —
AZ QUOTES

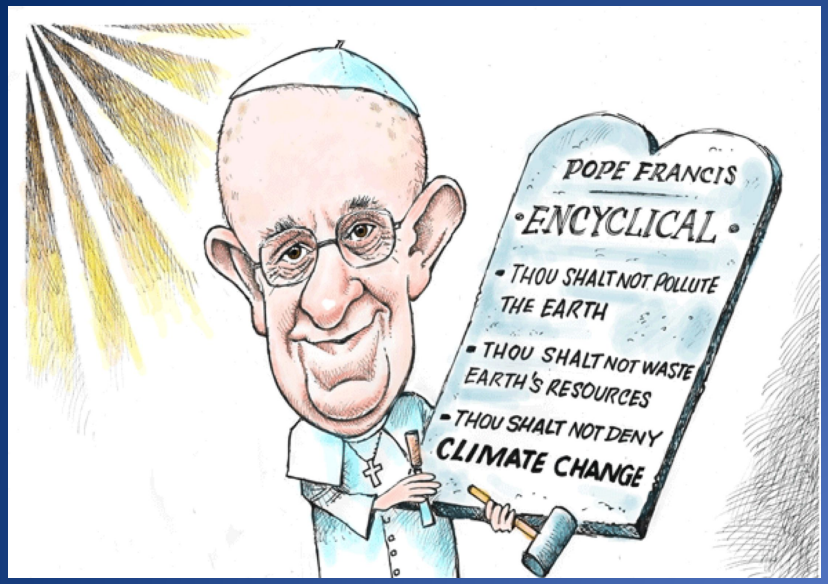

Pope John Paul II:
"This is what we believe."
Pope Benedict XVI:
"This is why we believe it."
Pope Francis:
"Now go do it."

Taking the first steps to living Laudato Si.









"The climate belongs to everyone and is a complex system linked to what is needed to sustain human life." *-Laudato Si*

"The poor will be affected by these climate changes more than the rich are. Nearly two-thirds of all people on earth live along coastlines. These changes adversely affect farming, fishing and forestry, the means of livelihood of most poor people on earth."
- *Laudato Si*

Climate Change is a Reality

- US Defense Department believes CLIMATE CHANGE IS REAL, and nonpartisan – and they consider climate change "a threat to national security." https://www.defense.gov/News/Article/Article/612710/
- NASA also believes in Climate Science: http://climate.nasa.gov/
- Insurance companies believe climate change is real, and are studying its long term impact: http://evanmills.lbl.gov/pubs/pdf/climate-action-insurance.pdf

Why is human response to climate change taking so long?

The first Earth Day was
47 years ago, in 1970,
and since then, the last three
Popes have urged Catholics to
recognize what is happening
and ACT to prevent climate
change.

Why is human response to climate change taking so long?

(click image to view video)

https://www.youtube.com/watch?v=y2euBvdP28c&t=87s

Why is human response to climate change taking so long?

PAIN We're only human!

We pay attention to issues that are:

- **P**ersonal
- **A**brupt
- **I**mmoral
- **N**OW!

Our **STONE AGE BRAIN** suffers from:

- **Rationalizing**: "Someone must be taking care of this." "I'll deal with it later."
- **Optimism Bias**: "This won't happen to me."
- **Desensitization**: The more we hear about a concern, the less likely we are to respond.
- **Finite Pool of Worry**: We frame our focus around the most important ***VALIDATED*** concerns of our primary social group. ***(Here's where our opportunity for faith-based response exists through the Global Catholic Climate Movement.)***

“Preaching to the choir”

vs.

Taking it to the streets:

“I hope there will be noise…
I want you to make yourselves heard in your dioceses,
I want the noise to go out, I want the Church to go out onto the streets, I want us to resist everything worldly,
everything static, everything comfortable,
everything to do with clericalism,
everything that might make us closed in on ourselves.
The parishes, the schools, the institutions are made for going out.” – *Pope Francis, World Youth Day, 2013*

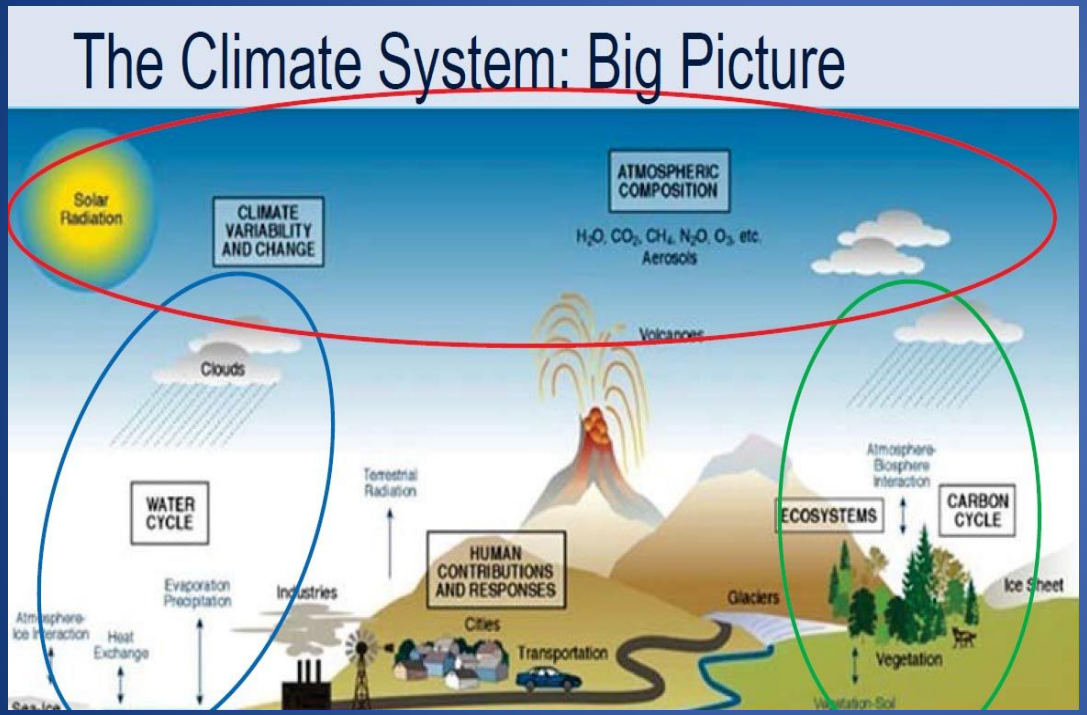
Church Challenge:

Preaching beyond the Choir

"I urgently appeal, then, for a new dialogue about how we are shaping the future of our planet. We need a conversation which includes everyone, since the environmental challenge we are undergoing, and its human roots, concern and affect us all." - Laudato Si

- Parishes responses to *Laudato Si*:
  - Parishioner study of the choices and global impact.
  - Making lifestyle, parish, and school campus changes.
- Are Catholic students able to engage with educational tools to make meaning of *Laudato Si*?

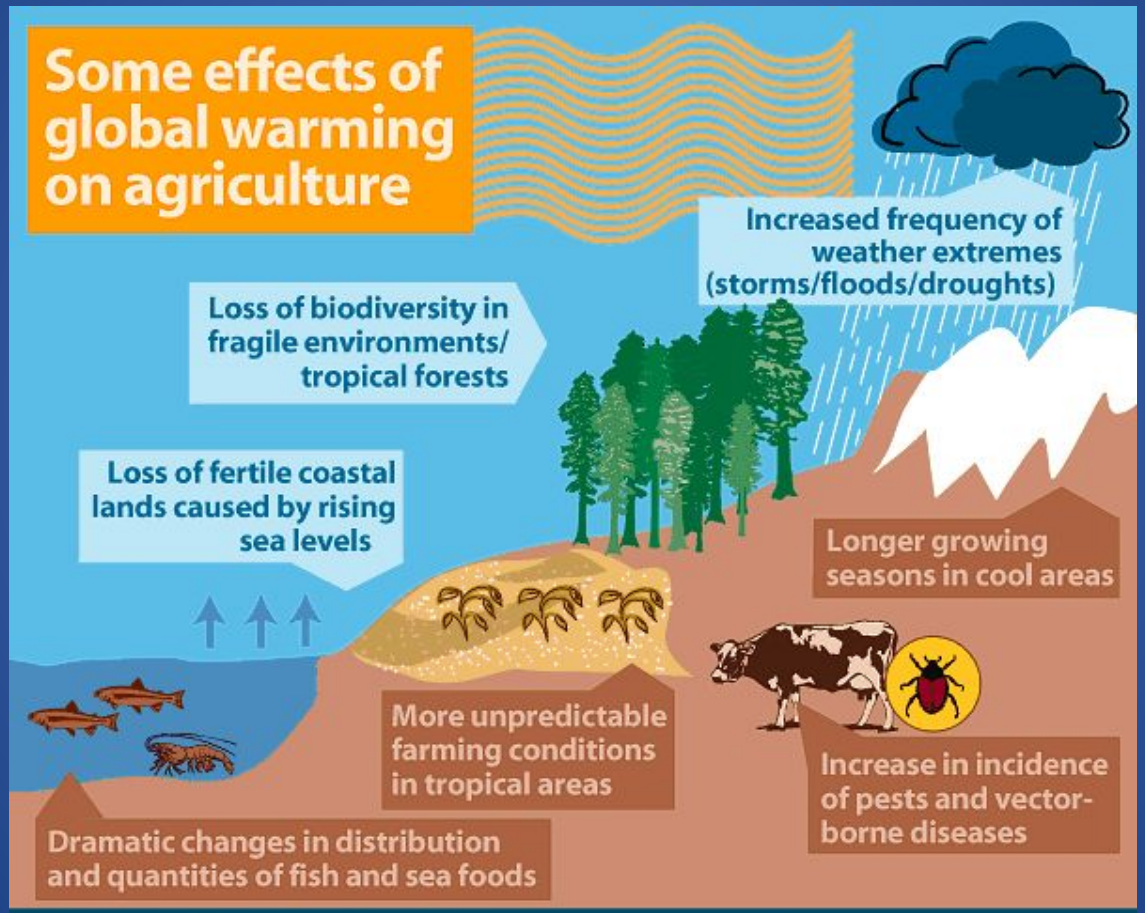
Students are our Future Leaders.
They are the key to a more Sustainable Society.



What do <u>tomorrow's</u> leaders need <u>today</u> from our schools?

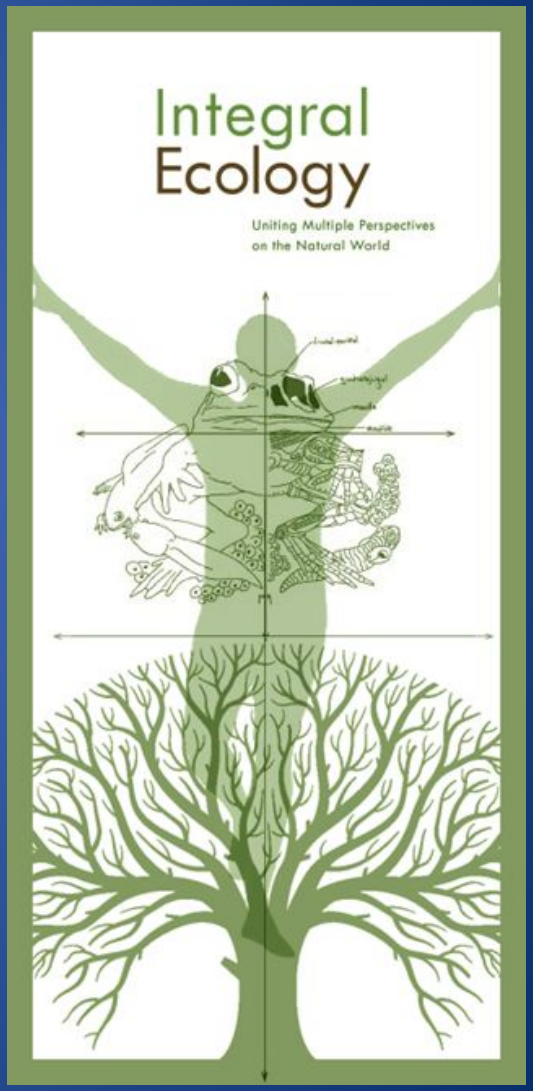
- Systems-Thinking Skills
- Place-based, Project-based, and Problem-based learning experiences.

the WHAT: Our Choices and their Impact on a Changing Climate



Integral Ecology

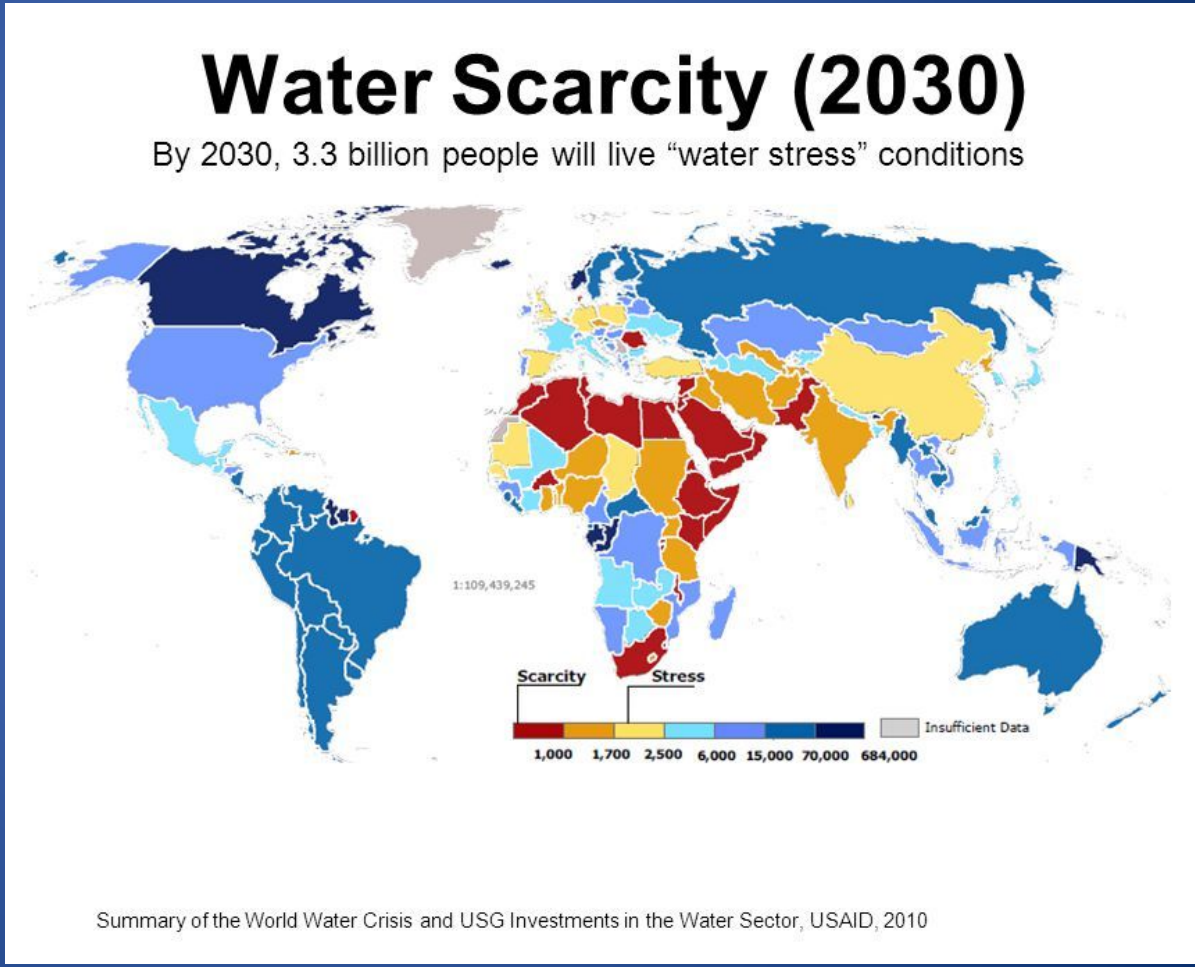
"Since everything is closely interrelated, and today's problems call for a vision capable of taking into account every aspect of the global crisis, I suggest that we now consider some elements of an *integral ecology*, one which clearly respects its human and social dimensions." -*Laudato Si*



Do we see ourselves as part of Ecology? Critical Issue of Integral Ecology: WATER

"Unsafe water is the only water widely available in poor nations. It is the cause of numerous diseases and much death. Water and its management is so important that the scarcity is emerging, and the controls on it being imposed by multinational business, could lead to war. "

– Laudato Si



Agriculture's footprint on Water

- U.S. Agriculture consumes 80% of water (ground and surface).
- Source: http://www.ers.usda.gov/topics/farm-practices-management/irrigation-water-use.aspx

- Globally and in U.S. agriculture is extracting ground water at unsustainable rates and water tables are falling. Source: Brown L. Earth Policy Institute, **Outgrowing the Earth: The Food Security Challenge in an Age of Falling Water Tables and Rising Temperatures.** http://www.earth-policy.org/books/out/ote6_2

Integral Ecology and the Industrial Food System

Integral Ecology = Sustainability

"We urgently need an economic ecology in which all the elements of a particular ecosystem can be considered as interconnected, including the human dimension."
- Laudato Si

Integral Ecology = Sustainability

ECO - OIKOS - “HOUSE”

Ecology - Study of the house

Economy - Management of the house

Ecumenical - Universal house

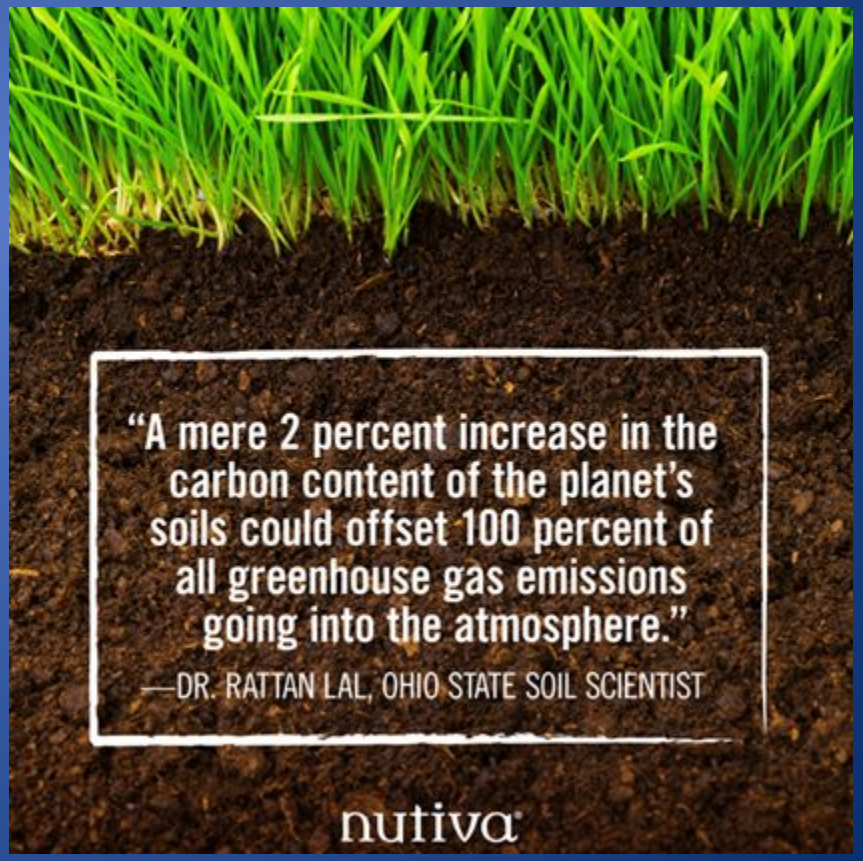
How do we define the House?

Sustainability: the balancing of the Economic, Ecological and social Equity needs of society.

How do we define the House?

"Go, repair my house"
(God's call to St. Francis)

Regenerative Agriculture

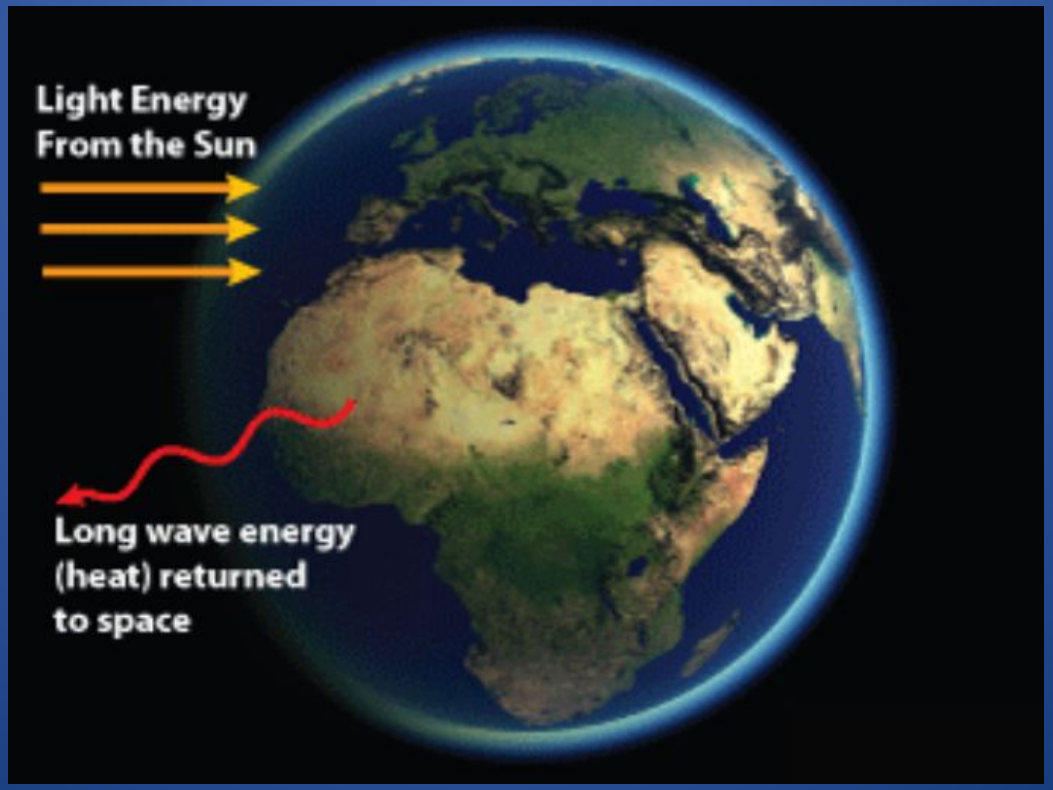


Sustainability Matters to Economics - Economic Sustainability Corporate Practices and Engineering Requirements

the “SO WHAT?”

There is no "away" in throw away.

“Our current way of thinking about how we extract resources from the earth is based on a fundamental lie. The lie is that there is an infinite supply of the earth’s goods. The lie leads us to believe that we can squeeze the earth dry and somehow magically it will renew itself.” - *Laudato Si*



On Care for Our Common Home:

"The climate belongs to everyone and is a complex system linked to what is needed to sustain human life. The poor will be affected by these climate changes more than the rich are. Nearly two thirds of all people on earth live along the coastlines. These changes adversely affect farming, fishing and forestry, the means of livelihood of most poor people on earth." - *Laudato Si*

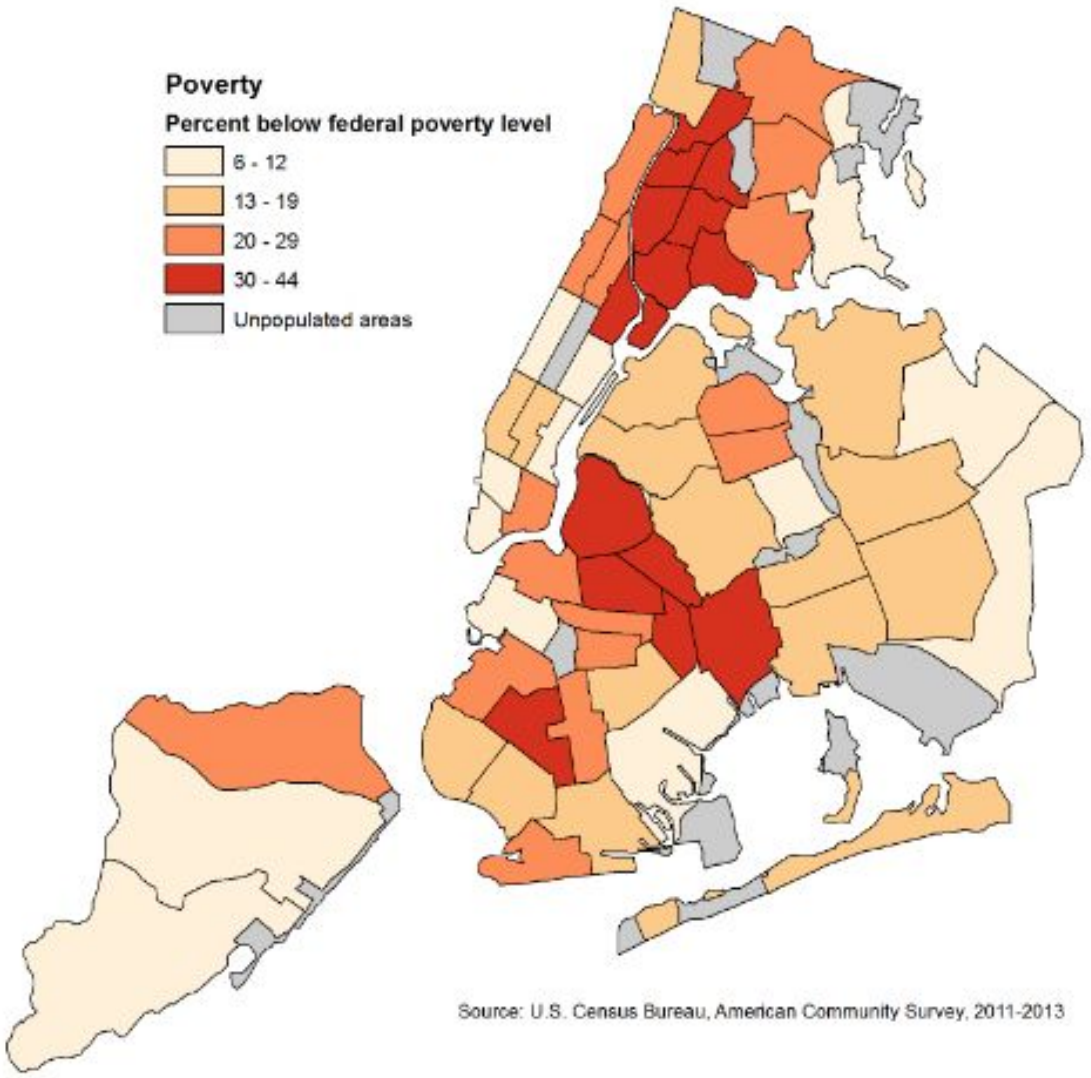
Poverty

Percent of individuals living below the federal poverty level. For more information on the poverty level, please visit the U.S. Census Bureau's website.

Highest		Percent
1	Morrisania and Crotona	44
1	Belmont and East Tremont	44
3	Mott Haven and Melrose	43
3	Hunts Point and Longwood	43
5	Fordham and University Heights	42

Lowest		Percent
59	Tottenville and Great Kills	6
58	Upper East Side	7
56	Financial District	8
56	Greenwich Village and Soho	8
55	Bayside and Little Neck	9

Borough	Percent
Bronx	31
Brooklyn	24
Manhattan	18
Queens	16
Staten Island	12



Source: U.S. Census Bureau, American Community Survey, 2011-2013

NYC Overall: 21%

Air Quality (Fine Particulate Matter)

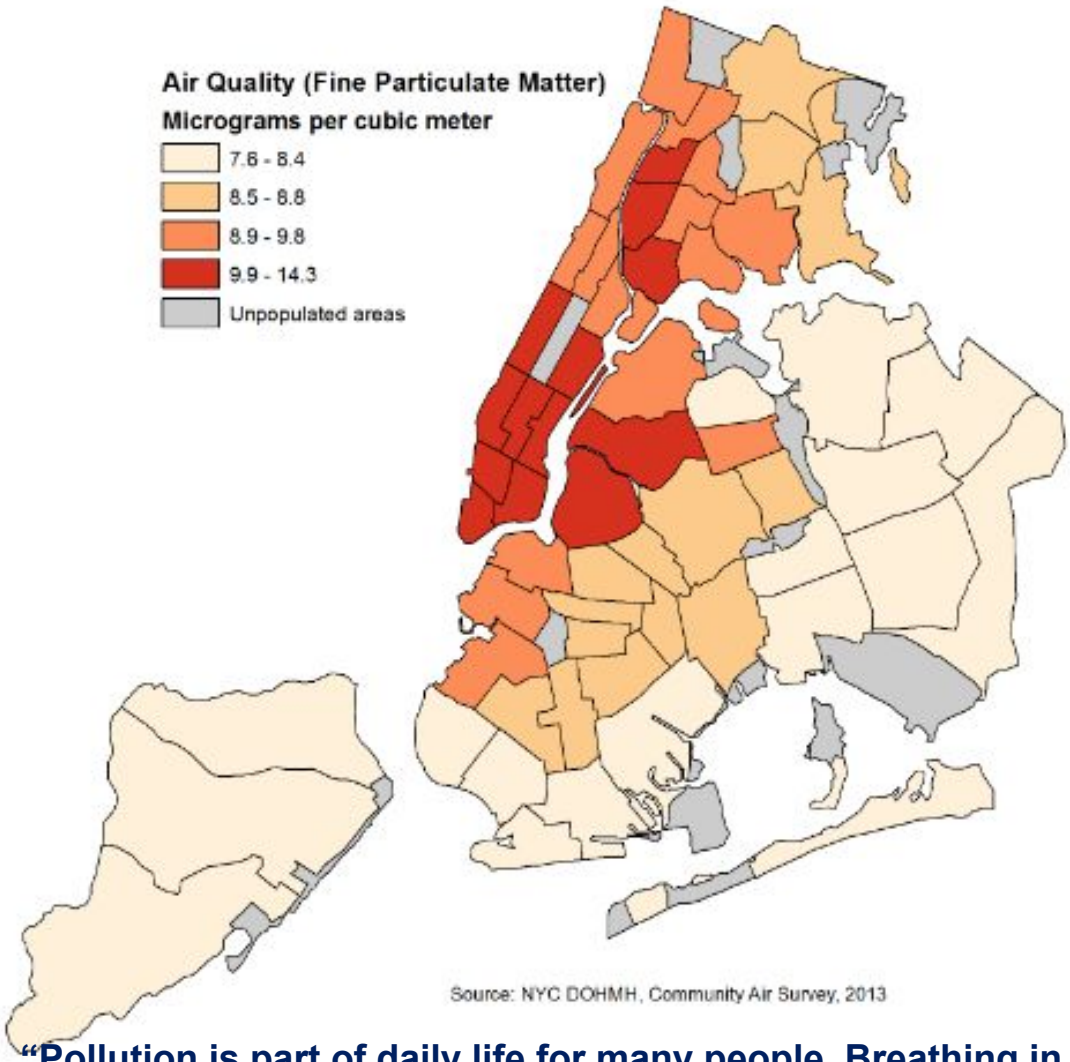
Annual average of micrograms of fine particulate matter (PM_{25}) per cubic meter (mcg/m^3)

Highest		mcg/m³
1	Midtown	14.3
2	Stuyvesant Town and Turtle Bay	12.3
3	Clinton and Chelsea	11.4
4	Financial District	11.1
4	Upper East Side	11.1

Lowest		mcg/m³
59	Rockaway and Broad Channel	7.6
58	Tottenville and Great Kills	7.8
57	Queens Village	7.9
55	South Ozone Park and Howard Beach	8.0
55	Coney Island	8.0

Borough	mcg/m³
Bronx	9.1
Brooklyn	8.7
Manhattan	10.7
Queens	8.4
Staten Island	8.0

NYC Overall: 8.6



"Pollution is part of daily life for many people. Breathing in pollutants causes a host of health issues, especially among the poor, who cannot escape it." - *Laudato Si*

Childhood Asthma Hospitalizations

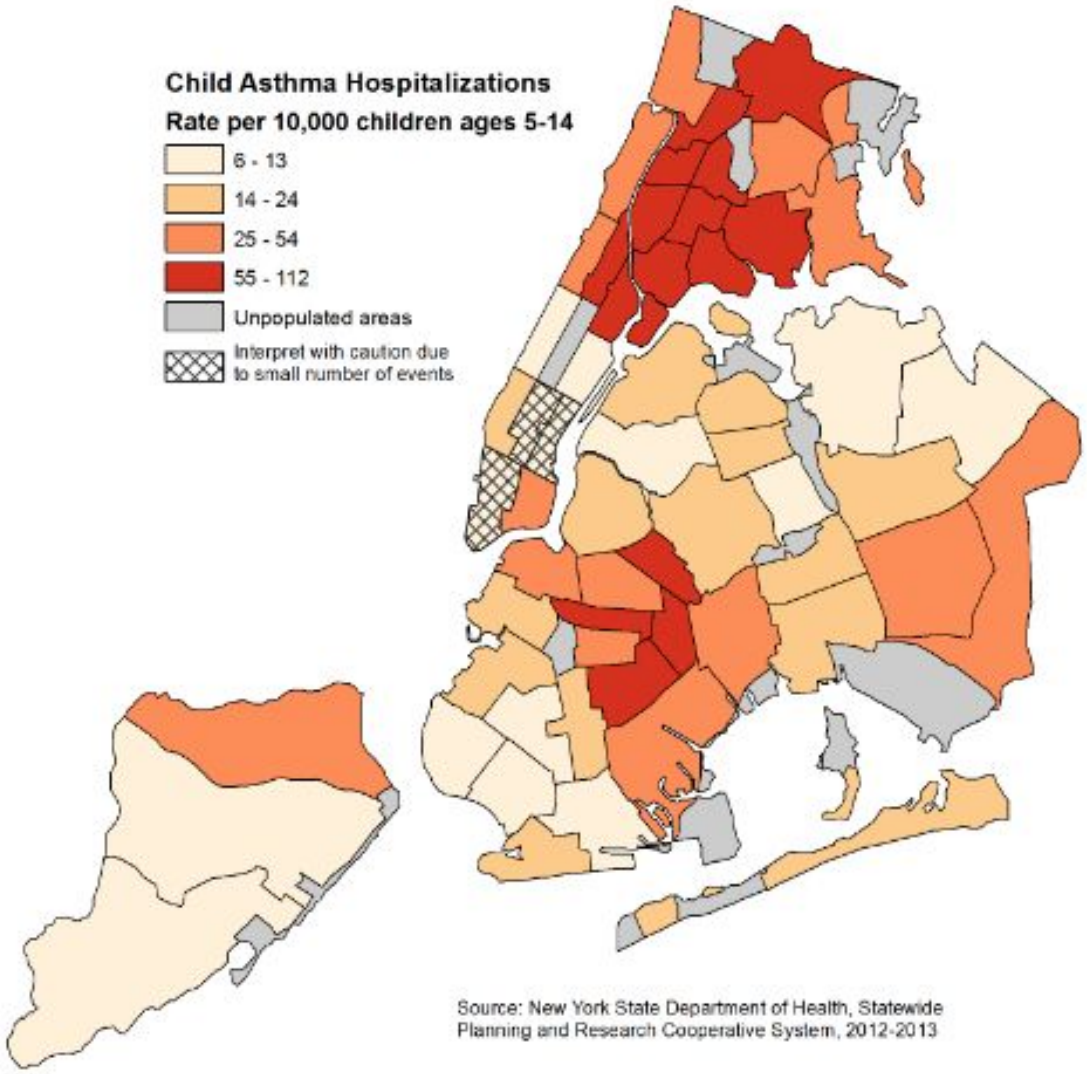
Rate of asthma hospitalizations among children ages 5 to 14 per 10,000 children

Highest		Rate
1	Mott Haven and Melrose	112
2	Morrisania and Crotona	89
3	Hunts Point and Longwood	88
4	Belmont and East Tremont	87
5	Crown Heights and Prospect Heights	76

Lowest		Rate
59	Borough Park	6
58	Sheepshead Bay	6
57	South Beach and Willowbrook	6
56	Greenwich Village and Soho	7*
55	Bensonhurst	7

* Interpret with caution due to small number of events

Borough	Rate
Bronx	72
Brooklyn	32
Manhattan	33
Queens	21
Staten Island	15



Source: New York State Department of Health, Statewide Planning and Research Cooperative System, 2012-2013

NYC Overall: 36

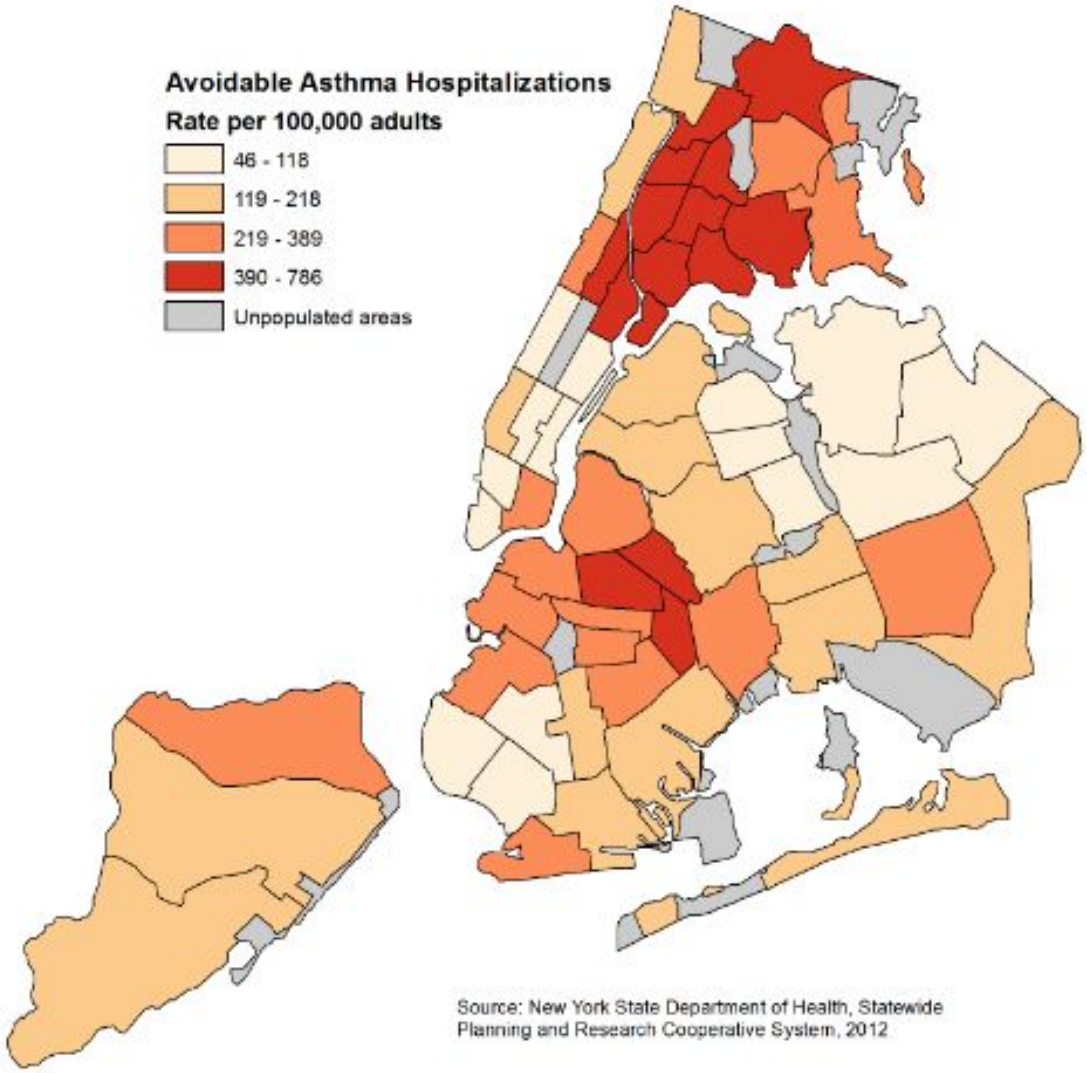
Adult Avoidable Asthma Hospitalizations

Rate of avoidable adult hospitalizations for asthma per 100,000 adults

Highest		Rate
1	Belmont and East Tremont	786
2	Morrisania and Crotona	769
3	Mott Haven and Melrose	749
4	Bushwick	740
5	East Harlem	648

Lowest		Rate
59	Greenwich Village and Soho	46
58	Upper East Side	46
57	Stuyvesant Town and Turtle Bay	52
56	Bayside and Little Neck	54
55	Midtown	61

Borough	Rate
Bronx	508
Brooklyn	263
Manhattan	196
Queens	141
Staten Island	209



Source: New York State Department of Health, Statewide Planning and Research Cooperative System, 2012

NYC Overall: 249

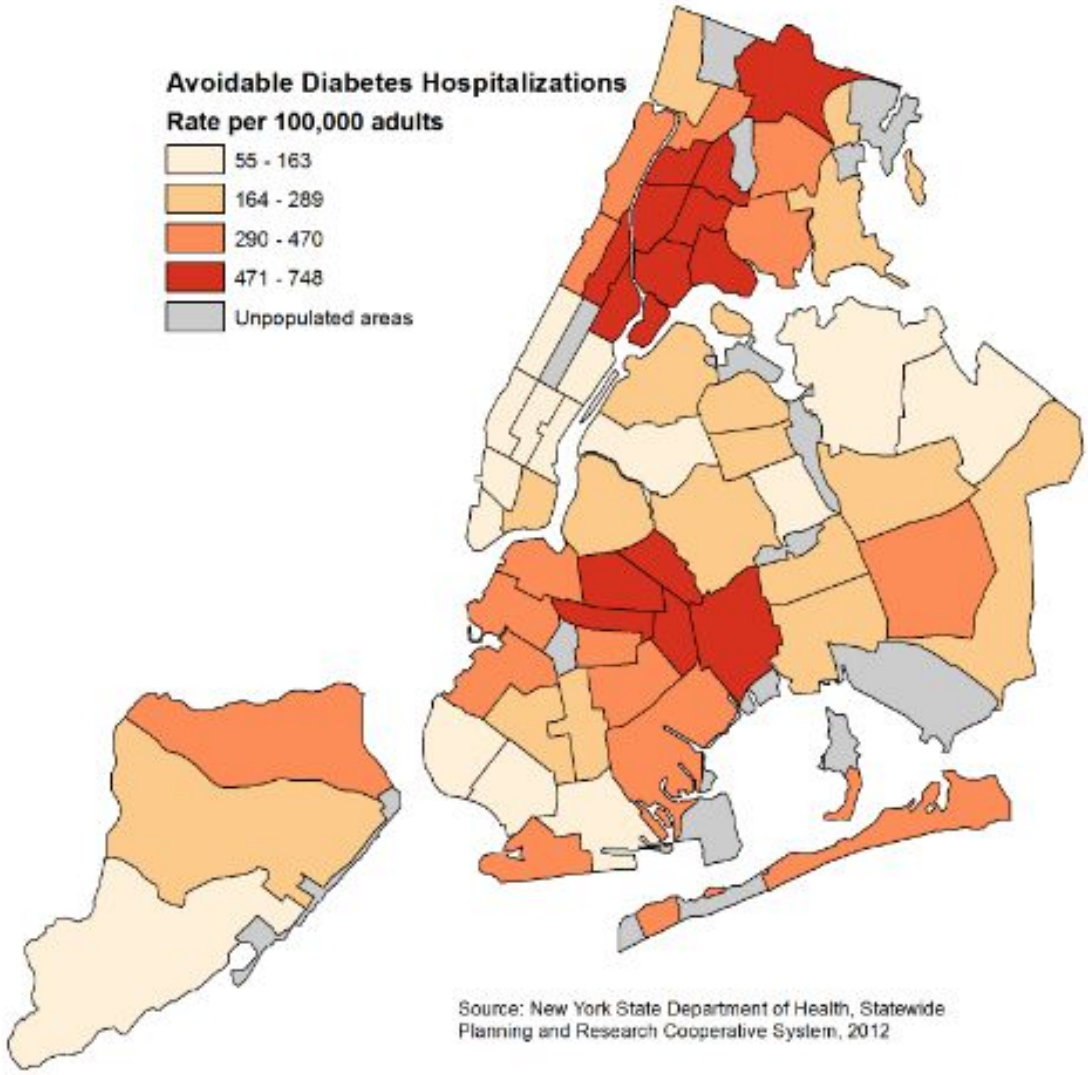
Adult Avoidable Diabetes Hospitalizations

Rate of avoidable adult hospitalizations for diabetes per 100,000 adults

Highest		Rate
1	Brownsville	748
2	Mott Haven and Melrose	740
3	Morrisania and Crotona	689
4	Belmont and East Tremont	687
5	East Harlem	642

Lowest		Rate
59	Greenwich Village and Soho	54
58	Midtown	72
57	Stuyvesant Town and Turtle Bay	78
56	Upper East Side	82
55	Financial District	98

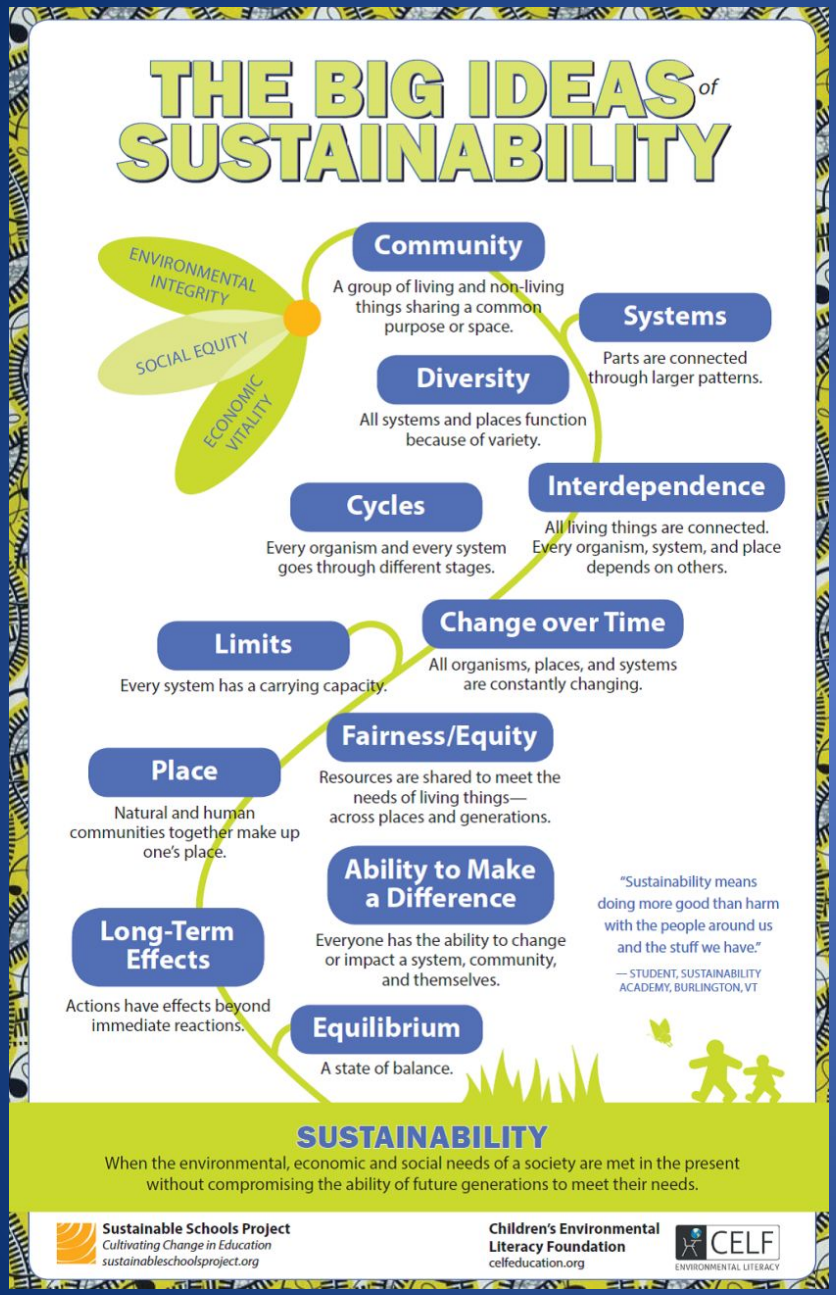
Borough	Rate
Bronx	508
Brooklyn	263
Manhattan	196
Queens	141
Staten Island	209



Source: New York State Department of Health, Statewide Planning and Research Cooperative System, 2012

NYC Overall: 312

Do today's Students know what Corporate Sustainability looks like? (click on text to view video)

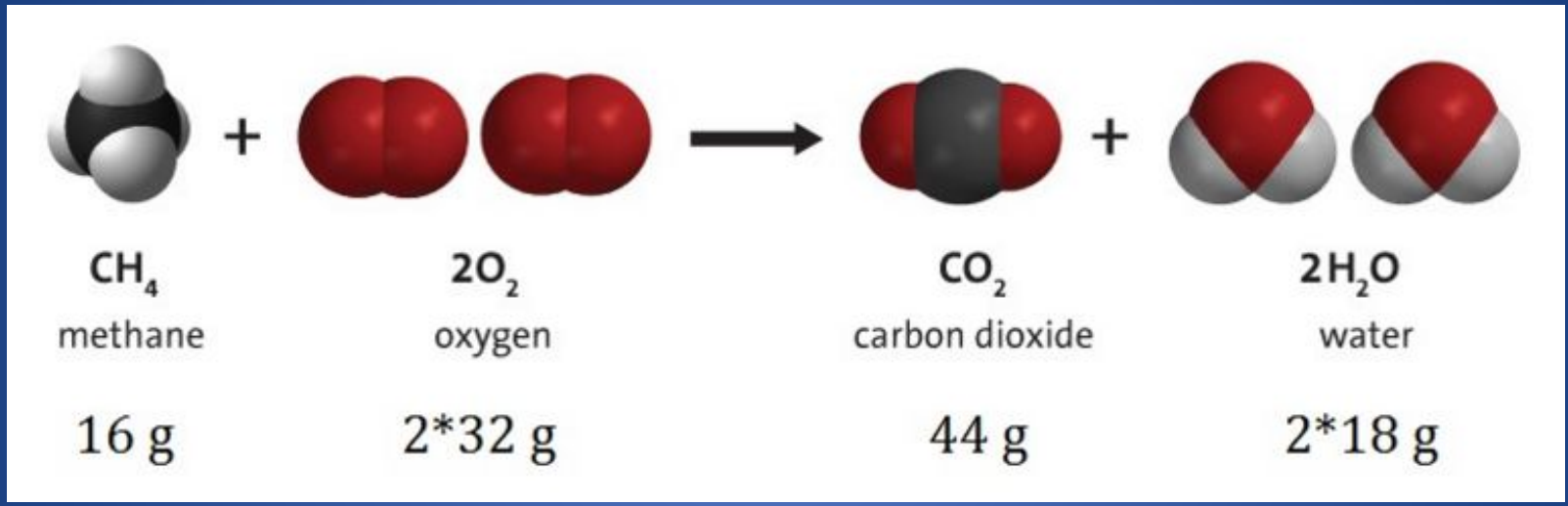


CELF
ENVIRONMENTAL LITERACY

4C's - address Integral Ecology

- Curriculum Development
- Campus Practices & Culture
- Community Partnerships
- Collaboration

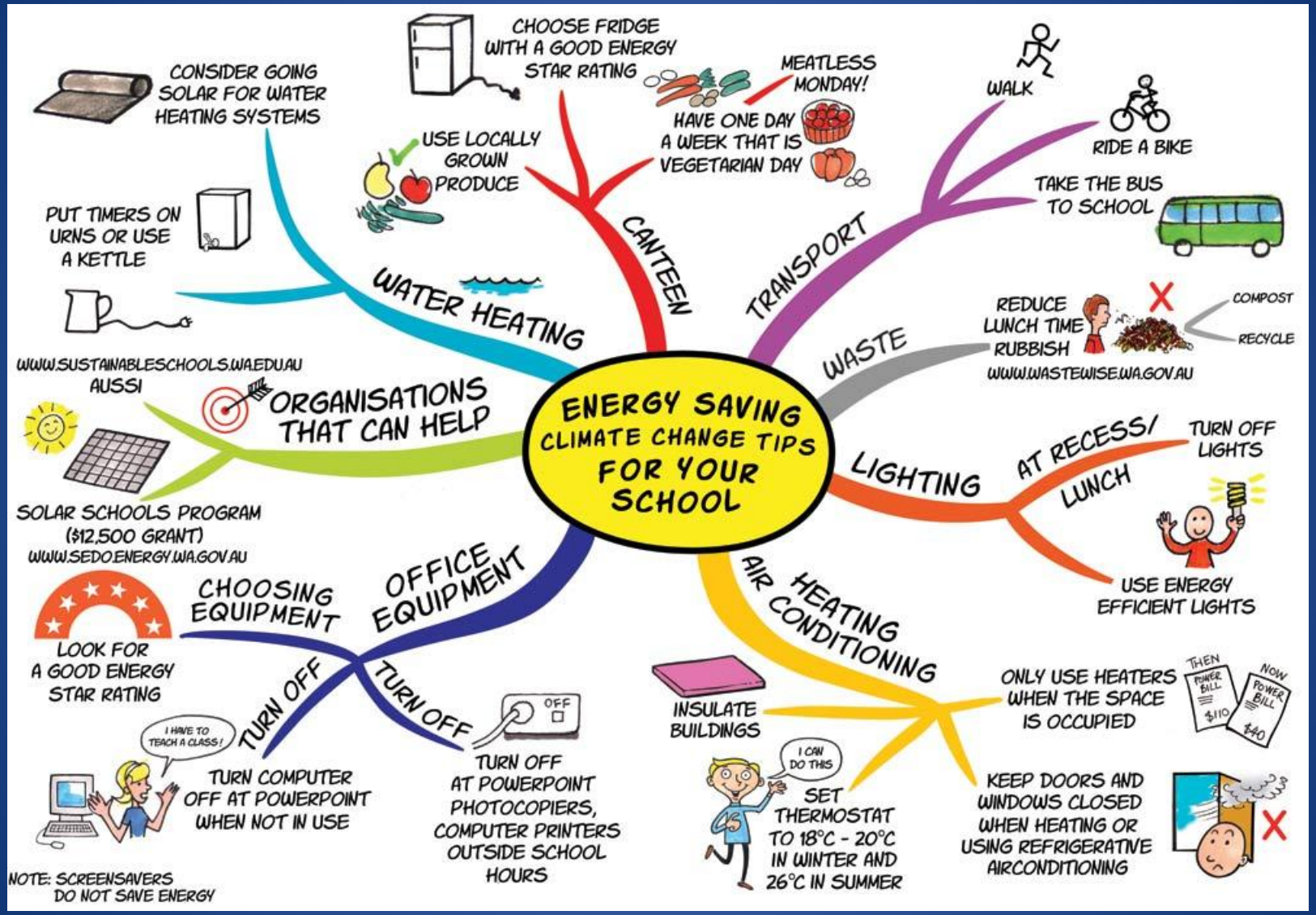
Remember this?
“The Laws of Conservation”



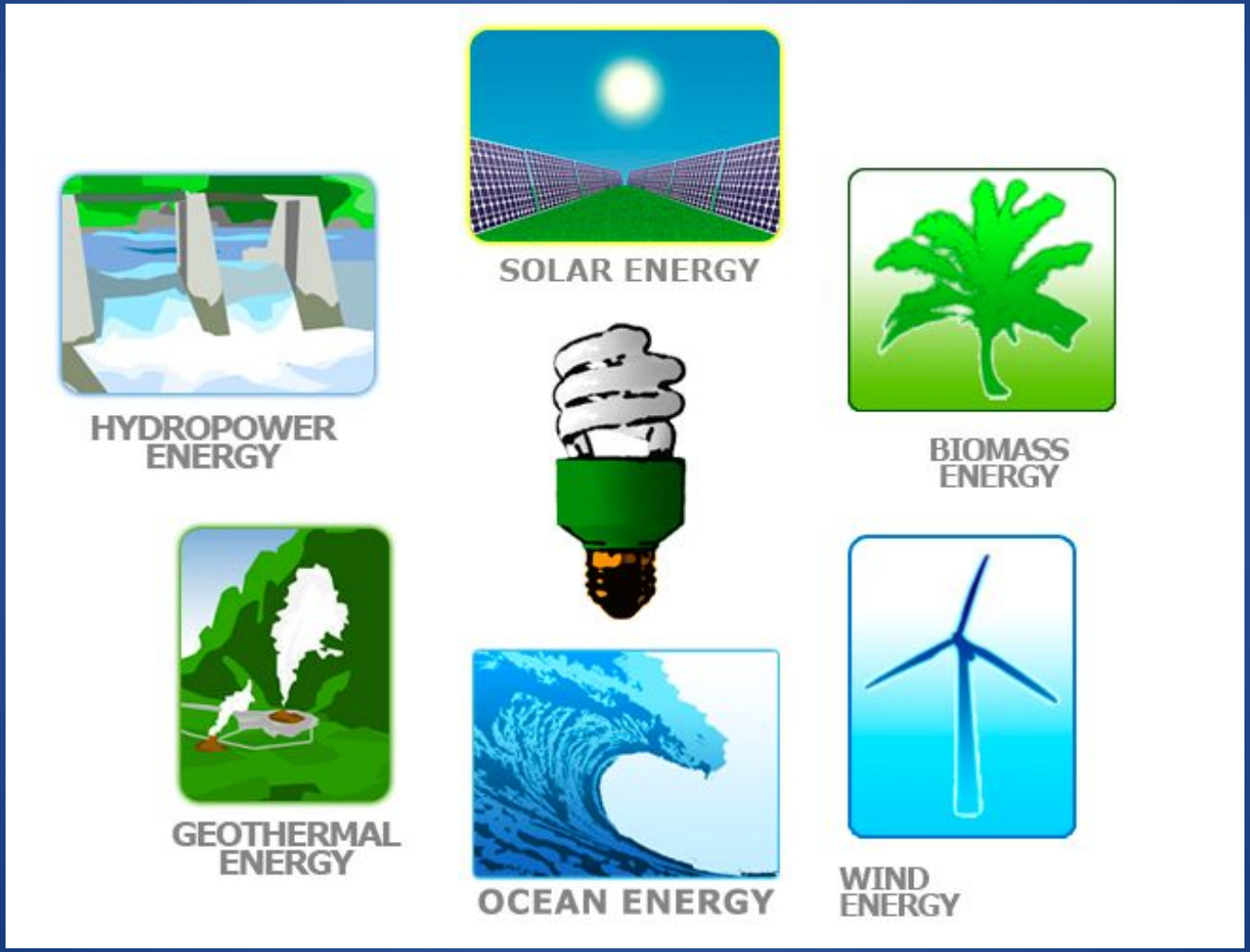
What we do with our planet's resources, we do to ourselves, our soil, our water, and our natural resources

Everything comes from somewhere, and everything is going somewhere when we are done with it.

http://walkforvaluesklang2011.blogspot.com/2011/02/you-can-even-help-save-energy-in-school.html

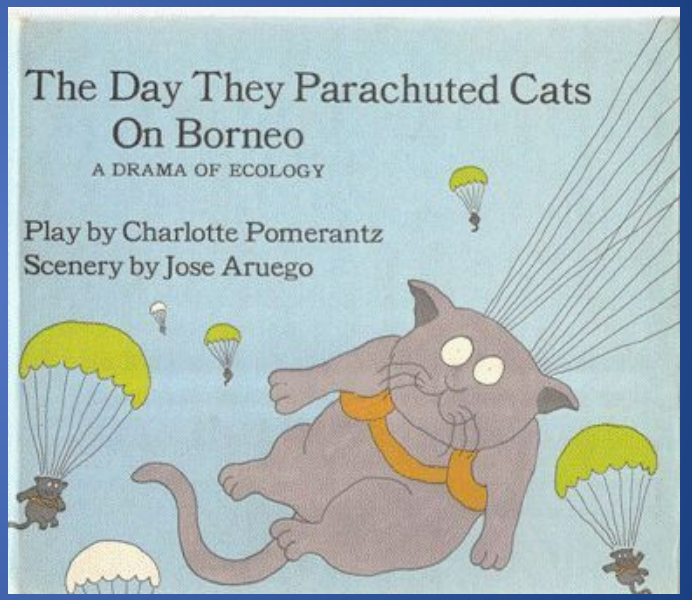


Students will Engineer a Sustainable Future

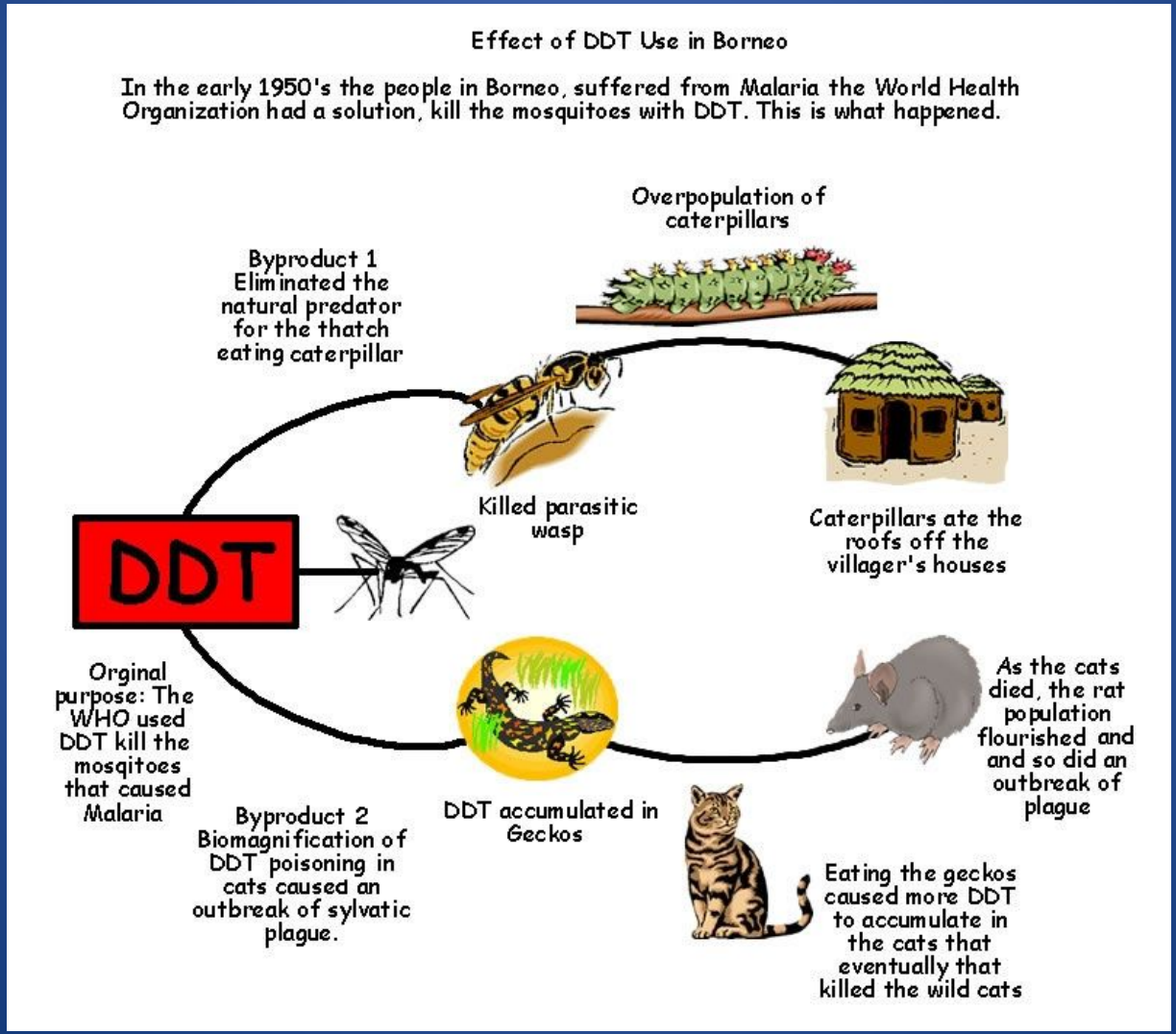


We need SYSTEMS THINKING SKILLS!

Systems Thinking identifies Feedback Loops:



IF ONLY A SYSTEMS-THINKING APPROACH WAS USED:
A Cautionary Tale of **Unintended Consequences**:
<u>The Day they Parachuted Cats into Borneo</u>



An EfS example: Using Systems-Thinking Skills to study Environmental Health

1. What does our Food System have to do with Climate Change?
2. What is the Industrial Food Production SYSTEM and its connection to WATER?
3. Systems-Thinking would help future Engineers create mindful Product Cycles and Materials Cycles.
4. Systems-Thinking analyses would increase our compassion and understandings of the complexities of Poverty, and the poor, who are the most at-risk and adversely affected by climate change.


Wholeshare
1
Wholeshare makes it easy to buy food as part of a group
2
Buying as a group gives you more purchasing power and allows you to buy directly from food producers
3
Your food is delivered directly from the source, so it's fresher and more affordable

Working Model: Harmony Farm, Goshen, NY

Working Model: St. Martin of Tours & Garden of Happiness

Farm Shares increase access to Locally Grown Food and Reduce Food Eco-Footprint

FRESH FOOD BOX

La Canasta
MARKET FRESH FOOD

CORBIN HILL
FOOD PROJECT

Harmony Farm

CAMPUS: Improving Water Fountains in Schools

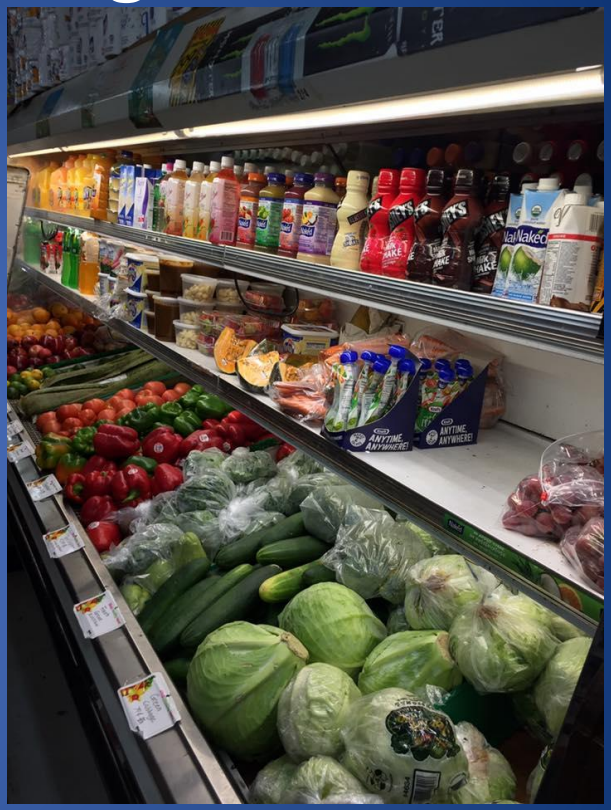
Bronx Health REACH accessed funding to replace broken water fountains at Preston High School with water bottle filling stations. Sister Patty found matching funds which were used to replace additional fountains.

https://www.trinitywallstreet.org/video/old-idea-new-again-water-fountains

"It cannot be emphasized enough how everything is interconnected…When we speak of the environment, what we really mean is a relationship between nature and the society which lives in it." - *Laudato Si*

CURRICULUM: Connecting the Dots between School Gardens, Garden to Café & Alternative (Plant-Based) Menu

COMMUNITY/COLLABORATION:
Bronx Health REACH Healthy Bodega Initiative



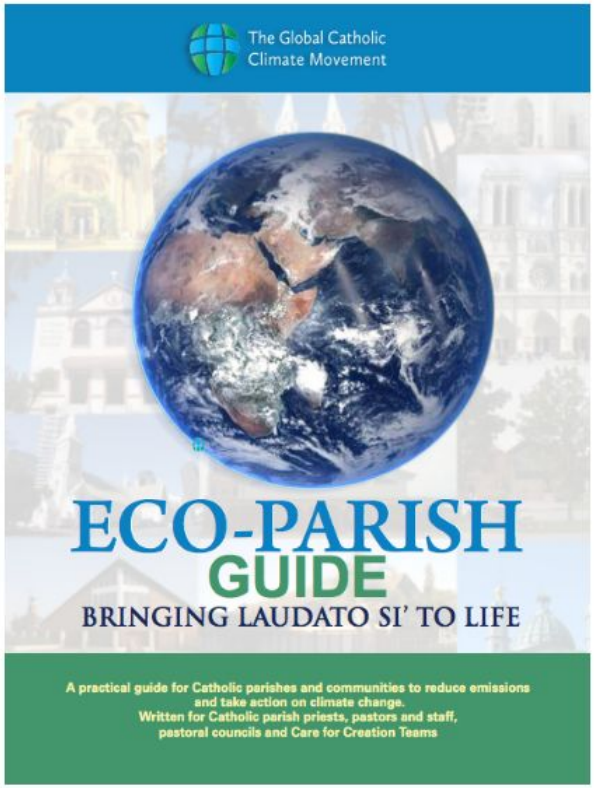
"We do not lose hope because much can be done on the local level…
We can build infrastructure, develop markets, support small businesses and farmers, and, through non-government organizations, help local people manage resources ranging from water to forests to land." - *Laudato Si*

the “NOW WHAT?”

- Resources
- Community Organizations
- Training in EfS

The Global Catholic Climate Movement

- Website: http://catholicclimatemovement.global/
- Prayer Vigils
- Parish Climate Change Action Guides
- Encyclical Resources
- Non Violent Protest information
- Facts and Figures
- Global Response



Franciscan Action Network Awards

GreenFaith

Interfaith Partners for the Environment

Local Organizations

SUSTAINABLE SOUTH BRONX

B.E.S.T. BRONX ENVIRONMENTAL STEWARDSHIP TRAINING

Bronx Health REACH
Making Health Equality a Reality

WE ACT FOR ENVIRONMENTAL JUSTICE

κNOw SOIL, κNOw LIFE

Spectra Pipeline Interfaith Vigils

GRASSROOTS ENVIRONMENTAL EDUCATION

Integral Ecology
Sampling of Resources for the 4C's of EfS

Curriculum

1. Children's Environmental Literacy Foundation (CELF)
2. Franciscan Action Network (FAN)
3. Grassroots Environmental Education

Campus (Parish/Schools)

1. GreenFaith
2. Metro NY Catholic Climate Movement / Global Catholic Climate Movement
3. Franciscan Action Network

Community and Collaboration:

1. ROAR (Religious Orders Along the River)
2. Bronx Sustainable Development
3. Bronx Health REACH
4. Hunger & Environmental Nutrition Dietetic Practice Group
5. ...and all the aforementioned.