



Creation Care Guide



Office for Social Concerns
Creation Care Team
Catholic Diocese of Columbus

The Canticle of the Sun, St. Francis of Assisi

Most high, all powerful, all good Lord! All praise is Yours, all glory, all honor, and all blessing.

To You, alone, Most High, do they belong. No mortal lips are worthy to pronounce Your name.

Be praised, my Lord, through all Your creatures, especially through my lord Brother Sun, who brings the day; and You give light through him. And He is beautiful and radiant in all His splendor! Of You, Most High, he bears the likeness.

Be praised, my Lord, through Sister Moon and the stars; in the heavens You have made them bright, precious and beautiful.

Be praised, my Lord, through Brothers Wind and Air, and clouds and storms, and all the weather, through which You give Your creatures sustenance.

Be praised, my Lord, through Sister Water; she is very useful, and humble, and precious, and pure.

Be praised, my Lord, through Brother Fire, through whom You brighten the night. He is beautiful and cheerful, and powerful and strong.

Be praised, my Lord, through our sister Mother Earth, who feeds us and rules us, and produces various fruits with colored flowers and herbs.

Be praised, my Lord, through those who forgive for love of You; through those who endure sickness and trial.

Happy those who endure in peace, for by You, Most High, they will be crowned.

Be praised, my Lord, through our sister Bodily Death, from whose embrace no living person can escape. Woe to those who die in mortal sin! Happy those she finds doing Your most holy will. The second death can do no harm to them.

Praise and bless my Lord, and give thanks, and serve Him with great humility.

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Acknowledgement

We would like to acknowledge the Archdiocese of Atlanta for inspiring our team through their document [*An Action Plan for the Roman Catholic Archdiocese of Atlanta*](#). Their team took great time and care in crafting a document that was readable, accurate, and focused on actions - both large and small.

[*An Action Plan for the Roman Catholic Archdiocese of Atlanta*](#) served as a starting point for our team in communicating tangible steps that parishes and individuals in the Catholic Diocese of Columbus could take in responding to the Papal encyclical *Laudato Si' - On Care for Our Common Home*. Atlanta provided both a framework for our team to follow and succinct body of text describing complex issues. Likewise, local resources and opportunities were consistently highlighted. Without such an excellent model, we would not have been able to produce this document. Thank you for lighting our path.

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Introduction

On Thursday, June 18, 2015, Pope Francis released his environmental encyclical *Laudato Si'*, or *Praised Be*, from the words of St. Francis of Assisi's *Canticle of Brother Sun*. In his encyclical, the Holy Father stated that, "If the simple fact of being human moves people to care for the environment of which they are a part, Christians in their turn realize that their responsibility within creation, and their duty towards nature and the Creator, are an essential part of their faith." Pope Francis urges that, "all of us can cooperate as instruments of God for the care of creation, each according to his or her own culture, experience, involvements and talents." This will not be an easy task, however, and will require, "honesty, courage and responsibility [as] humanity is called to recognize the need for changes of lifestyle, production and consumption." But asserting that, "truly, much can be done," he reassures us that, "local individuals and groups can make a real difference."

The Catholic Diocese of Columbus

Blessings: Praised Be!

The 23-county Catholic Diocese of Columbus offers a diverse beauty of people and natural ecology. People from all walks of life reside in cities, villages, and rural communities. Demographically, our common home of Ohio was shaped by waves of change. Thousands of years ago, hunters and gatherers and other native cultures migrated in response to changes in climate at the conclusion of the last Ice Age. European settlers prospected fertile land to start family farms, worked in factories, and started businesses. Immigrants from all over the world come to Ohio in search of a better life - escaping poverty, unrest, violence, and environmental degradation in their home countries.

This part of Ohio is rich in ecological diversity. Farms scatter much of the diocese with livestock and crops, fueling the economy and feeding the planet. Lakes and rivers are sources of lifegiving water with diverse aquatic species. Beautiful national, state, and local parks are havens of nature for us to enjoy, study, and contemplate the artistic expression of God. Ohio provides an assortment of natural resources used to power a strong and complex economy as well as our homes and parishes.

Challenges: Urgent Appeal to Act

With all these blessings, we also have challenges. In our cities and rural areas, the poor are suffering and many are just trying to make ends meet. Infant mortality and life expectancy rates vary dramatically according to zip code. The very young, elderly, and other vulnerable populations are in need of protection. Families struggle with mental health and substance abuse issues. Immigrants find barriers to becoming a part of the community. The unemployed and underemployed want meaningful work sufficient to support their families and express their dignity.

Our natural ecology shows signs of despair. Pollution from cities, businesses, farms, and homes are contaminating our waterways. Harmful algal blooms have become all too common in our lakes and rivers, threatening our drinking water supplies and places of recreation. What was once nutrient rich farmland and wooded areas bustling with life were stripped of their topsoil to be covered with concrete and

buildings. Air quality alerts are becoming a staple of weather forecasts. Invasive species continue to thrive while some native species become endangered. Local scientists inform us of troubling climatic trends caused by carbon emissions. Public officials, companies, and communities debate standards for energy sustainability and environmental stewardship.

Integral Ecology

“We are faced not with two separate crises, one environmental and the other social, but rather with one complex crisis which is both social and environmental. Strategies for a solution demand an integrated approach to combating poverty, restoring dignity to the excluded, and at the same time protecting nature” (Pope Francis, *Laudato Si'* #139).

As *Laudato Si'* makes clear, it is our sacred duty to preserve the beauty and bounty of our local ecology for generations into the future, but this duty is bound up in a complex landscape of natural, social, and spiritual factors. Some have believed that better science will lead to better policies that will solve contemporary ecological problems, but reality has proved more complicated. As Bishop Frederick Campbell said in a [lecture on *Laudato Si'* at The Ohio State University](#) in March of 2016, American culture has become more distant from the seasons and cycles of nature as we've shifted away from agrarian roots. By contrast, a “Catholic imagination of nature” reveals creation as a gift of God, where humans are the link between material creation and spiritual reality. Bishop Campbell suggested that we need a change in attitude about the meaning of human life: “We've lost some capacity to understand what is the good life, and we've substituted the goods life.” On top of the prevalence of materialism and a weakened sense of responsibility for the common good, Campbell said that in the loss of our relationship to land, and our loss of relationships with others – since we are fundamentally made for others, and do not become human without relationships – the roots of ecological crisis are evident. Since these roots are at once natural, social, and spiritual, our duty to preserve God's creation requires a response that engages all of these factors. We must heed the cry of nature and of the poor, addressing ecological and economic concerns in conversation with our best spiritual resources for work, service, gratitude, and blessing.

The Judeo-Christian tradition of care for God's creation

In *Laudato Si'*, Pope Francis draws on his namesake, St. Francis of Assisi (1181-1226) who, “whenever he would gaze at the sun, the moon or the smallest of animals, he burst into song, drawing all other creatures into his praise.” Indeed, the spiritual tradition of “creation care” has run through our Roman Catholic tradition from its earliest years and begins with the Book of Genesis.

The Old Testament is filled with beautiful images of nature and the revelation of God in nature. Citing the Book of Wisdom, the Holy Father observes that, “Creation is of the order of love.” God's love is the fundamental moving force in all created things, “For you love all things that exist, and detest none of the things that you have made; for you would not have made anything if you had hated it” (Wis 11:24). He notes that Jesus used nature as a teaching tool many times, describing clouds, planting and harvest, floods, flowering trees, wind, and water. In the High Middle Ages, Hildegard of Bingen, St. Francis of Assisi, St. Bonaventure, and others raised “creation spirituality” to a high form, and it was Bonaventure who

referred to nature as the vestigia, or footprints, of God.

In modern times, Catholic Social Teaching articulates the importance of [caring for God's creation](#) by including responsible stewardship of the earth and all its creatures as one of the seven major themes. Pope Benedict XVI spoke frequently about the moral obligation to care for creation, but it is through Pope Francis' *Laudato Si'* that care of creation is given a more heightened emphasis and a wider platform for discussion in our present day.

What is this document?

This Action Plan contains a menu of options that parishes and parishioners can take to start the difficult spiritual work of rebuilding the relationships we have with God, other persons, and Creation. Because there is so much variety and diversity between parishes in terms of human and financial resources, the menu of options presented here are ranked easy, moderate, and advanced. Everyone is encouraged to go as far as they can in implementing *Laudato Si'* and making these actions part of their daily lives.

This Action Plan also provides links to other resources that pastoral staff and parishioners can access to learn more and carry out the actions they select. The links take readers to resources where Catholics can dive deeper into each topic, such as finding out how to get an energy audit for your parish or home; calculating your family's carbon footprint; learning about native plants for your parish or home garden; understanding how to express support for national, state, and local policies that reduce greenhouse gas emissions; and caring for the vulnerable in your community.

As *Laudato Si'* observes, the most critical environmental challenge that we face is the threat of global climate change. However, as Pope Francis observes, "avoiding the use of plastic and paper, reducing water consumption, separating refuse, cooking only what can reasonably be consumed, showing care for other living beings, using public transport or car-pooling, planting trees, turning off unnecessary lights, or any number of other practices," are needed to address our "responsibility within creation, and [our] duty towards nature and the Creator."

Some may fear that the Pope's encyclical is an attack on our economic values and way of life. To the contrary, His Holiness asserts that, "business is a noble vocation, directed to producing wealth and improving our world. It can be a fruitful source of prosperity for the areas in which it operates, especially if it sees the creation of jobs as an essential part of its service to the common good." What Pope Francis asks of us is a, "profound interior conversion," that will come from, "major paths of dialogue," and lead us toward a future in which, "all people can prosper personally and economically in harmony with the gifts God has given us in nature."

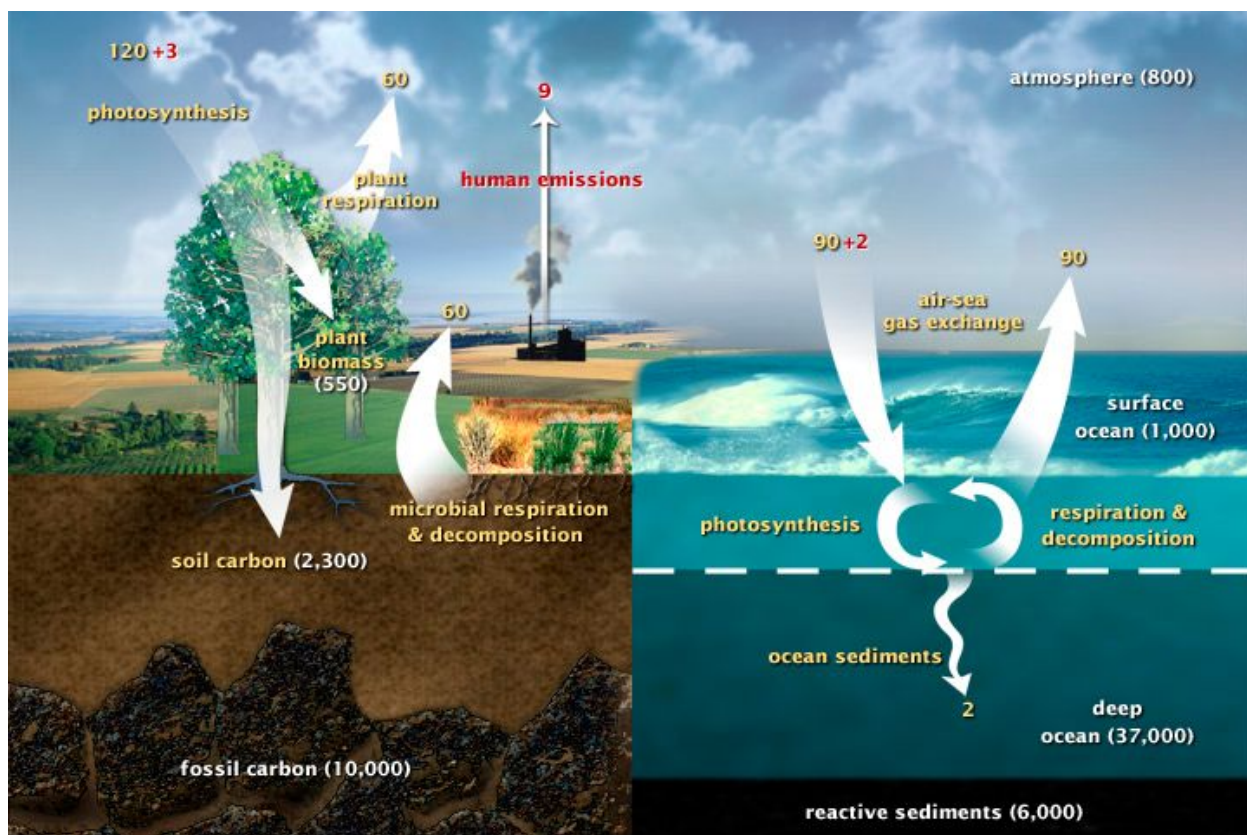
Basic science of climate change

As *Laudato Si'* states, climate scientists around the world have clearly shown that the planet's atmosphere has been heating up since the 1800s, with many of warmest years on record occurring in the past decade. Research on both climate change and climate impacts is conducted by scientists and engineers at federal laboratories and universities in Ohio, including at Ohio State's [Byrd Polar and Climate Research Center](#).

While there is overwhelming agreement among scientists on the process and causes of climate change (in fact, the scientific principles on which it is based are quite old), the average Catholic would not be aware of this. Science is not covered extensively in the mainstream media and some groups with vested financial interests use propaganda to make the science appear unclear. A brief overview of the science is provided below.

Earth has an atmosphere filled with gases. These gases allow visible light from the sun to pass through unobstructed. But, once this visible light strikes the ground, it is transformed into infrared light. Infrared light does not pass through some of these gases, called greenhouse gases, as easily on the way out as the visible light does on the way in. The delaying of this infrared light from leaving the planet causes it to remain warmer than it would otherwise be. Scientists have dubbed this the Greenhouse Effect because in greenhouses, glass acts like the gases in Earth's atmosphere, allowing visible light to pass through but delaying infrared light from leaving. The greenhouse effect is beneficial; without it, Earth would be significantly colder. Problems arise when there are many more greenhouse gases added to the atmosphere so that temperatures rise outside the ranges that our farms, settlements, and transportation systems have been built around. We are currently experiencing the planet warming rapidly because so many greenhouse gases have been added to the atmosphere over the past two centuries.

But, where did these greenhouse gases originate and why are they becoming more common today? Carbon is the main building block of life on Earth, and it is constantly being stored within living things, buried in the ground, or contained in the atmosphere and oceans. A process called the "carbon cycle" describes how carbon moves between living things, the ground, the atmosphere and oceans as seen in the diagram below.



This diagram of the fast carbon cycle shows the movement of carbon between land, atmosphere, and oceans. Yellow numbers are natural fluxes, and red are human contributions in gigatons of carbon per year. White numbers indicate stored carbon. ([Diagram](#) adapted from U.S. DOE, [Biological and Environmental Research Information System](#).)

Since the Industrial Revolution (around 1750-1850), our burning of fossil fuels such as coal, oil, and natural gas in our homes, cars, power plants, and factories has released large amounts of carbon dioxide (CO₂) into the atmosphere, and CO₂ is a greenhouse gas that traps heat in the atmosphere. The amount of CO₂ in the atmosphere is already higher than it has been for more than 3 million years. We know that the Earth's climate shifts naturally due to things like volcanic eruptions, solar activity, and the orbit of the planet, but scientists are very confident that our emissions of CO₂ are now the main “driver” of climate change and dwarf all other natural effects (an excellent [visualization of this fact is provided by Bloomberg](#)¹). This [brief video](#)² offers a summary of the greenhouse effect, greenhouse gas emissions, and climate change.

The build-up of CO₂ in the atmosphere has already led to global warming, especially in the Arctic regions of Earth; more severe weather patterns such as heavier storms and longer droughts; and faster melting of Earth's mountain glaciers and ice caps. Temperatures have been rising almost steadily since the late 1970s, and 15 of the 16 warmest years on record since people began taking measurements (in the year

¹ [Bloomberg, 2015. What's Really Warming the World.](#)

² [How Global Warming Works](#)

1880) have been since 2001³. The warming atmosphere is warming waters in the oceans and causing them to expand, which when combined with increasing meltwater from glaciers and ice caps, is causing the sea level to rise. Rising CO₂ in the atmosphere also dissolves in the oceans making waters more acidic. Rising air and water temperatures and increasing acidity of ocean waters are making habitats inhospitable for the wildlife that have traditionally lived there.

Climate change is a particular insidious environmental threat because CO₂ remains in the atmosphere for centuries to millennia⁴ and there are no technologies available to remove the carbon dioxide on a large scale. Different than other environmental threats, we have no way to “clean-up” global warming once it occurs. If we don’t act immediately to reduce our emissions of CO₂ into the atmosphere, temperatures in Central Ohio will rise as much as 3-5 degrees Fahrenheit by the year 2,100⁵ (for comparison, average temperatures on Earth dropped about 12 degrees Fahrenheit during the deepest part of the last ice age). Sea level could rise by between 1 and 4 feet during that same time period⁶, disrupting the lives of many people that live in coastal areas. Temperatures in Central Ohio already increased by 2.3 degrees Fahrenheit between 1951 and 2012 and the number of days with greater than 1.25 inches of precipitation (when the daily precipitation exceeds 1.25 inches, nuisance flooding and other impacts begin to occur) have already increased by 130 percent⁷ during the same time period. A [presentation](#) given by a scientist from Ohio State’s Byrd Polar and Climate Research Center offers an overview of how climate change will impact extreme weather in Ohio.

Climate change is not something that will happen in the distant future, it is happening right now, and it threatens our prosperity, our society, and our very civilization. It is an urgent and complicated problem that deserves immediate attention and for which we already have many tools to take action.

Did you know? Many universities in Ohio offer majors and minors in environmental science, sustainability, earth and atmospheric science, ecology, and biology. In addition, there are now many people working in the solar and wind energy industries throughout Ohio.

³ [National Centers for Environmental Information, 2015. Global Analysis - Annual 2015.](#)

⁴ [Inman, Mason, 2008. Carbon is forever. Nature Reports Climate Change.](#)

⁵ [GLISA, 2015. Climate Changes and Impacts in Columbus, Ohio.](#)

⁶ [U.S. Global Change Research Program, 2014. National Climate Assessment.](#)

⁷ [GLISA, 2015. Climate Changes and Impacts in Columbus, Ohio.](#)

Parish Activities and Education

In *Laudato Si'*, the Holy Father “challenges us to examine our lifestyle.” He urges us to work together and educate each other on the issues he raises in his encyclical. Environmental education, he says, “seeks also to restore the various levels of ecological equilibrium, establishing harmony within ourselves, with others, with nature and other living creatures, and with God. Environmental education should facilitate making the leap towards the transcendent which gives ecological ethics its deepest meaning.”

Read *Laudato Si'* and Host a Parish Session On It (easy).

It is important for Catholics to understand the faith and scriptural bases for creation care and integral ecology. In order to make sure that this core message is understood before taking additional steps, it behoves everyone to read *Laudato Si'* and share its message with others. Pope Francis has given us a wonderful gift to understand our faith better in *Laudato Si'*.

The United States Conference of Catholic Bishops offers an excellent free [study guide](#) on *Laudato Si'* as do several other organizations and publishers such as the [Catholic Climate Covenant](#).

Form “Creation Care Teams” (easy).

There are several ways in which schools and parishes can begin to educate their students, staff, and parishioners on the most important environmental issues. One way is to form a parish creation care team, or environmental ministry, which would take the lead in not only implementing specific practices but in developing environmental education materials for adult education programs, young adult groups, social concerns committees, and other ministries. [United States Conference of Catholic Bishops](#), [Catholic Conference of Ohio](#), [Catholic Climate Covenant](#), [Catholic Rural Life](#), [Catholic Relief Services](#), and [Ohio Interfaith Power and Light](#) have resources available for development of creation care teams. In schools or parish youth groups, students could form creation care clubs, St. Francis clubs, or *Laudato Si'* clubs that might serve as role models and leaders for other young people. Creation care clubs in our Catholic schools can take the lead in creating gardens, composting, recycling, and environmental awareness, working with science, religion, and art teachers to better put *Laudato Si'* into action. “Good education plants seeds when we are



Bishop Frederick Campbell, Cardinal Peter Turkson, and Dan Misleh (left to right) examine an ice core at Ohio State's Byrd Polar and Climate Research Center with researcher Ellen Mosley-Thompson.

young, and these continue to bear fruit throughout life,” says the Holy Father.

Bring in Expert Speakers (easy).

Parishes could enhance their adult and young adult education programs with speakers who are expert in various environmental fields. Raising environmental awareness, “needs educators capable of developing an ethics of ecology, and helping people, through effective pedagogy, to grow in solidarity, responsibility and compassionate care.”⁸ In Ohio, there are many such people, of all faiths, who can speak to climate science, agriculture, recycling, creation care spirituality, gardening, and water conservation. The Diocese of Columbus Office for Social Concerns also provides lists of speakers who can visit parishes for Adult and Young Adult education. See [Dominican Sisters of Peace’s Shepherd’s Corner](#), [OSU’s Byrd Polar and Climate Research Center](#), and [EECO](#).

Speak from the Pulpit (easy).

As the Holy Father pointed out, Roman Catholics have a long and rich Biblical and magisterial tradition of “the Gospel of Creation.” Pastors and deacons could draw from this tradition in homilies, letters, parish bulletins, and blogs to help parishioners, “realize that their responsibility within creation, and their duty towards nature and the Creator, are an essential part of their faith.” Many of the writings of St. John Paul II, Pope Benedict XVI, or “Respect for the integrity of creation” in The Catechism of the Catholic Church are helpful starting points for messages about the importance of respecting and valuing God’s gift of nature and the natural environment.

Create or Expand Your Library (easy).

Many parishes, and all schools, have libraries. There are many superb books that could serve as learning resources for any interested parishioner or student or as the start of a creation care library section. Many other excellent books on the Christian duty to be stewards of God’s Creation have been written and are available in bookstores and online.

Include Creation Care in Purchasing Goods and Services for the Parish (moderate to advanced).

Purchasing of goods and services provide opportunities to reduce the environmental impact of the parish. Support businesses whose actions protect the environment and people, and educate parishioners. Since knowledge is needed to inform decisions, small steps can be taken at first with larger actions following as members of the parish staff and parishioners learn. With all decisions, there will be costs and benefits to weigh - including financial, environmental, and social. Rather than create rigid rules for procurement, the goal of this action- is to make creation care an integral part of all purchases.

⁸ *Laudato Si'*, 210

Think Holistically About Lessons within the Existing School Curriculum (moderate to advanced).

The Diocesan Religion Course of Study addresses the moral obligation to care for God’s creation within the context of respecting all life and in our missionary spirit’s approach to evangelizing the world through our Catholic Social teaching. As stewards of creation we care for the earth not only out of respect for the world that God created but because the way we treat the earth also affects the way we treat each other. This gets to the very heart of Pope Francis’ understanding of integral ecology.

Teachers in Catholic schools can emphasize our moral teaching on care for creation and each other, by offering lessons in ecology, environmental science, sustainability and other topics that not only prepare students for the growing workforce in alternative energy, climate change adaptation and food production, but give them scientific and ethical backgrounds they need to live a more authentic Christian stewardship.

For high schools these lessons could be introduced in existing courses in science, business, social studies and theology to ensure students experience a robust treatment of the environment, care of creation theology, ethics and economics that sustain the environment and human dignity. Pope Francis stresses that, “our efforts at education will be inadequate and ineffectual unless we strive to promote a new way of thinking about human beings, life, society and our relationship with nature.” In *Laudato Si’*, Pope Francis brings together the strands of Catholic teaching that look at environment and humanity, neither separating them nor framing them in opposition to one another. The curricula in Catholic schools and parish schools of religion programs are directed toward providing that foundational approach, which can be fleshed out in specific ways through focused lessons.

Did you know? Vehicle emissions are the leading cause of “ground-level ozone,” an odorless gas that is a severe irritant to your lungs and throat. In the summer, ozone pollution can be especially bad, and young children and the elderly are most vulnerable. Hospital admissions of children with asthma soar in the summer due to ozone created by vehicle exhausts (National Institutes of Health).

Energy Conservation and Efficiency

For Parishes

Electricity production from fossil fuels is the biggest source of greenhouse gases. Carbon dioxide, a greenhouse gas, is generated when we burn fossil fuels such as coal, natural gas, and oil to heat our homes and fuel our cars. Energy costs are often among the biggest a parish has to face and one which could be significantly reduced. *Laudato Si'* discusses the need for, “developing renewable and less polluting forms of energy, [and] encouraging a more efficient use of energy.” Pope Francis quotes Pope Emeritus Benedict XVI, who said, “technologically advanced societies must be prepared to encourage more sober lifestyles, while reducing their energy consumption and improving its efficiency.” In Ohio, we get most of our electricity from the fossil fuels coal and natural gas. Reducing a parish’s energy use is a straightforward way to reduce its “carbon footprint.”

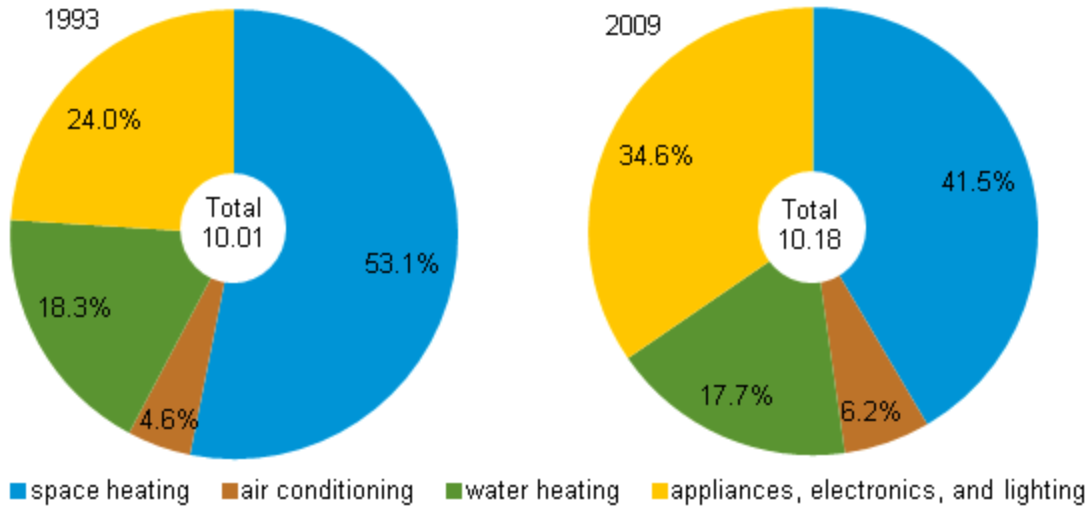
Pursuing energy efficiency for your parish can be as easy as installing a LED light bulb, as expensive as replacing your HVAC system, or as complicated as changing the way you are billed for electricity. There are many opportunities at all levels for your parish to reduce your energy use. It’s important to first understand how your parish uses energy in its buildings and how human behavior impacts energy use. Saving energy saves money. And the money saved can be redirected towards ministries and programs that benefit the larger community.

Best estimates indicate that the HVAC system in your facility accounts for one third of the total energy use. Programmable thermostats and improved signage can reduce HVAC use in unoccupied spaces, both saving energy and extending the life of equipment. Lighting is the second largest energy user in most buildings, using 20 to 30 percent of total energy. Your parish can save considerable money by turning off lights and installing motion sensors on light switches. Water heating and other energy loads can contribute 26 percent or more to your total energy consumption. If your parish or school has commercial cooking equipment, your “cooking” category is likely to be greater than 2 percent due to the energy used for commercial appliances. Purchasing energy-efficient appliances and operating them in ways recommended by the manufacturer can reduce energy use. In fact, new energy-efficient appliances can sometimes pay for themselves through money saved in electricity or natural gas.

The Cost of Energy

Most parishes use a blend of electricity and natural gas. Natural gas is commonly used in water heaters, kitchens, and for space heating. Electricity is used for lighting, all plug-in equipment, air conditioning and sometimes space heating as well. A typical breakdown of total energy expenditures for two years is represented in the pie chart shown below.

Energy consumption in homes by end uses
quadrillion Btu and percent



Source: U.S. Energy Information Administration

Did you know? Since coal is the most commonly used fuel for electricity generation, it accounts for 76% of global CO₂ emissions. Natural gas accounts for 22% of global CO₂ emissions (U.S. Environmental Protection Agency). In Ohio, power plants rely on a mix of coal, natural gas, oil, and nuclear energy to produce electricity. Less than 2% is procured from renewable energy sources, mostly wind. Implementing energy efficient measures within your parish can reduce greenhouse gases while also saving money. Specific sources of energy for Ohio electricity generation for the year 2014 are provided below.

Coal	Natural Gas	Oil	Nuclear	Hydro	Biomass	Solar	Wind
70.14%	13.96%	1.17%	13.03%	0.34%	0.50%	0.04%	0.81%

Source: U.S. Energy Information Administration

A professional energy audit will help determine how a parish uses energy and provide ideas on ways to save energy and money. [Ohio Interfaith Power & Light](#) (OhIPL), a statewide faith-based nonprofit organization, helps houses of worship reduce their energy footprint. OhIPL offers professional energy audits and grants to fund energy efficient upgrades for worship facilities and religious schools, through their Energy Stewards program. In addition, training is provided to parishes to monitor energy use to better inform actions that will reduce energy demand. The average energy savings are at least 20% for churches. Parishes and schools within the Columbus Diocese are encouraged to contact [OhIPL](#) for more information on energy audits and grants or the [Diocesan Facilities Office](#) for more information on monitoring and reducing energy usage.

Practical Steps to Energy Efficiency

A parish energy audit is the perfect starting point to manage your energy use. Here are the steps you can take to pursue energy efficiency in your parish once the audit results are reported. Many of the electricity providers in Ohio have incentive programs that can help defray some of the costs of actions.

Selected Energy Efficiency Programs Offered by Electricity Providers in Ohio

AEP Ohio:

<https://www.aepohio.com/save/residential/programs/CommunityEnergySavers.aspx>

<https://www.aepohio.com/save/business/programs/SmallBusiness.aspx>

Duke Ohio:

<http://www.duke-energy.com/ohio/oh-energy-efficiency-programs.asp>

Dayton Power & Light:

<http://www.dpandl.com/save-money/business-government/>

First Energy:

Not currently offering applicable programs.

Make the Commitment (easy).

Your parish's facilities personnel are not the only people responsible for managing energy wisely. A successful energy management program requires the engagement and commitment of multiple stakeholders in your parish community. The parish Creation Care Team can address energy efficiency in your parish. Include those who have an impact on energy use or will be affected by energy management decisions, such as an individual whose passion is creation care and environmental sustainability. Designate a single individual to coordinate the team and follow up with your parish's progress to promote accountability. It will also be very helpful if team members are empowered to make budgeting decisions. This commitment will be most powerful if it is put in writing, agreed to, and shared with your entire congregation.

Determine Current Energy Performance (easy).

Creating a baseline of your current energy use allows you to measure progress against these numbers. This will also allow you to compare your current energy performance with the performance of other parishes. There are several metrics by which experts can benchmark your parish's energy performance. One readily available online resource is EPA's benchmarking tool, [EnergyStar for Congregations](#). It is free and will help you benchmark your building against other congregations of similar size. [Ohio Interfaith Power and Light](#) can also help you complete an energy audit, which includes an Energy Audit Report for your facilities where metrics are discussed in detail.

Set a Goal (moderate).

Once your energy management team commits to energy efficiency and determines how your current performance stacks up to your peers, the next step is to set an energy reduction goal. This goal should be realistic yet challenging. It should be specific in terms of desired energy savings. Deadlines should be established. A clear goal will help rally your parish community and provide a measure against which you can evaluate your progress. An energy reduction goal usually has several parts:

1. A Metric (e.g. total energy use per square ft.)
2. A Baseline (e.g. from a 2009 baseline)
3. A Reduction Amount (e.g. reduce by 15%)

Create your Energy Action Plan (easy to moderate).

An Energy Action Plan specifically spells out how your team will achieve or begin to achieve your energy reduction goal. This is where specific energy conservation measures should be defined. The Action Plan should state who will be responsible for accomplishing each measure and what resources they will have to support them. Remember, you can accomplish your energy reduction goal through one large action, many small actions, or a combination of the two.

Did you know? In 2007, Pope Benedict XVI announced that Vatican City would aim to become the world's first "carbon neutral state" by switching the Paul VI audience hall to solar power and planting a forest in Europe.

Implement your Energy Action Plan (easy to advanced).

The implementation process inevitably involves surprises and demands some flexibility. Be sure to keep energy management team members informed of progress and setbacks. Communicate frequently with all congregation stakeholders about your energy management plan so they understand the bigger picture and how it relates to changes they see occurring.

Begin taking concrete steps to reduce energy use, based on your energy audit. With all of these actions, savings and environmental benefits accrue over time. The sooner actions are taken the sooner you will begin to save money on your energy bills and the greater the environmental benefits over time. For example:

- Swap out incandescent light bulbs with LED light bulbs. Old-fashioned light bulbs waste a lot of energy and actually give off more heat energy than light. (While CFL bulbs are also more efficient than incandescent bulbs, they contain Mercury and need to be disposed of in a special way.)
- Install a programmable thermostat that limits when the heating or air conditioning comes on. For example, when no one is in the church or school in the winter, the thermostat can be programmed to 55° Fahrenheit. During times when people are working, studying, and worshipping, stay within the 68-78 zone for winter and summer.
- Remind parishioners to turn off lights and turn down heating and air conditioning when rooms are

not in use. There is no cost for for this action, but installing signage can help remind people and improve your chances of success. Establishing new behaviors takes time but, once they are established, it is easy to reinforce them.

- Put inside lights on timers and both inside and outside lights on motion sensors.
- Replace old appliances with [Energy Star](#) appliances.
- Insulate, seal cracks and leaks, and check or replace storm windows.
- Consider replacing single-paned windows with double-paned windows or installing storm windows. The return on investment will take only a few years.
- Replace or repair weather stripping on doors and window that are otherwise in good order.
- Consider putting rooftop solar panels on the church, rectory, school...or all of them! [Ohio Interfaith Power and Light](#) can provide you with a list of churches that have installed solar and help you look for the right contractor for your circumstances.

Even if you cannot install solar or wind on site, in Ohio you are able to select your energy provider through the Public Utilities Commission of Ohio (PUCO). There are many options for renewable energy with a small differences in price. You may review your options online at PUCO's [Apples to Apples Energy Choice Ohio](#) tool.

In addition to the many recommendations made here, check out the online [Ohio Energy Efficiency Library of Resources](#) provided by AEP, the electricity supplier for most of the diocese.

Did you know? A compact fluorescent light bulb uses 75 percent less energy than a regular bulb and it can last up to four years. And a crack as small as 1/16th of an inch around a window frame can let in as much cold air as leaving the window open three inches (Alliant Energy)!

Energy Saving Example in the Catholic Diocese of Columbus

Recently, Holy Spirit Church and School undertook a number of energy efficiency projects that will allow the parish to reduce overall operating costs and improve the comfort of their facilities. The greatest investment and savings came from the replacement of three boilers that were more than 55 years old with new 93%-efficient boilers. A new roof installed over two-thirds of the school included 3 inches of new insulation as part of the replacement to reduce heating and cooling costs throughout the year. New heating controls were added in the church and school to increase proper temperatures in all zones, reducing over-heating some zones and under-heating others. When an old air conditioner failed, a new air conditioner for the church was installed that has a much higher efficiency rating. The new air conditioner also uses a less harmful refrigerant, R-410A, since R22 will be unavailable after 2020. Lastly, volunteers provided free labor to replace more than 1000 40-watt fluorescent bulbs and 580 ballasts with 580 19-watt LED bulbs.

For Homes

In most homes, heating, appliances, electronics, and lighting make up the bulk of our energy use (U.S. Energy Information Administration, 2016). Just as there are many ways to conserve energy at church, there are many effective ways to save energy at home. Whether you live in a house or apartment, a mobile home or a renovated loft, conserving energy will benefit our environment and put money in your pocket!

Do the Basics (easy to moderate).

- Find out where your home is wasting energy and how much you can save through making energy upgrades by completing an online energy profile offered by AEP Ohio and Columbia Gas. It is free and only takes five minutes to complete, and will help you qualify for incentives to make energy efficient upgrades. Visit the [AEP Ohio online energy checkup](#) and the [Columbia Gas version](#). While *Laudato Si'* discusses a spectrum of issues, it stresses the importance of reducing our greenhouse gas emissions. You can also calculate your home's carbon footprint as part of your family energy assessment to see where you can save energy and make the biggest impact on climate change. One example of such a calculator is provided by [The Nature Conservancy](#).
- Swap out incandescent light bulbs with LED light bulbs. Old-fashioned light bulbs waste a lot of energy and actually give off more heat energy than light. LEDs start paying for themselves immediately with direct energy savings and last much longer. (While CFL bulbs are also more efficient than incandescent bulbs, they contain Mercury and need to be disposed of in a special way.)
- Make home energy efficiency second nature. Check to make sure that your insulation is properly installed. Seal windows and door frames against leaks and drafts. Take simple steps like turning off electronics when you are not using them and turning off lights when you leave a room. Don't use hot water if cold water can do the same task just as well. This might require changing some long-held habits.
- Outdoor lights are very important for home security. It is easy to install motion sensors into existing outdoor light sockets and have the lights come on only when a person (or a raccoon!) moves nearby. You can also buy light fixtures that combine light sensors with motion sensors that come on dimly at sunset, brighten only when they sense movement nearby, and turn off early in the morning. Reducing outdoor light at night also cuts back on "light pollution" that impacts some wildlife and makes it more difficult to see lightning bugs and stars.
- When it is time to replace or buy a new appliance, buy [Energy Star](#) appliances such as dishwashers, clothes washers and dryers, water heaters, furnaces, and air conditioning units. Appliances can use VERY large amounts of energy over their lifetimes. You can find energy-saving appliances at most Ohio-based retailers. Although most stores will clearly label an appliance as Energy Star certified, you can also check the [Energy Star website](#).
- If there is condensation water on the insides of your windows on the Feast of the Assumption (August 15), your AC is probably set too low. If your kids are running around the house in a bathing suit on Epiphany (January 6), turn down the heat. Since space heating and air conditioning make up around half of your home energy use, try living in the "68-78 degree" range. In other words, keep the thermostat at 68 degrees in winter and 78 degrees in summer. To

avoid thermostat battles in your home, install programmable thermostats that turn the heating and cooling off when you are not at home or at night. Most are easily self-installed and save energy immediately.

- Turn down your hot water heater to the point where it still produces sufficient hot water when you are using it the most - for instance when most family members are showering during the day. If your heater is set too high, you are wasting energy overheating water. Most hot water heaters also have a vacation settings for when you are away for extended periods of time.
- Install hot water heater insulation wraps and insulation for piping.

Lead by Example (moderate to advanced).

- Share information about your energy audit and actions with your neighbors. While audits have become more common, most households have not had one completed. Everyone is interested in saving money and even those individuals very knowledgeable about their homes' operations will learn something during the audit.
- The prices of rooftop solar panels and systems have plummeted in recent years and continue to decline. While once considered unusual (and unusually expensive), more and more homes and business are using Brother Sun to generate their electricity and reduce their carbon footprint. Rooftop solar use is growing rapidly worldwide, including in Vatican City! A good source of information to see what options may be available to assist with financing or lowering the cost of solar installations can be found at the [Database of State Incentives for Renewables & Efficiency](#). To learn more information on how solar may affect your utility bill and what steps need to be taken with your local utility before installing solar, visit [AEP Ohio's Renewable Energy Page](#).
- Rooftop solar water heaters are another way to reduce home energy use. The sun heats water before it goes into your water heater tank. They are less expensive than solar panels. If you use natural gas for your water heater, rooftop solar water heaters can immediately reduce your carbon footprint.
- Plant native trees to shade the home. Shade is the cheapest way to cool your house. More information on planting trees can be found in the Landscaping section of this Action Plan.

Remember the Past and Look to the Future (moderate to advanced).

- Even in the hottest times of summer, night-time temperatures in most of Ohio dip into the mid-70s. On those nights, instead of spending money to run the air conditioning unit, why not use your windows and ceiling fans to bring in cool night air? Don't forget about using screens for upstairs windows and for all your windows consider installing safety pins in the window sashes so that they can be safely locked to open no more than six inches at night for cross-ventilation (For older homes where windows are low, this also protects children from falling out of open windows.). Cool night air is free!
- Depending on where you live, consider line-drying some of your clothes in summer. Clothes dryers are usually the most energy-intensive home appliance. Line-drying just a few loads each week can significantly reduce your energy use and save money. Line-drying also saves money on clothes, since they last longer if you don't tumble them in a hot dryer. There are many clotheslines that are compact and collapsible for small yards and apartment balconies. If you live

in a subdivision, be sure to check with your homeowners association to see if line-drying is allowed.

- When buying a house, consider its energy usage and energy efficiency. Ask your realtor to show you energy efficient homes and ask about a prospective home's energy use and efficiency. Remember, even new homes might not be energy efficient. If possible, consider buying a [LEED-certified Home](#) (LEED stands for Leadership in Energy and Environmental Design).
- Environmental health is a growing field that looks at how materials within the home, neighborhood, and workplace impact their inhabitants. This is especially important for children. Examples include chipping lead paint within homes, heavy metal and petrochemical pollutants in neighborhood soils, volatile organic compounds used in flooring and wall adhesives, pollutants in drinking water, and radon gas common in some parts of the state. The list of hazards can be extensive, but a good first step is making yourself aware and working over time to reduce them. A good first step is visiting the [Ohio Department of Health - Environmental Health website](#).

Remember the Earth is the only home we have. The words "ecology" and "economy" both come from the Greek word "oikos," which means home. Taking care of our ecology and our economy together is nothing more than good housekeeping! As the Holy Father said, "Once we start to think about the kind of world we are leaving to future generations, we look at things differently; we realize that the world is a gift which we have freely received and must share with others."

Purchasing and Recycling

For Parishes

Everything we buy needs some kind of natural resources to make, and aside from food, almost everything we buy ends up being thrown away eventually. On average, we each throw away more than 4 pounds of garbage every day, mostly paper products and food, but also clothes, toys, rusty tools, furniture, household cleaning products, and lots of electronics. Only about a third of our garbage is recycled, and much of what is left behind is materials such as plastics that will take centuries or millennia to break down in a landfill.

This does not include the huge volumes of solid and liquid waste created in the countries where the things we buy are manufactured. Most of those countries do not have the environmental protections that we enjoy in the U.S., and waste from that manufacturing, as well as garbage, tends to pile up in massive quantities in the poorer regions of the world. In the oceans, plastic is accumulating in alarming amounts, where it does not break down or biodegrade. Instead, it gets broken into smaller pieces where it is then eaten by birds and other marine creatures, or it washes ashore and litters beaches and coastal waters.

All of these problems with garbage and industrial waste, Francis says in his Encyclical, “are closely linked to a throwaway culture, which affects the excluded just as it quickly reduces things to rubbish,” and he urges us, “to adopt a circular model of production capable of preserving resources for present and future generations, while limiting as much as possible the use of non-renewable resources, moderating their consumption, maximizing their efficient use, reusing and recycling them.” The amount of material that is thrown away each year is staggering and difficult to grasp in terms of numbers. The [artwork of Chris Jordan](#) provides a unique way to visualize the extent of waste.

“Reduce, Re-use, and Recycle” in Parishes and Schools (easy)!

The easiest way to minimize the environmental impact of our standard office operations, in order of importance, is to reduce our creation of trash, reuse as many office supplies as we can, and recycle as much garbage as possible. This could also mean purchasing used office furniture or decorations - including pictures, lights, rugs, and other items. Gently used furniture and electronics that still has useable life can be listed on Craigslist for free; thus extending the life of the furniture and potentially helping someone in need. The local St. Vincent de Paul society might also collect gently-used furniture and electronics for those in need or the parish might welcome donations for the annual rummage sale. You may also consider donating items to Habitat for Humanity or Goodwill. Similarly, consider donating used office supplies to a local school or other non-profit organization. Consider doing a waste audit of your parish office to see what you throw away that could be repurposed or recycled.

Purchase Supplies Made from Natural, Sustainably-Sourced, Recycled, and Recyclable Materials (easy).

Paper is typically the biggest trash item generated in offices, but so are binders, printer cartridges, and electronics. Simple actions include printing documents on both sides of the paper, buying printer paper

made from recycled materials, re-using binders and report covers, and printing only when necessary. Many new products, made from recycled or sustainably-sourced materials, are no more expensive, function just as well, and look just as good as traditional products. Look for these products next time the parish or school makes a purchase.

Eliminate Unnecessary Purchases

In most buildings, tap water is safe to drink and bottled water is unnecessary. Twenty years ago, bottled water was unheard of in the U.S. Reduce the use of bottled water at events by promoting reusable personal bottles or providing water dispensers with drinking glasses or compostable cups. Water can be placed in clear containers with ice and fruit slices (such as lemon or lime) to enhance visual appeal. Using tap water rather than bottled water can save money on both the purchase and disposal.

Appropriately Dispose of “Harder to Recycle” Items (easy)

While most items can be recycled, not all can be placed in a traditional recycling bin. The reason is that some items are toxic and others need a special process for successful recycling. For example, old electronics such as computers, cellular phones, stereos, and televisions need to be taken to an electronics recycling center because they contain heavy metals. Many electronics stores, such as [Best Buy](#), accept these items for recycling. Another example is batteries, which often contain lead and should not be sent to landfills. Many battery supply companies provide free recycling of used batteries. Companies, such as HP, offer [free mail-in recycling programs](#) for printer cartridges. In Central Ohio, [SWACO](#) and [City of Columbus](#) offer online lists of companies that recycle various items. Other resources include [SouthEastern Ohio recycling](#) (a joint venture of many southeast Ohio counties) and [Licking County recycling](#).

Educate Others (easy)

Educate your staff and parishioners as much as possible about your efforts. Individuals are often willing to take action, but they do not have the knowledge of what to do or why it matters. Start out with small, simple education efforts to ensure success and build from there. In the parish bulletin or on a parish web page, list sites in the community where recycling bins and donation bins are located. Keep it updated. Remember, don't “hide your light under a bushel basket” but rather “let it shine.”

Use Recyclable/Compostable Materials or Metal/Porcelain Utensils, Cups, and Plates for Parish Events (easy to moderate).

Graduations, weddings, baptisms, weekly potlucks, Lenten fish fries, and other parish events can generate a lot of paper and plastic waste. Recyclable, biodegradable, and reusable utensils, cups, and plates can greatly alleviate this and make every parish festivity a sustainable one. Using reusable materials can also substantially cut the cost of these events in the long run. Many parishioners do not know that refuse removal has a cost and that the parish can save money by reducing the amount of garbage that is

generated and placed in the dumpster to be hauled to a landfill.

Set up a Parish Recycling Program (moderate to advanced).

Most municipalities have recycling programs. The parish “Creation Care Team” can opt into the program and learn which materials the garbage company will accept for recycling. If recycling is not part of the trash pick-up, or if there is no garbage collection for the parish, then find the nearest facility or drop off location through [SWACO](#) or your local provider.

- Once you know the materials that the recycling company collects, find out if the recyclables may be mixed together or must be separated into specific groups (paper, cardboard, glass, aluminum, certain types of plastics, etc.).
- If materials must be separated, place separate bins in strategic locations. For example, for glass, plastic, and metal containers, place bins in the break room and kitchen. Cardboard boxes work well for paper recycling. You can provide a paper recycling box under each desk in offices.
- Make it easier to recycle than throw away. For trash destined for the landfill, which should be minimal, put a few containers in central locations that would require employees to get up from their desks to deposit their trash. This encourages people to do the right thing and establishes new habits.
- If your parish has a compost pile, put a small, covered trash can in the kitchen or breakroom for banana peels, apple cores, coffee grounds, tea bags, paper towels and other food waste. Make sure that someone is willing to take the compost to the pile regularly.
- [How to Start Recycling at Church](#) provides good information to help your parish get started.

For Parishioners

Aside from food, we throw away an amazing amount of garbage every day. Many of the things we buy get thrown away in less than one year! Much of this relates to what Pope Francis, echoing Pope Benedict XVI and St. John Paul II, referred to in a 2014 address as our “throwaway culture” in which, “we have a surfeit of unnecessary things, but we no longer have the capacity to build authentic human relationships marked by truth and mutual respect.” The US Conference of Catholic Bishops has called for us to live The Good Life but from a Catholic perspective that turns aside from what Boston College professor Juliet Schor calls the cycle of “work and spend.”

If we embrace the adage that our parents and grandparents had to live by and which Pope Francis reminded us of in *Laudato Si'* - “less is more” - we can reduce our environmental impact at home by watching what we buy. Thrift is a virtue not a vice.

All of the suggested actions listed above for parish and school offices apply to our home purchases. However, we can also make purchasing and recycling decisions that relate to our personal lives. For instance, rather than purchasing gift wrap, can newspaper suffice?

Reduce, Re-use, and Recycle at Home (easy)!

- Drink water from the tap rather than purchase bottled water. A personal, reuseable water bottle that seals can ensure that you still have water on the go.
- Repair things that can be repaired rather than buying new ones. Reject the notion that just because it is “cheaper to buy a new one” it is better.
- Instead of throwing clothes away, donate them! St. Vincent de Paul Society and Goodwill are eager to receive used clothes.
- Instead of throwing away toys, donate them to those same organizations or any other charitable organization in your area.
- Many small things that we throw away can be recycled – store receipts, shredded personal papers, and plastic caps. See if you can put more materials in your recycling bin than your waste bin. Learn as much as you can about how to reduce, re-use, and recycle at home.
- Take advantage of the recycling program offered by your waste hauler or check with the county or your regional solid waste authority for recycling centers near you. In Central Ohio, [SWACO](#) and [City of Columbus](#) offer online lists of companies that recycle various items. Other resources include [SouthEastern Ohio recycling](#) (a joint venture of many southeast Ohio counties) and [Licking County recycling](#).
- Recycle electronics. Old electronics such as computers, cellular phones, stereos, and televisions need to be taken to an electronics recycling center because they contain heavy metals. Many electronics stores, such as [Best Buy](#), accept these items for recycling.
- Recycle batteries, which often contain lead and should not be sent to landfills. Many battery supply companies provide free recycling of used batteries.
- Bring reusable bags to the grocery store. Every year, literally trillions of disposable plastic bags are manufactured around the world. These bags clog sewers, get captured in trees, and can be swallowed by wildlife. Instead of using disposable plastic bags, buy cloth bags or bags made from recycled materials. If you do have plastic bags, recycle them at retailers such as Kroger which have special bins for disposable plastic bags BUT DO NOT add them to your home recycling bin. In many places, disposable plastic bags can cause problems for the machines that sort recyclables.

Create a Compost Pile (moderate)

Food scraps such as fruit and vegetable peels, stale bread, and coffee grounds can be composted to create rich fertilizer for use in your garden. There are many designs for compost piles, from the simple to complex. If you live in the city, make sure that your compost pile is rodent proof so that you do not attract rats and that it meets any requirements of your homeowners association if you have one.

Embrace Simple Living (easy to advanced).

Many of the things we purchase were designed to make our lives easier and give us more free time. That has not really panned out! Simpler living has measurable health benefits. Save money, reduce stress, reduce clutter, and make time for the truly important things by trying to adopt a simple lifestyle. Here are a few ways to live more simply.

- Remember that our purchases have an environmental impact when they are manufactured and

again when they are discarded. Try to live simply so that others may simply live.

- Use materials collected from the recycling bin, rather than those purchased from the store, to create a sustainable weekend art project for the family.
- Shopping can be fun, but it can also become an addiction. Before buying something, always ask yourself if you need it and if you can afford it. Pope Francis would be very happy for us.
- Rather than exchange countless frivolous gifts at Christmas and birthdays, could a few thoughtful gifts be exchanged and the money saved be given to the work of a favorite charity or used to “adopt” a less fortunate family for Christmas
- Get in the habit of evaluating your purchases socially and environmentally. For example, products that traditionally came in glass containers (like cooking oil) now come almost increasingly in plastic bottles. Whenever possible, buy the glass container.
- Learn what you can about the stores where you shop, and ask that they start stocking goods that are environmentally responsible. [Forbes Magazine](#) recently featured a list of companies whose products were considered best for the environment.
- Second hand stores are more and more popular and provide a lot of high-quality items at reasonable prices. They also are willing to pay you for your gently-used goods.

Transportation

For Parishes

Cars and trucks are important and valuable parts of our American culture. However, after electricity generation, transportation is the second largest source of greenhouse gases, especially of CO₂. This comes from the gasoline and diesel fuel we put in our engines. How much we drive and the type of vehicle we drive have a large impact on our carbon footprint. Although Pope Francis has never been to Ohio, he could have been describing Columbus when he wrote, “many cars, used by one or more people, circulate in cities, causing traffic congestion, raising the level of pollution, and consuming enormous quantities of non-renewable energy.” Increasing traffic congestion will make our commutes and our air pollution even worse than they are now. As the Pope reminds us, “advances have been made in the production of non-polluting energy and in the improvement of public transportation. These achievements do not solve global problems, but they do show that men and women are still capable of intervening positively.”

Consider Purchasing a Fuel Efficient Vehicle for Your Pastor and Parochial Vicars (advanced).

Most pastors and parochial vicars live close to their parish but are required to travel around the diocese for home and hospital visits, meetings, and retreats. And of course, they drive to go shopping, socialize, and relax like the rest of us. Instead of providing the priest with a fuel-inefficient car, parishes who buy cars for their pastors could purchase a high efficiency car (such as a Honda Civic or Chevrolet Cruze) or gas-hybrid car (such as a Toyota Prius or Chevrolet Volt). Newer models of many fuel efficient cars are bigger and have greater engine power than earlier models. They not only have lower CO₂ emissions, but can save tremendous amounts of money on gas. A Prius can go as much as 450-500 miles on one tank of gas, and a Volt can travel 1,000 miles between fill-ups! There are many industry guides to help your parish decide which car would be best for your priests. Considerations should include the number of miles driven annually, the types of tasks the vehicle is used for, and the total budget for the vehicle. Remember, these vehicles have been around long enough that there are now many used ones on the market.

Provide Premium Parking at Churches and Schools for Fuel Efficient Vehicles (moderate).

Aside from parking spaces necessarily set aside for the disabled and the elderly, who doesn't want to park as close to the church or school as possible? Depending on available parking space, parishes could set aside a row of spaces reserved for parishioners, students, and teachers who drive fuel efficient vehicles. Rewarding parishioners who are committed to the spirit of *Laudato Si'* is one small gesture that can change hearts and minds.

Did you know? In 2005 alone, U.S. drivers wasted 4.2 billion hours and up 2.9 billion gallons of fuel sitting in traffic. That translates into almost 60 billion pounds of greenhouse gases put into the atmosphere just by traffic congestion (U. S. Environmental Protection Agency)!

For Parishioners

Carpool, Take Public Transportation, Walk, or Bike to Mass, School, and Parish Meetings (easy to moderate).

One way that Catholics can continue to respond positively to *Laudato Si'* is by sharing rides to Sunday Mass, school, and parish events or foregoing the car to walk or bike. Public transportation might be an option in larger cities and suburbs. Some parishes attract parishioners from many different zip codes while others have more tightly clustered parishioners.

There are many opportunities in each parish for individuals to carpool to church or school, and thus reduce their consumption of fossil fuels. Carpooling to church can also serve as a way for parishioners to get to know each other and ease parking issues. Parishes and parish organizations can develop carpool lists and databases to link parishioners interested in carpooling. Likewise, If there is space in the parking lot during the week, could the parish serve as a park and ride location for carpooling commuters?

Taking public transportation, walking, and biking may be more challenging based on the distance between home and church, available bus routes, and the conditions of the roads and sidewalks. Greater participation in public transportation, walking, and biking will make parishioners more aware of the infrastructure on which many populations depend for all of their transportation needs. Walking and biking have added health benefits and also slow down our movement through the community to better appreciate the people and places where we live.

Remember the Simple Things About Fuel Efficiency (very easy).

Small behavioral changes can lead to big increases in your vehicle's fuel efficiency and savings at the pump. You don't need to warm your car in the morning unless it's a very old model. Don't idle while waiting to pick someone up or waiting outside a store. Avoid using the drive thru. Don't drive around the parking lot looking for a space; pick the first one and get a little exercise! When approaching a red light, start coasting so that when it turns green, you are already moving. Eliminate jackrabbit starts or accelerations. Combine shopping trips into one. Keep your tires properly inflated and your engine tuned up.

Consider Purchasing Fuel-Efficient Vehicle (moderate to advanced).

When buying a car or truck, always consider its gas mileage, carbon footprint, and environmental footprint. Buy consistent with your true needs. Driving a fuel-efficient car that minimizes our impact on the environment identifies us as someone who cares about the future and who identifies with the spirit of *Laudato Si'*. Fuel-efficient cars also save lots of money on gas. Learn about fuel efficiency standards and which cars and trucks rate the highest, so that when you shop for a new car or truck, you can find the one that says you are a snazzy driver and someone who cares about creation.

Considerations for vehicle purchases should include the number of miles driven annually, the types of tasks the vehicle is used for, and the total budget for the vehicle. Consider a high efficiency car (such as a

Honda Civic or Chevrolet Cruze) or gas-hybrid car (such as a Toyota Prius or Chevrolet Volt) for everyday use. If you need to haul equipment or a trailer, there are now more fuel-efficient trucks such as the Ford F-150 which has a high-tech aluminum alloy body. Remember, many fuel-efficient vehicles have been around long enough that there are now used ones on the market.

Be Mindful of Your Vacation Travel and Its Carbon Footprint (moderate to advanced).

Americans need to take more vacations! However, be careful of your carbon footprint when traveling. Air travel is the most CO₂-intensive way to publicly travel. So unless you are going overseas, consider taking a train or bus. Try a local vacation to Lake Erie or the Hocking Hills. Explore some of our neighboring states, such as Pennsylvania or Kentucky. If you need to travel by plane, try to offset your flight's carbon footprint at your destination. When you arrive at your destination, especially if it is a city like Miami, New York, Chicago, or Rome, use public transportation.

Did you know? About 78% Americans do not carpool to work. The average carpooler can cut out as much as \$600 each month on the cost of their commuting drive. By carpooling just twice a week, 1,600 pounds of greenhouse gases can be kept out of the air yearly (South Florida Commuter Services).

Water Conservation

For Parishes

Water is a caress of God which you can experience floating down a Ohio river, splashing in the waves of Lake Erie, or gulping a cool drink on a hot summer day. In most years, Ohio is blessed with abundant water supplies. Although droughts are a natural part of our climate, they pose a greater challenge with our growing population. Likewise, Ohio has witnesses harmful algal blooms on Lake Erie, the Ohio River, and inland lakes over the past few years, threatening our drinking water supplies and recreational opportunities. Pope Francis reminds us, “water supplies used to be relatively constant, but now in many places demand exceeds the sustainable supply, with dramatic consequences in the short and long term.” Pope Francis writes that access to safe drinkable water is, “a basic and universal human right, since it is essential to human survival and, as such, is a condition for the exercise of other human rights.” Climate change has already altered our precipitation patterns. We now experience more heavy downpours, an increase of 37% since 1958. Most climate predictions suggest that we may face even more frequent droughts in the future. Water, as a precious part of the material universe, “...speaks of God’s love, his boundless affection for us.” Thus, part of our duty as stewards of God’s creation is to use our water wisely.

Water conservation is actually easy to do. As an example, the Governor of Georgia asked north Georgia and the Atlanta region to reduce water use by 10% in 2007. The Atlanta area reduced their water use by 20% through a conservation campaign, and the region has since maintained their lower water use. As the population of Ohio increases, we must conserve even more. There are many steps that you can take, including installing [WaterSense](#) fixtures in your parish or participating in the [Columbus GreenSpot](#) program.

Saving water also saves energy. It takes a lot of electricity to treat drinking water and sewage and move water around with pumps (a gallon of water weighs just over 8 pounds). The less water you use in your parish or school, whether for drinking, cooking, bathing, or flushing, the more energy you save and the more you reduce your carbon footprint. More information on using energy conservatively can be found in the Energy section of this document.

Did you know? According to the American Water Works Association, the average price of tap water is only \$0.004 a gallon. Bottled water costs nearly 300 times more and is no healthier than tap water. Often it consists of filtered tap water!

Reduce Indoor Water Use by Retrofitting Kitchen and Bathroom Plumbing and Repairing Leaks (easy to moderate).

Parish water use occurs in the rectory, church lavatories, school kitchens, etc. An effective way to conserve water in high-traffic areas is to make conservation “automatic” so that the plumbing does the work. Changing human behaviors is another strategy that involves no cost but usually some creative educational effort.

- This can be done by “retrofitting” high-use plumbing fixtures such as faucets and toilets with low flow options. For church and school lavatories, an aerator can be installed on the end of faucets that reduced the flow while maintaining the pressure. These are low-cost, easy to install, and parishioner will not notice a difference in the functioning of the sink. More complex options include replacing faucets with spring-loaded taps or infrared sensors that turn off the water flow automatically after a few seconds.
- Additionally, low-flow toilets, dual flush toilets, and waterless urinals are effective ways to reduce water use and are easily installed by a plumber. Infrared sensors are also available for toilets (If you are considering installing faucets and toilets with sensors, look for options that do not use expensive and hazardous batteries, thus eliminating one environmental problem by creating a second). With the installation of any low-flow toilet, a plumber should be consulted to ensure that the existing building plumbing will allow waste to have sufficient flow.
- If the parish is planning a new building, make efficient faucets and toilets standard.
- In the rectory, as with most homes, most water use occurs in the bathroom. In fact, the toilet and shower are the biggest water users. [WaterSense](#) toilets and plumbing fixtures can help reduce water use significantly and some plumbing companies are starting to specialize in water efficiency. Also, a leaking or running toilet can waste a tremendous amount of water. Make sure to have the toilet and other fixtures checked periodically for leaks. You can actually do this yourself by adding food coloring to the tank. If color appears in the bowl after 30 minutes, your toilet is leaking. A leaking toilet can waste 200 gallons per day. Lastly, water-saving shower heads and short showers go a long way to keeping water use low!
- In the rectory kitchen, use the dishwasher only when it is full. Don’t pre-wash the dishes unless you have an older dishwasher (newer ones don’t require pre-washing). For the school or church kitchen, consider purchasing an energy and water efficient [Energy Star](#) commercial dishwasher.

Minimize Outdoor Water Use with Water Wise Landscaping (easy to moderate).

Using less water on outdoor landscaping can make an enormous difference. Water use increases in the summer as homes and businesses turn on the sprinklers, mostly for watering lawns. Lawns are typically the biggest water user in any landscape. However, by practicing native landscaping and planting species historically found in Ohio, your parish outdoor water use can be greatly reduced. Native plants are accustomed to the precipitation patterns and temperatures found in Ohio. For more information on Water Wise landscaping, see the chapter on Landscaping.

Use Rain Barrels for Outdoor Watering (easy to moderate).

Rooftops are great ways to collect water into rain barrels. In a typical Ohio summer with approximately 10-inches of rain, a 1300 square foot home roof would yield more than 8,000 gallons of rainwater, and church roofs are usually much bigger. This rainwater can be used on plants, in community gardens, or for water features. In Ohio, there are many local rain barrel resources and distributors, including some local governments who help homeowners with installing and maintaining rain barrels. The [soil and water conservation district](#) for your county might be a good place to start.

For Parishioners

ALL of the water conservation actions mentioned above for parishes can be used at home, but here are a few more specific ways to start using water conservatively.

Change Behaviors (very easy).

Remember the basics first!

- Turn off the water when brushing your teeth.
- A leaking or running toilet can waste a tremendous amount of water. Check toilets for slow leaks. You can do this by adding food coloring to the tank. If color appears in the bowl after 30 minutes, your toilet is leaking. A leaking toilet can waste 200 gallons of water per day.
- Take shorter showers, and take showers instead of baths.
- Use a dishwasher and washing machine only when they're full.

Upgrade Your Plumbing (easy to moderate).

- Install low-flow shower heads and faucets. Often, this can be done without needing to call a plumber.
- Toilets are the single biggest water user in most households. Consider replacing your toilet with a dual-flush toilet or a low-flush toilet. Dual-flush toilets have two flush buttons: you push one for liquid waste and both for solid waste. Newly designed toilets, like the Niagra Stealth, use only .8 gallons per flush with a single button system. More information about efficient toilets can be found on the [Water Sense](#) website.
- When it comes time to replace a dishwasher or clothes washer, invest in a [Water Sense](#) appliance. Every year you own a more efficient appliance, the water bill savings add up.
- If you must water outdoor landscaping, invest in water-saving gadgets like an outdoor irrigation timer, drip irrigation systems, and other tools available at most local home-improvement stores.

Reconsider Your Landscaping (easy to advanced).

Consider replacing some or all of your turf with trees, shrubs, flowers, or grasses native to Ohio. Native species are beautiful, attract wildlife, and require little maintenance. For more information on saving water outdoors, see the Landscaping section of this document.

Install a Rain Barrel (moderate).

Rain barrels can easily be installed on homes and garages and greatly reduce the amount of water needed to keep yards and gardens green and healthy during the summer. The [Green Spot Community Backyard Program](#) of Franklin County offers rebates for qualified residents who purchase approved rain barrels. Other counties may offer similar programs; the [soil and water conservation district](#) for your county might

be a good place to start.

Did you know? In Columbus, the average person uses approximately 122 gallons of water each day. This is compared to the metro Atlanta region (102 gallons each day), Phoenix (115 gallons each day), and Boston (40 gallons each day). The differences are mostly related to outdoor water use!

Buying and Sharing Food

For Parishes and Parishioners

Food nourishes our bodies and souls giving us strength to work, play, pray, and enjoy our families and friends. A shared meal, like our Eucharistic celebration, is a way to spiritually and emotionally connect with one another. It is a chance to share our lives, our hopes, our dreams and even a few good jokes. Holidays such as Christmas, Easter, and of course Thanksgiving revolve around memorable meals often cooked from recipes handed down through generations. Birthdays, weddings, funerals, and the sacraments of Baptism, Holy Communion, and Confirmation usually gather the family around food. Parishes host many events for their flock, from harvest festivals and Knights of Columbus breakfasts to pot-luck dinners and funeral luncheons. What they serve and where they buy food can have great impact on the earth. In addition, the United States bishops have said greater attention must be given to, “needs of the poor, the weak and the vulnerable... We need to strengthen the conviction that we are one single human family.” Churches often have programs including food pantries to reach out to those in need. Filling them with nutritious and locally-produced food is best for families and the environment.

Give Thanks (easy).

The Holy Father reminds us to say grace before meals. “I ask all believers to return to this beautiful and meaningful custom. The moment of blessing, however brief, reminds us of our dependence on God for Life: it strengthens our feeling of gratitude for the gifts of creation: it acknowledges those who by their labors provide us with these goods.”

Buy Locally Grown Food (easy).

When possible, purchase vegetables, fruits, meats and cheeses grown in Ohio and the surrounding region to reduce greenhouse gases emitted during transportation. Agriculture is a major part of the Ohio economy, directly or indirectly employing one in seven Ohioans⁹. Supermarkets often have foods grown and produced in the state labeled [Ohio Proud](#). Consider also buying from local farmer’s markets and support local farmers!

Buy Organic and Sustainably Sourced Food If Possible (moderate).

Organic agricultural practices avoid synthetic chemicals when producing vegetables, fruits, meat, fish, and dairy. Most synthetic agricultural chemicals are manufactured from fossil fuels, which emit greenhouse gases. Organic practices use fewer pesticides and herbicides that can remain on fruits and vegetables or end up running off into waterways. There are many third-party organizations that help inform consumers about sustainably sourced foods and, in some cases, provide labeling of products. One example is the Monterey Bay Aquarium’s [Seafood Watch](#) consumer guides. Check a product’s label to see if it is organic or sustainably sourced.

⁹ United States Department of Agriculture, 2010.

Shop Carefully and Bring Reusable Bags (easy).

When stocking up on groceries, choose items with less packaging. Try to buy in bulk and freeze or package food in small portions to reduce cardboard and plastic wrapping. And since disposable plastic grocery bags are a major source of litter and not recyclable through most curbside programs, get in the habit of using cloth or recycled fiber bags to pack your groceries. If you do have plastic grocery bags sitting around at home, Kroger stores offer plastic bag recycling just inside their main entrances.

Eat Lower on the Food Chain (easy).

Producing fruits and vegetables requires less energy and water than most meat. New U.S. Department of Agriculture dietary guidelines recommend that half of our meal should consist of fruits and vegetables. When organizing all those parish pot-luck meals, encourage parishioners to bring mostly vegetables and fruits. In addition to reducing an event's carbon footprint, providing more fruits and vegetables can support a healthier lifestyle, especially for those parishioners who have cardiovascular disease or diabetes. Careful consideration should be given with foods for youth programs as many of our habits are set at a young age.

Continue “Meatless Fridays” or Begin “Meatless Mondays” (easy).

Skipping meat one day a week is good for you, great for our nation's health, and fantastic for the planet. It takes approximately 1,850 gallons of water to produce a single pound of beef, as opposed to just 39 gallons of water to produce a pound of vegetables. Thirty countries and counting have signed on to the Meatless Mondays worldwide movement that encourages people to adopt this habit.

Fast During Lent (moderate).

On Lenten fast days, feature a parish meal consisting of a bowl of rice and beans, the staple in many developing countries. Then, donate the cost of a full meal to the Catholic Relief Services (CRS) Rice Bowl. Seventy-five percent of the money supports CRS' programs around the world and 25 percent supports programs in local communities. Additionally, consider fasting one day per month on the holy day of your choice. Fasting is an ancient and integral part of our faith tradition, and studies have shown that periodic fasting is healthy for you.

PLEASE, Don't Waste Food (easy).

Food waste comprises more than 20 percent of garbage in landfills and is a significant source of methane gas – a greenhouse gas - as it rots, according the Environmental Protection Agency. Nationally, we waste almost 40% of all food produced. We can avoid wasting food by not over buying, properly storing food, and eating leftovers before they become scientific experiments. Avoid scraping edible food into the trash. If you have some vegetables and fruits that are past their prime, toss them in a blender with a little local honey and presto – a nutritious smoothie! When those parish meals are finished, take leftovers home or

donate them to someone who can use them.

Compost Food Scraps (moderate).

Rather than toss corn cobs, banana and potato peels, apple cores, and those moldy leftovers into the garbage destined for the landfill, compost them. The section on landscaping provides resources on how to get started. Homemade compost can be used to fertilize plants, save money on potting soil, and reduce trips to the retail gardening center.

Avoid Drinking Bottled Water (easy).

Instead of supplying bottled water at events, ask parishioners to bring their own cup or supply cups made of recyclable material and pitchers of tap water. Producing bottled water uses a great deal of water. In fact, it takes three times more water to make each plastic bottle as it does to fill it. Bottled water is also far more expensive than tap water (more than 300 times more expensive) and it is no healthier than tap water. Ironically, more than one-third of all bottled water sold is actually filtered tap water. The production of bottled water uses an enormous amount of energy – the equivalent of what it takes to fuel 1.5 million cars annually. In addition, transporting bottled water spews carbon dioxide into the air, complicating our efforts to combat global climate change.

Support the Local Food Pantry or Food Bank (easy).

Many communities and churches manage food pantries to help low-income families, children, immigrants, seniors, and others who lack the financial resources to afford enough food to sustain a healthy life. Mid-Ohio Food Bank serves 149,164 meals each day for hungry people in central and eastern Ohio. Catholic Social Services provides food to those in need, with locations in Columbus, Newark, Portsmouth, and Zanesville. You can donate to the food bank or find local partner organizations near you to support.

Grow Food in Your Backyard, Schoolyard and Churchyard (moderate to advanced).

The ultimate fast food can be grown just steps from your back door. With careful planning, you can grow fruits and vegetables to harvest in Ohio during three seasons - from lettuce and asparagus in spring to strawberries and tomatoes in summer to apples and pumpkins in autumn. For help on how to plant, when to plant, and what to plant, contact the [OSU Extension](#), [Local Matters](#), your neighborhood community garden, or local food policy councils in your county. Extension agents, Master Gardeners, and publications can assist both novices and advanced gardeners in growing fruits, vegetables, and even chickens. If you only have a small patio or balcony in your apartment, [container gardening](#) is an efficient way to grow fresh produce. For more information about gardening, see the sections of this document on Landscaping (community gardens) and Making *Laudato Si'* About Young People (school gardens).

Join the Local Food Movement (moderate).

Hop on board the local food bandwagon by joining one of the many organizations that can connect you with farmers, markets, grocers, and restaurants in Ohio. [Mid-Ohio Regional Planning Commission's](#) sustainability initiative has established food councils in six central Ohio Counties including: [Knox](#), [Franklin](#), [Fairfield](#), [Licking](#), [Pickaway](#), and [Union](#). These food councils look for ways to increase the production and availability of local foods encouraging healthy living and care for the environment. Another helpful initiative of MORPC is the [Central Ohio Local Food Information Hub](#), providing information on the local food systems in Central Ohio. [Urban Farmers of Central Ohio](#) converts vacant city lots into active urban farms to provide fresh produce to underserved neighborhoods in Central Ohio. [Ohio Proud](#) provides consumers with a comprehensive list of local farmers markets that can connect Ohioans to local fresh foods. By meeting farmers, vendors, grocers, and chefs, you can gain more knowledge about food systems and begin to make more educated decisions.

Did you know? Most food travels 1,500 miles from farm to fork. It is not uncommon for lettuce grown on a California farm to be shipped 3,000 miles to an Ohio table (World Watch Institute).

Creating Sustainable Landscapes

For Parishes and Parishioners

Gardening connects us to nature – “the caress of God.” In his magnificent song, *Canticle of the Sun*, St. Francis of Assisi understood and appreciated our connectedness to nature with his words, “Be praised, my Lord, through our sister Mother Earth, who feeds us and rules us, and produces various fruits with colored flowers and herbs.” Many studies show the physical, emotional, spiritual, and environmental benefits of planting and caring for a garden. However, what we plant and how we care for our landscapes determines whether it enhances or harms the environment. By using sustainable gardening practices, parishes and parishioners can create an oasis for people and wildlife around their churches and homes and restore local ecosystems. Ohio has a robust Master Gardener Extension Volunteer program that can be a good source of expertise for the church garden.

Plant Native Plants (moderate).

Choose a variety of native plants and trees for your church and home landscape, because natives are adapted to a particular region with its temperature ranges, soils, altitude, and rainfall patterns. In Ohio, this means that they are adapted to our hot summers and cold winters and can survive prolonged dry spells. Native plants restore biodiversity to a landscape: insects that share an evolutionary history with native plants select those plants for food and in turn become food for many native birds, reptiles, amphibians, and mammals that make Ohio so environmentally interesting. A list of Ohio native plants for all types of ecosystems, is available from the [Ohio Department of Natural Resources](#). Scioto Gardens nursery in Delaware, Ohio created a downloadable [list of edible native Ohio plants](#).

Create a Water-Wise Landscape (moderate to advanced).

Ohio has experienced severe droughts in the past, so creating a water-wise garden is a must. A water-wise garden can reduce water use by as much as 50 percent in the summer. This can be accomplished by grouping plants according to water needs. High water use areas (which you should limit to only 10 percent of the landscape) require frequent watering and are typically small beds of annuals such as pansies and petunias. Moderate water use areas (about 20 percent of your garden) need occasional watering and include perennials and small shrubs. Low water use areas (60 to 70 percent of the landscape) include established trees and shrubs that are watered by Mother Nature. Learn as much as you can about environmentally friendly landscape practices from OSU Extension.

Plant Trees (moderate).

In *Laudato Si'*, Pope Francis recommends planting trees. Trees are the lungs of the earth. They “inhale” the carbon dioxide produced by burning fossil fuels and exhale oxygen. When trees are strategically placed, their shade cools us, our homes, and our communities. They reduce stormwater runoff in cities and towns, reduce soil erosion, moderate the immediate temperatures of cities and downtowns, provide

windbreaks, and purify the air we breathe and the water we drink. Trees provide a habitat for a myriad of creatures from lightning bugs and butterflies to squirrels. Consider selecting a native tree for your parish or home landscaping as they have evolved for the conditions found in the state and serve as a food source and habitat for local wildlife. The Ohio Department of Natural Resources [website](#) has a list of trees native to Ohio to guide your selection.

Connect the Church Landscape with Urban Forests (moderate).

If the church or home is adjacent to or contains an urban forest or woods, connect the parish landscape with it. Maintain trees on church property, and if possible, mimic the nearby wooded property in the church landscape. Creating a corridor is essential for wildlife and bird migration and movement.



Involve your entire family in a tree planting project.

Reduce Lawn Size (advanced).

While grassy lawns make safe and attractive surfaces on which to play, picnic, and stroll, landscape managers and homeowners should be practical about choosing a lawn size that suits the church needs. Lawns are “monocultures” (one species of plant) and require significant maintenance. Lawns need frequent mowing – which spews greenhouse gases into the air – regular watering, chemical fertilizers, and, if a homeowner wants a weed-free lawn, herbicides. Improperly applied lawn fertilizers, herbicides, and other chemicals frequently run off the land surface during heavy rains and pollute streams, rivers, and lakes. Lawns also do not provide habitat to wildlife.

Prepare the Soil Well and Compost (moderate).

Ohio soils can range from nutrient-rich topsoil to nutrient-poor clay. Compost can allow rich topsoils to continue to provide plants with nutrients and over time improve the ability to grow plants in soils with large clay content. A compost pile requires a small plot of land, at least 4 feet by 4 feet (preferably away from your neighbor’s property), where yard debris and vegetable scraps can be deposited in a ratio of 3 to 1 and turned periodically. There are also a variety of composting devices on the market that can increase the ease and speed of composting, improve the visual appeal for your neighbors, and keep undesirable wildlife out of your compost pile. OSU Extension’s [composting at home publication](#) provides valuable information. If you are concerned about your soil being nutrient-poor, purchase and use a [soil testing kit](#). These kits will provide you with valuable information and save you the costs of unnecessary soil treatments.

Check with your [soil and water conservation district](#) to see if they offer incentives for families to buy compost bins. Franklin County Residents can look at [Green Spot Community Backyard Programs](#) to learn how to apply for rebates.

Use Correct Planting Procedures (moderate).

Like people, plants must be placed in the right environments to thrive. If they are stressed, they become diseased and a target for insect pests that can weaken or kill them. Choose native plants or those adapted to the garden site. Consider whether your site has sun or shade, dry conditions or wet conditions, and nutrient-rich soil or nutrient-poor soil. A plant tag has information about the plant's needs as well as how far apart to space them and when to plant them. To keep the weeds down, mulch beds with wood chips, pine bark, or straw. For more information, see the Environmentally Friendly Landscape Practices section.

Minimize Chemical Use (moderate).

Pesticides, herbicides, and fertilizers should be used carefully, in the right amounts, when the plant requires them, and never before a rain storm. While you might associate these chemicals with farms, there is a growing use of them on lawns in urban and suburban areas where individuals are not as highly trained in their appropriate application. Spraying pesticides can kill beneficial insects, such as honeybees, that pollinate our flowers. Natural pest control can be achieved by using native plants to attract beneficial insects and other predators that feed on the pests. Homemade compost goes a long way to providing nutrients for a home or church garden. Over application of fertilizer, especially before a rain storm, can result in nutrients washing into streams and rivers where they contribute to harmful algal blooms. [OSU Extension](#) and other state extension services have publications on environmentally friendly landscape practices that can help gardeners manage their landscapes using natural means. They offer free, research-based publications online for almost all varieties of plants.

Plant for Pollinators (moderate to advanced).

Pollination is an essential process for a planet's ecological survival. Honeybees alone pollinate a third of the nation's food supply. The U.S. Department of Agriculture reported U.S. beekeepers are losing 33 percent of their honeybee colonies annually due to a syndrome known as colony collapse disorder. The cause is attributed to loss of habitat, pesticide use, bee pests such as the Varroa mite, malnutrition, and pathogens. To stage a comeback for pollinators, plant nectar and pollen producing plants with prolonged blooming. Take the [Million Pollinator Garden Challenge](#) by registering your pollinator garden.

Create a Wildlife Habitat (moderate to advanced).

By restoring native plants to your landscape and linking to other natural areas nearby, you increase the native habitat size. The Holy Father suggests that we, "leave room for wandering and migrating species by creating biological corridors." This is necessary for species that need a considerable range in which to live and reproduce. To create a wildlife habitat:

- Eliminate or reduce pesticide use.
- Conserve natural areas on the property.
- Reduce lawn size.
- Learn the invasive species of Ohio, like honeysuckle and garlic mustard.
- Remove invasive species. Don't plant invasive species to begin with.
- Have a ready supply of clean water, such as a birdbath or pond, that is setup not to allow mosquito growth.
- Furnish food sources such as native trees, shrubs, flowers, and vines to provide the foliage, nectar, pollen, berries, seeds, and nuts that many species of wildlife require.
- Provide protective cover for wildlife including brush and rock piles, leaf litter, and dense shrubs.

The [Audubon Society](#) and [National Wildlife Federation](#) have developed certification programs for those interested in having a wildlife habitat in their home and church yards.

Tend a Community Garden (advanced).

Most churches have parishioners who struggle with food insecurity and rely on food banks. Typically, food banks offer canned goods, which can be high in sodium and sugar and lacking in some important vitamins. A community garden can supplement canned foods. Ask parishioners with home gardens to bring their excess produce to a local food bank. For information on how to start, plant, and maintain a community garden, see [OSU Extension publications](#).

Become an Ohio Master Gardener (advanced).

OSU Extension has a Master Gardener program that rigorously trains gardeners in sustainable gardening practices. They, in turn, volunteer for projects throughout their communities. These projects include creating gardens at schools, homeless shelters, community centers, battered women's shelters, drug rehabilitation facilities, and senior centers. Contact your [county Extension office](#) to learn about the [Master Gardener](#) program.

Become a Citizen Scientist (moderate).

From retirees to home-schooled children, people of all ages and abilities can contribute to the advancement of science. By helping supply the tens of thousands of data points required to understand sweeping ecological changes, citizen scientists can contribute data for bird migratory patterns and population trends, the influence of non-native species on native species, and the effect of climate change on plants and animals. For citizen science involving birds, contact the [Cornell Lab of Ornithology](#). [Bumblebee Watch](#) was inaugurated by the Xerces Society and other partners to track and conserve North America's bumblebees. [FrogWatch](#) USA is a citizen science program of the Association of Zoos and Aquariums that provides individuals, groups, and families with an opportunity to learn about wetlands in their communities and to report data on the calls of frogs and toads.

Create a Meditation Garden (advanced).

Make a peaceful retreat for everyone to enjoy nature and pray. Consider adding a bench and statue of St. Francis to remind parishioners of his connection with the earth. To help people meditate and pray, perhaps have a weatherized container with St. Francis prayers including Cantic of the Sun. In our over-stimulated lives, reflect on the Catechism, which teaches us, “God wills the interdependence of creatures. The sun and the moon, the cedar and the little flower, the eagle and sparrow: the spectacle of their countless diversities and inequalities tells us that no creature is self-sufficient. Creatures exist only in dependence on each other, to complete each other, and in the service of one another.”

Did you know? Trees in urban areas of the United States remove an estimated 711,000 tons of toxic pollutants from the air each year (U.S. Forest Service).

Assisting Climate Vulnerable Populations

As the Holy Father states, “Climate change is a global problem with grave implications: environmental, social, economic, political, and for the distribution of goods. It represents one of the principal challenges facing humanity in our day.” He correctly points out that, “both everyday experience and scientific research show that the gravest effects of all attacks on the environment are suffered by the poorest,” because they lack resources to adapt and their access to social services that could otherwise help is severely limited. Even in our own country, severe weather events like hurricanes and floods trap people in their homes and communities, where they suffer hunger and thirst for weeks, unable to reach help. The greatest number of weather-related fatalities still result from extreme heat. As climate change progresses, we can expect more frequent and longer heat waves, hotter nights, more frequent floods, and other weather conditions that present severe threats to the health and lives of the elderly, poor, homeless, or transient who often live in socially fragmented conditions. Seasonal agricultural workers, who already labor under some of the harshest conditions Ohio experiences, and first responders, such as fire fighters, EMTs, and police officers, are increasingly likely to be put in harm’s way.

Climate is fundamental to human environmental interactions, and the emerging reality of human-induced climate change disruption will impact the economy, agriculture/food security, health, and well-being. We are already seeing impacts on a local level in Ohio: Between 1951 and 2012, the average temperature in Columbus warmed by 2.3°F, faster than the national and global rates; total precipitation increased by 19.8%, similar to changes observed in other major Ohio cities; and heavy precipitation events, days that exceeded 1.25 inches of precipitation, increased by 32%¹⁰. Within the Midwestern United States, Ohio is projected to be exposed to additional warming of 3-5°F and more extreme precipitation by the middle of this century, putting it at risk of additional heat stress, seasonal water shortages, decreased air and water quality, greater flood risk, ecological changes and related negative agricultural impacts¹¹. Climatic disruptions will therefore impact many sectors of Ohio, and there is an important level of climate awareness required to become a more resilient society. Infrastructure is challenged with becoming more resilient and sustainable. Public buildings and hospitals require adaptations to become more climatically efficient. Public health mandates climate-informed advisories on atmospheric conditions, wind vectors, and aerosol suspension. Agricultural irrigation and pesticide and fertilizer applications all require climate advisories in ever-intensifying precipitation extremes, as ecological linkages to Lake Erie and inland lake algal blooms reveal.

In both the United States and many other countries, patterns of vulnerability exist: the least able to adapt to climate change - the most marginalized segments of society - are the most vulnerable to its effects and will suffer the most. Clearly, climate change stands as an issue of science, but also one of justice and fairness. Pope Francis confirms this, writing, “we have to realize that a true ecological approach always becomes a social approach; it must integrate questions of justice in debates on the environment, so as to hear both the cry of the earth and the cry of the poor.” Therefore, our actions to slow climate change and

¹⁰ GLISA, 2015. [Climate Changes and Impacts in Columbus, Ohio](#).

¹¹ Pryor et al., 2014: Ch. 18: Midwest. Climate Change Impacts in the United States: The Third National Climate Assessment, J. M. Melillo, T.C. Richmond, and G. W. Yohe, Eds., U.S. Global Change Research Program, 418-440; Mid-Ohio Regional Planning Commission, 2015. Sustaining Scioto - Vulnerabilities Assessment. [Available at <http://www.morpc.org/Sustainability/greenways-water-quality/sustaining-scioto/index>].

reverse global environmental deterioration should be viewed as acts of mercy and compassion, just as our volunteer work with poor communities or our contributions to organizations such as Catholic Relief Services.

Know Who in Your Parish and Community Are Most Vulnerable (easy).

- Know which parts of your community are most vulnerable to flooding and storm damage and contain individuals unable to cope effectively during cold winter temperatures or hot summer temperatures without utilities. The [Climate Explorer](#) web application, provided in the U.S. Climate Resilience Toolkit, can help you examine risks in your parish using digital maps.
- Communicate with municipal or county social service departments to make sure that your vulnerable parishioners are known to them. Encourage vulnerable parishioners to participate in [Low-Income Home Energy Assistance Programs](#) available through the Ohio Development Services Agency.
- Collaborate with government agencies and Erin Cordle of the Office for Social Concerns on disaster preparedness and have these agencies visit your parish or school. Review the Diocesan Disaster Plan and link to your contacts before they are needed.

Provide Assistance to Vulnerable Populations and Areas (easy to advanced).

- Develop a list of vulnerable parishioners, and make sure they have access to cool or warm spaces, home air conditioning and heating, social services, or evacuation when needed. Those most in need are sometimes reluctant to ask and might have no other place to seek help than the church.
- Have parish fundraisers that generate money for fans, window air conditioners, and space heaters.
- Collaborate with local farmers to provide cool refuges for farm workers during heat waves.
- Develop a phone or visitation list for parishioners or staff to check on vulnerable parishioners during and after extreme weather events. Include weather event alerts before such events to make sure vulnerable parishioners' needs are anticipated.
- Provide temporary “cool refuges” or “warm refuges” for the most vulnerable members of your parish and community at churches and schools. This could include creating shady green spaces on parish or school grounds or in vulnerable communities, or temporary homeless shelters during severe heat or cold events.
- Develop a list of parishioners who would be tasked with visiting or evacuating the most vulnerable before severe weather events occur.
- Advocate for social services that assist vulnerable populations - including public transportation, home heating/cooling assistance, affordable housing, medical services, and mental health services.
- Know your [Catholic Social Services](#) and community service agencies that can be referral partners for the parish and its parishioners to aid the vulnerable.

Did you know? Older people are more vulnerable to temperature extremes and have a significantly higher mortality risk in extreme weather events, because of increased susceptibility to disease, the effects

of stresses on the food and water supply, and reduced ability to mobilize quickly (American Society on Aging).

Making *Laudato Si'* for Young People

For Parishes

Today's children will inherit the earth we leave them. The Holy Father says, "Once we start to think about the kind of world we are leaving to future generations, we look at things differently; we realize that the world is a gift, which we have freely received and must share with others." Therefore, we have a moral and intergenerational obligation to address climate change and natural resource degradation and to leave a habitable earth in which our children can thrive. Young people tend to be more concerned about the climate than their elders, and "they wonder how anyone can claim to be building a better future without thinking of the environmental crisis and the sufferings of the excluded." Therefore, any parish program that addresses reducing their carbon footprint or living lifestyles consistent with *Laudato Si'* should engage the young members of the parish. "In the family we first learn how to show love and respect for life: we are taught...respect for the local ecosystem and care for all creatures."

Tour the Byrd Polar and Climate Research Center or Invite a Speaker to Your Parish (easy).

The Ohio State University houses an internationally recognized center for polar, alpine, and climate research at the [Byrd Polar and Climate Research Center](#). In addition to having researchers available for presentations in the community, the center offers [regular public tours and is able to arrange group visits](#). The center's website contains links to educational activities, videos of field projects, and seminars given by researchers from around the world.

Tap Into US EPA's Eco-portal for Eco-activities (easy).

U.S. EPA's web site contains a database packed with fun activities for students that includes games, quizzes, and cool stuff that teach lessons in energy, air, water, recycling, chemicals, waste, and environmental health. NASA, the National Institute of Environmental Health Sciences, and National Wildlife Federation have all contributed activities. In addition, the site contains information on how to conduct a waste audit for the school, pack a waste free lunch, and understand the life cycle of a soccer ball. For more information about these activities, visit the [Eco-portal](#).

Incorporate Environmental Lessons into the Religion Curriculum in Catholic Schools and Parish School of Religion Classes (moderate).

Make creation care part of your child's spiritual growth. For example, plant seeds in paper cups filled with soil to show how new life begins, make signs to remind family members to shut off water and lights, draw a picture of creation on paper made of recycled content, and spend time outdoors to appreciate God's bounty. For more lessons and scripture readings, see the [Catholic Climate Covenant](#) and [Interfaith Power and Light](#) web sites. Encourage small parish groups to study *Laudato Si'* using one of the very good resources available at the [Catholic Climate Covenant](#) or [United States Conference of Catholic Bishops](#).

Creation care is incorporated in the Religion Curriculum that is taught in both schools and parishes. The Religion Course of Study P-8 for the Diocese of Columbus encourages students to recognize the gift of creation and our baptismal call to be effective stewards of God's gifts. Catholic Social Teaching and its call to respect the earth and care for all God's people is highlighted throughout the high school curriculum but comes into detailed focus during senior year, as all twelfth graders are required to take Option C "Living As A Disciple of Jesus Christ" from the [US Bishops Framework](#) for young people of high school age.

Establish a School Recycling Program or Join the Recycle Bowl Competition (easy to moderate).

Contact your local community recycling company to participate in paper, plastic, and other recycling. The [Recycling Bowl Competition](#) is a nationwide recycling Keep America Beautiful competition for elementary, middle and high-school students.

Celebrate by Nominating Your School for an Ohio Green Ribbon Schools Award (moderate).

Offered by the U.S. Department of Education, the [Green Ribbon](#) award recognizes schools whose staff, students, and community are committed to environmentally sustainable best-practices and educational awareness.

Walk, Bike, and Carpool to School (easy).

If school is within walking distance – a mile or less – and sidewalks are present, have students dress for the weather and walk to school. If bike paths are accessible, biking is another great option. Having a safe place to lock bikes at the church invites people to cycle to events. If school buses are not available, encourage moms, dads, and caregivers to form carpools or walking groups.

Create a Schoolyard Habitat (advanced).

National Wildlife Federation's [How-To Guide" for Schoolyard Habitats](#) walks teachers through the steps to creating a successful and sustainable wildlife garden, provides information on teaching in an outdoor classroom, and offers resources to help create and maintain a habitat. This excellent teaching tool will help students understand ecosystem functions.

Cultivate a School Garden or Saint Francis Garden (moderate to advanced).

OSU Extension has a [School Garden Resource Center](#) that contains everything a teacher needs to know to design and install a school garden. From how to build a raised bed to what to plant and how to plant it, soil considerations, and natural pest management, it's all there. Also, local community gardening programs and Master Gardeners might be able to lend advice and technical expertise as you establish your garden.

Schedule Retreats to Facilities with Outdoor Environmental Opportunities (moderate).

There are many facilities owned by the Diocese of Columbus with outdoor environmental opportunities, including a new summer camp and various retreat centers. Likewise, the YMCA, YWCA, Boy Scouts, Girl Scouts, 4-H, and other organizations all have facilities that are available for programs and rental. Consider a day trip to a wetland or host an overnight program in the woods. Visiting a place makes it much more likely for people to connect with it.

Plant a Class Tree (moderate).

At graduation, have each class plant a tree to do their part to mitigate climate change. Returning students can see how much the tree has grown. Read [The Lorax](#) by Dr. Seuss and learn the lessons of destroying trees for economic gain and the impact on the surrounding ecosystem.

Offer School or Youth Group Field Trips (moderate).

Schedule trips to visit nature centers, parks, zoos, and aquaria. Schedule a field trip to [Project Aquastar at St. Stephen's Community House](#). Walk in the woods guided by a naturalist to learn the elements of a forest and their functions in supporting the ecosystem. Learn to identify trees, shrubs, and flowers. Learn about changes that have taken place in ecosystems over time.

Celebrate the Feast of St. Francis (moderate to advanced).

Encourage students to bring in their pets for the blessing of the animals. Discuss the life of St. Francis and his focus on simplicity and respect and love for earth's creatures. Offer a creation care focused evening program such as those provided by the [Catholic Climate Covenant](#).

Connect with Parish Youth Ministry (moderate).

Many young people already have a great interest in environmental issues. They hear about threats to our environment in school and in the media. In order to help them understand the role that faith plays in caring for God's creation, introduce them to *Laudato Si'*. In the appendix of this document you will find a lesson plan or catechetical session that would make a great youth ministry session for high school teens. This 1 ½ hour youth ministry session will offer a brief but informative overview, with questions and dialog, on the six chapters of *Laudato Si'*. The session is intended to engage the everyday experience of a teen by reflecting upon how we can, but sometimes do not, respect our common home. To make the session practical, there are suggestions and ideas for how to better care for creation through the everyday choices we make. You will also find opening and closing prayers.

Did you know? One in three bits of food requires pollination (Royal Society of Biological Sciences).

For Families

Lead by Example (easy to moderate).

Children learn from the example set by parents and caregivers. Inside and outside the home, use earth-friendly practices. A few examples from other sections in this document include:

- Inside — Turn off the lights when the room is not in use. Keep the temperature at 68 degrees in the winter and 78 degrees in the summer. Use energy-saving appliances and run the dishwasher and washing machine only with full loads. Conserve water. Buy ONLY what you need and recycle and reuse everything from food and glass to clothes and food. Live simply!
- Outside — Plant native plants, particularly trees to bring back biodiversity and provide habitat. Create a water-wise garden as described in the landscape section. Reduce the lawn to minimize watering and the potential for overusing chemicals. Grow vegetables and fruits organically to show children from where food comes.

Plant a Native Tree When Your Child is Born (moderate).

As the tree grows, it can provide shade for their play and become a habitat for wildlife. Trees absorb carbon dioxide exhaled by humans and give off life oxygen required by humans for respiration. Read [The Lorax](#) by Dr. Seuss, a very powerful story about the impact to the ecosystem of cutting all trees to manufacture goods.

Encourage Children to Help with Garden Chores (easy to moderate).

Nothing teaches a child more about nature than planting, weeding, mulching, mowing, turning the compost pile, and managing pests in the garden. Put in butterfly and pollinator gardens to encourage young people to learn the life cycle of a butterfly and importance of pollinators. If possible, grow food organically too. Tomatoes, peppers, squash, zucchini, and lettuce are fairly easy to grow in Ohio. When they grow food, children learn the cycle of farming from seed to harvest. To learn more about home gardening, visit the [OSU Extension](#) publication web site. As Ecclesiastes 3:2 reminds us, there is a time to plant and a time to harvest. It is important to observe the planting schedule for all plants.

Participate in 4-H or Scouting (moderate).

Many counties offer a range of 4-H and scouting program that allow youth to engage in outdoor activities, learn more about nature, raise plants and animals, and develop their leadership skills. For more information, contact your county Extension office, scouting troop, or Catholic committee on scouting.

Explore the Great Outdoors (easy to moderate).

Take young people to hike, bike, camp, canoe, swim, fish, hunt, and horseback ride amidst Ohio's natural resources in the many forests, parks, and preserves scattered throughout the state. Paddle the Little Miami River, bike the [Emerald Necklace Trail](#) through the [Cuyahoga Valley National Park](#), sail on our great

Lake Erie, hike sections of the [Buckeye Trail](#), backpack in the [Wayne National Forest](#), and go boating on the Ohio River. [Ohio State Parks](#) website makes it easy find a location and activities for you and your family to enjoy. Remember not to overlook the botanical gardens, nature centers, aquaria, and city parks that might be minutes from your home.

Volunteer to Maintain Ohio's Many Natural Treasures (easy to moderate).

As a family, become friends of a park or garden to help maintain the many trails, waterways, nature centers, and other facilities in our outdoor spaces. Volunteer with your county parks, metro parks, or the Nature Conservancy. Many parks and environmental non-profits rely on volunteers to help them preserve and advocate for Ohio's natural resources. Likewise, become involved in a nearby stream project through the [Ohio Watershed Network](#).

Did you know? Schools where students participate in school gardens show a significant increase in science achievement scores (Klemmer, HortTechnology).

Faithful Citizenship and Advocacy

For Parishes and Parishioners

In 1789, Thomas Jefferson stated that whenever things get so far wrong as to attract their notice, the people, when well informed, may be relied on to set them right. As a result of citizen action, the U.S. Congress has enacted some of the most comprehensive environmental legislation in the world to clean up our air, water, and land. New environmental challenges face us. Climate change and overconsumption of natural resources are taxing the earth's capacity to provide prosperity and security for future generations. Pope Francis states, "political institutions and various other social groups are entrusted with helping to raise people's awareness. So too is the church." The "Creation Care Team" should stay informed on these critical environmental issues and develop a menu of options for getting parishioners engaged in moving society to address them. According to a 2015 Reuters poll, 66 percent of respondents said they felt governments were obligated to reduce greenhouse gas emissions, while 72 percent felt they had a personal responsibility to reduce their carbon footprint. While this Action Plan has many individual actions people can take to reduce their environmental footprint, it also critically important for people to let our elected officials know we care about "our common home." Consider participating in an Advocacy Day event organized by the [Ohio Catholic Conference](#).

Become Informed About Environmental Issues (easy).

The parish "Creation Care Team" or point person should become informed about the current issues facing the local community, region, state, and nation. At the national and state levels, the [U.S. Conference of Catholic Bishops](#), [Catholic Climate Covenant](#), and [Ohio Interfaith Power and Light](#) provide up-to-date information on issues involving climate change and energy. You can sign up to receive email updates in addition to finding information on their websites and via their social media streams.

Encourage Parishioners to Lobby Their Elected Representatives (moderate).

Pastors, please encourage your parishioners to call, write, or email their elected officials when critical environmental decisions are being made at the local, state, and national levels. The [Catholic Climate Covenant](#), a national organization, helps Catholic communities support sensible, faith-informed climate policies. They provide parishes an easy way to get involved with advocacy on climate change.

Parishioners, become involved at the local, state, and national levels. Each person who takes the time to communicate their opinion is counted. Phone calls and written letters count the most, whereas on-line petitions are often disregarded. Politicians respond to the will of the people. By creating a groundswell of interest in protecting the planet, political leaders will eventually respond. The [Citizens' Climate Lobby](#) creates the political will for a livable world by empowering individuals to exercise their personal and political power. At the state level, you can become a member of [Ohio Interfaith Power and Light](#). Join both! They're free!

Purchase Goods and Services That Support the Dignity of all Human Persons and Are Sustainable (moderate).

Consumer movements have wielded considerable power in the U.S. and across the world. Parishes and parishioners should consider human dignity and sustainability in their purchasing of goods and services. “[Integral ecology](#)” should be carefully and deliberately included in your consideration of purchases. While this holistic approach might take time, it allows both the parish and parishioners to take actions consistent with their values. In many cases, these decisions will be complex. Fortunately, many publications and organizations provide rating systems; it is important to review the details of any rating system, its sponsoring organization, and how the organization is funded to understand if the ratings are valid for your purposes. [Forbes](#) has one such system for rating companies based on sustainability. In a way, making purchases is voting for companies with your dollars. When enough consumers elect to shop elsewhere, a business can change its practices or risk losing market share. The Holy Father argues that “a change in lifestyle could bring healthy pressure to bear on those who wield political, economic and social power.”

Support Candidates Who Support the Environment (moderate).

Let your voice be heard by voting for elected officials who have a good track record supporting environmental issues. While *Laudato Si'* is not a call to promote a single-issue environmental agenda, we are asked to care for all of creation, with the dignity of the human person being at the center of that call. Therefore, “[integral ecology](#)” should be carefully and deliberately included in your consideration of candidates. To know how your national elected officials vote, sign up at [Congress.org](#) and you will receive an online newsletter with their recent votes. You may check state government voting on the [Ohio General Assembly's website](#).

Run for Public Office (advanced).

While politics has been given a bad name recently, having excellent elected officials that can listen carefully to their constituents, lookout for both the short- and long-term, facilitate dialogue among communities, and work to craft solutions that respect the dignity of all people is essential to our democracy. If you have the energy and interest, consider running for office - be it a small village council or the governor of the state.

Get involved in environmental projects (easy to advanced).

Pope Francis says, “society is also enriched by a countless array of organizations which work to promote the common good and to defend the environment, whether natural or urban. Around these community actions, relationships develop or are recovered and a new social fabric emerges.” Parishes can support and sponsor some community project such as a community garden installation, park or river clean-up, low-income home insulating, or even a parish grounds beautification. Make your parish visible in enhancing the natural environment.

Join or Support an Environmental Group (moderate).

Ohio has many environmental organizations, each dedicated to some aspect of protecting its natural resources. If you are interested in conserving bird habitat, then join the Audubon Society. If you enjoy wildlife, then support one of the state's native or wildflower organizations. Nearly every river has a river keeper or friends organization that relies on volunteers to monitor and protect the watershed. [Eco-USA](#) has a state-by-state listing of environmental organizations and their focus to help guide your decision.

Did you know? There are still many legacy waste sites throughout Ohio, some of them on the priority list of U.S. EPA - making them among the most polluted in the country. A summary of the sixteen most toxic sites is available from the [Cleveland Plain Dealer](#). You can map contaminated and cleanup sites in your community using the [U.S. EPA Cleanups in My Community](#) site.

Conclusion

A Prayer for Our Earth

All-powerful God, you are present in the whole universe and in the smallest of your creatures. You embrace with your tenderness all that exists. Pour out upon us the power of your love, that we may protect life and beauty. Fill us with peace that we may live as brothers and sisters, harming no one. O God of the poor, help us to rescue the abandoned and forgotten of this earth, so precious in your eyes. Bring healing to our lives, that we may protect the world and not prey on it, that we may sow beauty, not pollution and destruction. Touch the hearts of those who look only for gain at the expense of the poor and the earth. Teach us to discover the worth of each thing, to be filled with awe and contemplation, to recognize that we are profoundly united with every creature as we journey towards your infinite light. We thank you for being with us each day. Encourage us, we pray, in our struggle for justice, love and peace.

Laudato Si', On Care for Our Common Home