



A GUIDE TO GREEN FLEET POLICIES



A Guide to Green Fleet Policies

THE MISSION: LAUDATO SI'

Pope Francis' second encyclical, **Laudato Si'**, is a call to unite the Catholic world to attain sustainability in the spirit of Integral Ecology within a 7-year timeframe. The Laudato Si' Goals guide our actions. **Developing a Green Fleet Policy for your community directly supports goals 1, 3 and 4, listed below.**

1 Response to the Cry of the Earth

The call to protect our common home for the well-being of all, as we equitably address the climate crisis, biodiversity loss, and ecological sustainability. **Example:** installing solar panels, limiting greenhouse gas emissions.

2 Response to the Cry of the Poor

3 Ecological Economics

The acknowledgement that the economy is a sub-system of human society, which itself is embedded within the biosphere. **Example:** examining "total cost of ownership" when purchasing vehicles.

4 Adoption of Sustainable Lifestyles

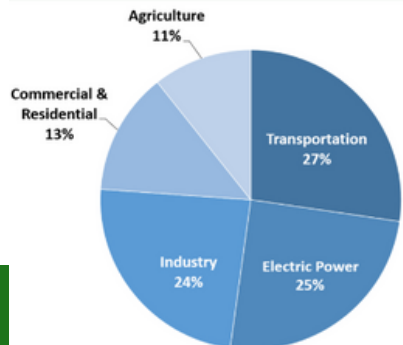
Ground oneself in the idea of sufficiency, and promote sobriety in the use of resources and energy. **Example:** improve sustainability in transportation by increasing the use of alternative-fuel vehicles.

5 Ecological Education

6 Ecological Spirituality

7 Community Engagement and Participatory Action

Total U.S. Greenhouse Gas Emissions
by Economic Sector in 2020 *



The transportation sector is the greatest source of greenhouse gas emissions (GHG) in the U.S.

TABLE OF CONTENTS

4 What is a Green Fleet Policy?

- Definition, purpose & objectives

5 Building The Policy

- Assigning roles, responsibilities & good planning

6 Implementation

- Action Plan

7 Measuring your fleet's carbon footprint

- Learn to measure any vehicle's CO₂ emissions
- Obtain a carbon footprint report for your fleet

8-16 Green Fleet Management Practices

- Reduce your CO₂ footprint through proactive fleet optimization, vehicle acquisition, vehicle maintenance, and driver training

17 Available Support

- A list of no-cost services to support your efforts in "**greening your fleet**"

18-19 Resources

- Access a Carbon Footprint calculator, learn about fuel economy stickers, and more!

20-22 Index

- Definitions of key terms

23 Acknowledgements

- References, Contributors, Contact Information



What is a Green Fleet Policy?



Definition

A written strategy aligned with your community's core values, which states a commitment to reduce the carbon footprint of your vehicle fleet. The policy includes clear objectives supported by guidelines for the acquisition, management, and operation of fleet vehicles.

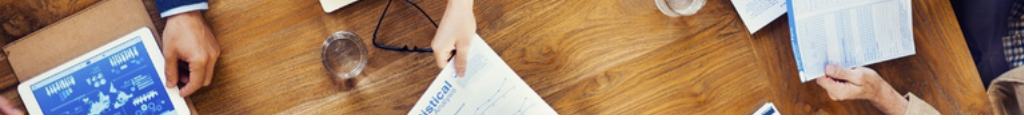
Purpose

To reinforce your community's commitment to reducing the carbon footprint of your vehicle fleet.

Objectives

- ✓ Measure and track your fleet's GHG emissions
- ✓ "Right-size" the number of vehicles in your fleet
- ✓ Reduce use of petroleum and GHG emissions
- ✓ Plan for including alternate-fuel vehicles
- ✓ Establish guidelines for replacing and purchasing vehicles
- ✓ Plan to provide driver training to increase awareness

Building the policy



Form a cross-functional advisory committee including:

- Leadership
- Fleet Manager or Vehicle Coordinator
- Justice, Peace, Environment Dept.
- Finance
- Facilities and Maintenance
- Driver Representative
- Fleet Company Representative

Create a "living document"

Develop a new Green Fleet Policy document, or revise and update your community's existing fleet policy. It will be continually updated as the community's needs change, and new resources and information become available. The policy should include a clear, concise purpose and set of measurable objectives for the following:

- **Fleet size optimization** - ratio of vehicles to drivers
- **Vehicle replacement** - sets specific parameters i.e., age, mileage, lifetime operating cost
- **Vehicle acquisition** - defines what models to purchase and the mix of vehicles in the fleet
- **Vehicle maintenance** - defines a "preventative" vehicle maintenance schedule
- **Fuel management** - sets guidelines for reducing fuel consumption, and use of alternative fuels
- **Carbon footprint** - gives measurable objectives for reducing CO₂/GHG emissions

Implementation



Once a policy document is completed, the following steps will help to ensure the policy is actually put into practice:

- Make sure the policy is communicated throughout the community
- Plan to hold several meetings with drivers to answer questions
- Select a Green Fleet **“Champion”** – this person serves as a liaison for the drivers, assists with meeting facilitation, and keeps communication flowing by sharing success stories, and circulating progress updates
- Select two or three members from the advisory committee to lead the implementation effort
- Set a meeting schedule – prioritize the Green Fleet project agenda.
- Follow the Plan, Do, Check, Act process:
 - **Plan** – gather benchmarking data to understand current performance
 - **Do** – complete Action Plans; who does what, by when
 - **Check** – Monitor and measure results, identify what you have learned
 - **Act** – Plan to build upon progress and/or plan corrective action

[Click Here to view a sample Green Fleet Policy!](#)





Measuring your fleet's carbon footprint

How do you measure CO₂?

Everything on earth is made of atoms and molecules. Scientists have a clever measurement called a “mole” to measure large, distinct quantities of each unique molecule. The most common measurement of CO₂ is in grams, pounds, and metric tons.

For reference:

- One mole of CO₂ = 44 grams
- 454 grams CO₂ = 1 pound (lb.) of CO₂
- 2,200 lbs. of CO₂ = 1 metric ton (MT) CO₂

Measure your entire fleet's CO₂

Fortunately, we have several sources that offer a no-cost, online CO₂ calculator so you can determine the CO₂ footprint of each vehicle in your fleet. Below are links to two sources.

[U.S. Dep't. of Energy](#) 

[Terrapass Calculator](#) 

[Click Here to receive a no-cost CO₂ report](#)



Example:

A 2016 Toyota Corolla, driven 10K miles/year = 6,500 lbs. CO₂ or **about 3 metric tons (MT) CO₂**

If you had 100 of these vehicles that each drive 10k miles/year the carbon footprint for the fleet would be = **650k lbs. or 300 MT CO₂**

Fleet Management

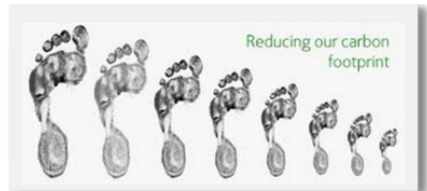
Best Practices

From optimizing your fleet's size to educating drivers on fuel-efficient driving behaviors, the following "Green Practices" will help you reduce your fleet's carbon footprint.

1. FLEET OPTIMIZATION

How many vehicles do you really need?

Reducing the number of vehicles in the fleet is a "green" best practice many Congregations began implementing during the Covid pandemic when vehicles were not being driven. Removing a vehicle from the fleet has a direct and immediate impact toward reducing the fleet's carbon footprint. For the last few decades, the average ratio of vehicles to drivers in Women Religious communities was



around one vehicle for every two drivers. As the average age of sisters increases, and more sisters retire from driving, congregations need to keep assessing the size of their fleet.

1. FLEET OPTIMIZATION

How many vehicles do you really need?

Today, many communities are proactively shifting to a vehicle management strategy that is focused on “mobility,” which utilizes supplemental modes of transportation including:

- Car-pooling
- Vehicle-sharing
- Volunteer drivers
- Hired drivers; part-time or full-time
- Para-transit vehicles that accommodate wheelchairs and as many as six to twelve passengers

Of course, many sisters do need daily access to a specific vehicle for commuting to and from work, and for sisters who reside away from their Motherhouse, having a vehicle is essential.

Fleet Optimization requires some up-front analysis to truly understand the transportation needs of each sister as well as the needs of the community as a whole. The process should begin with a thorough assessment of each sister’s needs, which can be conducted in the form of a survey and/or personal interview.



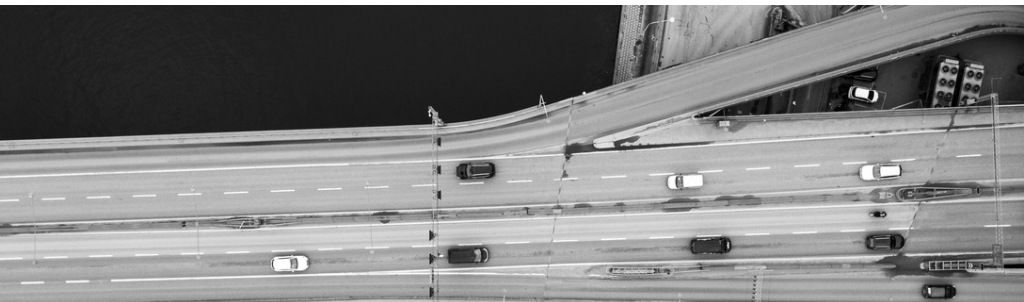


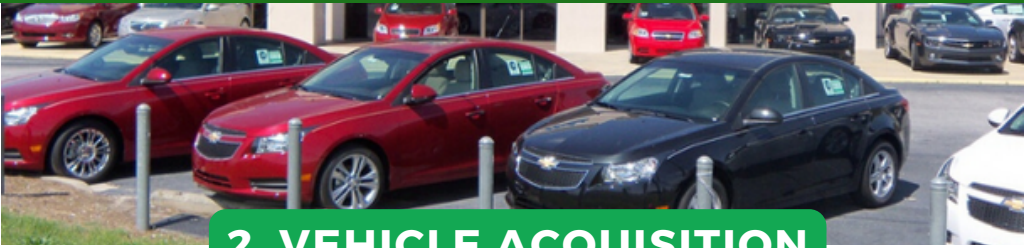
1. FLEET OPTIMIZATION

Once the data is collected and reviewed, the...individual(s) responsible for vehicles can determine how many vehicles are necessary to meet the transportation needs of the sisters. This way, sisters who don't need to use a vehicle every day are still able to make their appointments, and have access to safe, reliable transportation as needed.

Going through this process is well worth the time because, when properly executed, an optimized fleet will achieve three key outcomes:

- Savings for the community by reducing their fleet's operating cost
- A reduction in the community's carbon footprint
- Assurance that Sisters have access to safe transportation that is both convenient and reliable





2. VEHICLE ACQUISITION

When beginning to consider the purchase or lease of a new vehicle for your fleet, two factors will have an impact on your carbon footprint: the **timing** of when to replace a vehicle, and the **type** of vehicle, i.e.: year, make, model and engine type. An effective **Green Fleet Policy** should address both of these factors.

Compare the CO₂ ratings of different vehicles before you buy

A best practice for reducing your fleet's carbon footprint is to compare different vehicles' annual CO₂ outputs. Below is an example of why this is so important:

GAS

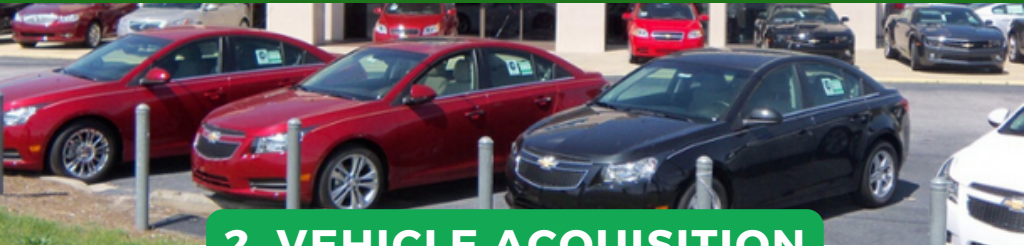
2012 Toyota Corolla
12k miles per year =
= 8,050 lbs. of CO₂

VS

HYBRID

2022 Toyota Corolla
12k miles per year
= 4,500 lbs. of CO₂

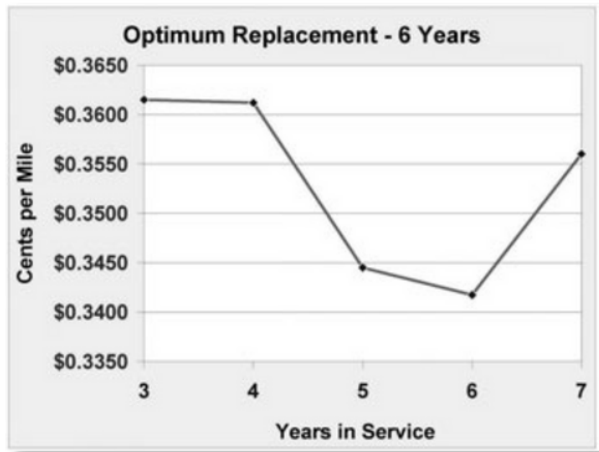
The outdated technology in vehicles 10 years-old or older, combined with the latest technology in a new vehicle, results in the new Corolla hybrid having a CO₂ rating that's almost half of the 2012 Corolla with a gas engine. Yes, the upfront cost of the Corolla hybrid is about \$4,000 more than a Corolla with a gas engine, but the average driver recovers the additional upfront cost in about four years in fuel savings, so the hybrid costs less to operate in the long run.



2. VEHICLE ACQUISITION

When is the best time to replace a vehicle?

Old vehicles are also more expensive to maintain and often require very costly repairs. The following chart shows that the cost-per-mile (in cents per mile) to operate a vehicle begins to skyrocket in the sixth year, so **the best time to replace a vehicle is at the 6-year mark.**



Putting ideas into action

Replacing vehicles that are six years-old or older, and increasing the mix of hybrids into your fleet will reduce your fleet's carbon footprint.



3. VEHICLE MAINTENANCE

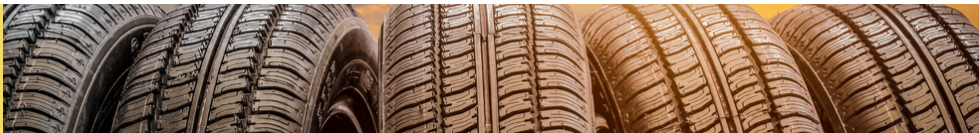
**DID YOU
KNOW?**

Proper vehicle maintenance increases gas mileage by at least 5%

In addition to reducing the number of vehicles in the fleet and increasing the number of alternative fuel vehicles, a third best practice for an effective Green Fleet Policy is keeping existing vehicles in excellent mechanical condition, which improves fuel economy thereby reducing fuel consumption. Here are a few tips from the Department of Energy and EPA for keeping your fleet vehicles in good shape:

Keep tires properly inflated

You can improve your gas mileage by 0.6% on average—up to 3% in some cases—by keeping your tires inflated to the proper pressure. Under-inflated tires can lower gas mileage by about 0.2% for every 1 psi drop in the average pressure of all tires. Properly inflated tires are safer and last longer.²



The proper tire pressure for your vehicle is usually found on a sticker in the driver's side door jamb or the glove box and in your owner's manual. Do not use the maximum pressure printed on the tire's sidewall.

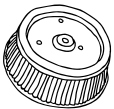


3. VEHICLE MAINTENANCE



Use the recommended grade of oil

"You can improve your gas mileage by 1%–2% by using the manufacturer's recommended grade of motor oil. For example, using 10W-30 motor oil in an engine designed to use 5W-30 can lower your gas mileage by 1%–2%. Using 5W-30 in an engine designed for 5W-20 can lower your gas mileage by 1%–1.5%. Also, look for motor oil that says "Energy Conserving" on the API performance symbol to be sure it contains friction-reducing additives."⁶ You can find the correct motor oil for your vehicle inside your vehicle owner's manual.



Replace clogged air filters

"Replacing a clogged air filter on vehicles with fuel-injected, computer-controlled gasoline engines—such as those manufactured from the early 1980s to the present—or diesel engines does not improve fuel economy, but it can improve acceleration. Replacing a clogged air filter on an older vehicle with a carbureted engine can improve both fuel economy and acceleration by a few percent under normal replacement conditions."⁶



4. FUEL MANAGEMENT

A common oversight for many communities is not having an automated system for accurately tracking and reporting their fleets' annual fuel spend. Asking drivers to keep track of all their fuel receipts and manually entering all of this data into a spreadsheet is very cumbersome, time consuming, and often incomplete due to lost receipts. Reducing a fleet's fuel usage is a key best practice for a Green Fleet Policy, and fortunately there is a resource available that comes with no cost for non-profits and Religious organizations. Caritas works with the global leader in fuel management for the fleet industry, and offers a free program to Religious for reporting fuel usage for each vehicle in a fleet. The program includes:

- A fuel debit card assigned to each vehicle; cards issued free-of-charge
- A 1% rebate on total annual fuel spend
- Cards issued with PIN#s and system uses fraud prevention technology
- No out-of-pocket cost for drivers
- Completely paperless - one monthly electronic invoice for all fuel purchases
- Online reporting tools for periodic management reports
- Cards accepted by all major fuel companies; wherever Visa & Mastercard are accepted

[To learn more about WEX fuel cards, Click Here!](#)





5. "GREEN" DRIVING

How does someone's driving habits affect their vehicle's fuel economy? A Green Fleet Policy should help drivers become more aware of how their driving habits can either reduce or increase fuel consumption thus having a direct impact on their vehicle's carbon footprint. Some examples of good green driving habits include:

- Avoid "jack rabbit" starts and stops; rapid acceleration and braking lowers mpg by up to 30%
- Slow down; every 5 mph over 50 mph is like paying an extra \$0.18 more per gallon of fuel
- Turn your car off; Idling gets 0 mpg and costs \$0.02 per minute. (A Note of Acquisition Advice: Hybrid vehicles do not idle!)
- Combine short trips to run errands into one longer trip
- Keep your vehicle's maintenance up-to-date
- Try car pooling with friends and family!



Support

Caritas LSAP Pledge

Caritas has pledged its commitment to the Laudato Si' Action Platform by implementing the following actions:

- Collaborate with Congregations to assist in their efforts to develop and implement Green Fleet Policies
- Offer to serve on client's Green Fleet policy advisory committees
- Provide detailed Carbon Footprint reports as a courtesy to all communities that submit a request.
- Deliver no-cost educational webinars on fleet management practices that focus on GHG reduction

What services do we offer?

Carbon Footprint Report

Caritas will complete a detailed CO₂ report that provides the annual CO₂ output for each vehicle in your fleet as well as the fleet's total CO₂ footprint. This report provides key benchmark data that will help with planning and goal-setting, and the report is provided as a no-cost courtesy service.

Complimentary Fleet Evaluation

The assessment includes an evaluation of your current vehicle inventory and your community's general approach to managing vehicles. We provide recommendations in a detailed report that becomes a resource for you to evaluate current practices. The report highlights opportunities for improving driver safety, and ways to reduce the overall cost of acquiring, servicing, and disposing of vehicles in your fleet. It's a nice source of information to have for planning and budgeting. The evaluation is provided as a no-cost courtesy service.

Resources



Click the image on the left to use the Carbon Calculator[®] from Terrapass, Inc.

Or Visit:



calculator.terrapass.com



Fuel Economy Ratings Chart

Model Year 2021 Ratings		
Rating	MPG	CO ₂ (g/mile)
10	≥ 53	0-169
9	43-52	170-209
8	36-42	210-250
7	31-35	251-291
6	27-30	292-335
5	23-26	336-395
4	20-22	396-456
3	17-19	457-539
2	15-16	540-613
1	≤ 14	≥ 614

Source: fuelconomy.gov

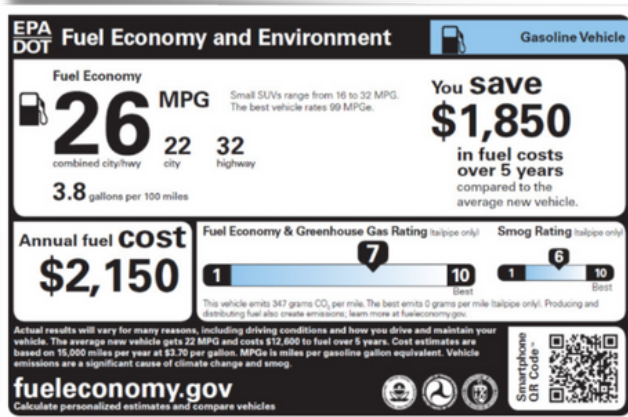
The U.S. Department of Energy and EPA use a rating system that scores all new vehicles on a scale of 1 - 10 when assigning a Fuel Economy and Greenhouse Gas rating. You will find this information on the manufacturer's window label that is required by federal law to be displayed in the window of every new vehicle. This Fuel Economy Ratings Chart above defines the 1 - 10 ratings scale both in terms of a vehicle's MPG (miles per gallon) and CO₂ emissions

Resources

Fuel Economy Stickers

These stickers are located on the factory window sticker of every new car.

Gasoline



The sticker for an average gasoline-powered vehicle shows a lower MPG rating, lower greenhouse gas rating, and lower savings than the average battery-electric vehicle.

Electric



The sticker for an average electric vehicle demonstrates their environmental and cost effectiveness.

Visit  fuelconomy.gov for more information 

Index

Definitions

Alternative Fuel Vehicle (AFV): Any motor vehicle powered in whole or in part by non-petroleum based fuels.

Battery-Electric Vehicle (BEV): "Battery Electric Vehicles, also called BEVs and more frequently called EVs, are fully-electric vehicles with rechargeable batteries and no gasoline engine. All energy to run the vehicle comes from the battery pack which is recharged from the grid. BEVs are zero-emissions vehicles, as they do not generate any harmful tailpipe emissions or air pollution hazards caused by traditional gasoline-powered vehicles."¹¹

Bi-Fuel Vehicle: Any motor vehicle designed to operate on two distinct fuels, one of which is alternative fuel (includes "Flex-Fuel" vehicle).

Bio-diesel: Fuel refined from agriculturally derived oils that is suitable for use in diesel engines. Bio-diesel is often blended with traditional petroleum-based diesel in amounts signified by the letter "B" and a number (i.e., B20 = 20% bio-diesel and 80% petroleum diesel).

Carbon Dioxide: A standard component of conventionally powered vehicle emissions and a principal greenhouse gas.

Carbon Footprint: The amount of carbon dioxide (CO₂) emissions associated with all the activities of a person or other entity (i.e., vehicle fleet, city, state, etc.). It includes direct emissions, such as those that result from fossil-fuel combustion in manufacturing, heating, and transportation, as well as emissions required to produce the electricity associated with goods and services consumed. In addition, the carbon footprint concept also often includes the emissions of other greenhouse gases, such as methane, nitrous oxide, or chlorofluorocarbons (CFCs).

Conventionally Powered Vehicle: Any motor vehicle with gasoline or diesel powered internal combustion engines.

Electric Vehicle (EV): "Electric vehicles (EVs) have a battery instead of a gasoline tank, and an electric motor instead of an internal combustion engine...EVs produce no tailpipe emissions. While charging the battery may increase pollution at the power plant, total emissions associated with driving EVs are still typically less than those for gasoline cars—particularly if the electricity is generated from renewable energy sources like wind."¹² **Types of EV's: Battery-Electric (BEV's), Plug-In Hybrid Electric (PHEV's), Hybrid-Electric (HEV's).**

Fleet: The Congregation's inventory of motorized vehicles and equipment.

Index

Definitions

Fossil Fuel: A hydrocarbon deposit, such as petroleum, derived from the accumulated remains of ancient plants and animals and used as fuel (i.e., gasoline and diesel fuel). Fossil fuels are considered a non-renewable resource, and once used, cannot be replenished within a short period of time.

Green Fleet Policy: A written strategy aligned with your community's core values, which states a commitment to reduce the carbon footprint of your vehicle fleet. The policy includes clear objectives supported by guidelines for the acquisition, management, and operation of fleet vehicles.

Greenhouse Gas: Any of the atmospheric gases (i.e., carbon dioxide, methane, nitrous oxide) that contribute to the greenhouse gas effect, which is the retention of part of the Sun's energy in the Earth's atmosphere in the form of heat.

Hybrid Electric Vehicle (HEV): "Hybrid Electric Vehicles, or HEV's, have both a gas-powered engine and an electric motor to drive the car. All energy for the battery is gained through regenerative braking, which recoups otherwise lost energy in braking to assist the gasoline engine during acceleration. In a traditional internal combustion engine vehicle, this braking energy is normally lost as heat in the brake pads and rotors. Regular hybrids cannot plug into the grid to recharge."¹ Examples: Toyota Prius, Toyota Camry, Toyota Corolla, & Honda Civic.

Integral Ecology: The idea put forth by Pope Francis in his second encyclical, Laudato Si', which posits that humankind is "of nature," and thus human lives are inherently interwoven with the natural world. The health of our environment is a direct consequence of social and cultural philosophies which may be deeply examined and/or changed to improve the relationship between humankind and Earth. By doing so, we may improve the livelihood and health of both entities simultaneously.

Laudato Si': "Laudato Si': On Care for Our Common Home is the new appeal from Pope Francis addressed to "every person living on this planet" for an inclusive dialogue about how we are shaping the future of our planet. Pope Francis calls the Church and the world to acknowledge the urgency of our environmental challenges and to join him in embarking on a new path. This encyclical is written with both hope and resolve, looking to our common future with candor and humility...The title is taken from the first line of the encyclical, "Laudato si', mi Signore," or "Praise be to you, my Lord." In the words of this beautiful canticle, Saint Francis of Assisi reminds us that our common home is like a sister with whom we share our life and a beautiful mother who opens her arms to embrace us. The encyclical is divided into six chapters which together provide a thorough analysis of human life and its three intertwined relationships: with God, with our neighbor, and with the earth."³

Index

Definitions

Metered Equipment: Any equipment (i.e., tractors, generators) that is metered for hours of use.

Mole: "Mole, also spelled mol, in chemistry, a standard scientific unit for measuring large quantities of very small entities such as atoms, molecules, or other specified particles. The mole designates an extremely large number of units, $6.02214076 \times 10^{23}$."⁴

Passenger Vehicle: Any motor vehicle designed primarily for transportation of persons and having a design capacity of 12 persons or less.

Plug-In Hybrid Electric Vehicle (PHEV): Plug-in hybrid electric vehicles, or PHEV's, can recharge their battery through both regenerative braking and by "plugging in" to an external source of electrical power, like a DC charging station. While "standard" hybrids (HEV's) can go about 1-2 miles on low speed before the gasoline engine light turns on, PHEV models can go anywhere from 10-40 miles before their gas engines provide assistance. Examples: Toyota Prius Prime, Chevrolet Volt.

Regenerative Braking: "Regenerative braking captures energy that is otherwise lost during braking and then uses this power to help recharge the vehicle's battery...[It] recovers some of the kinetic energy that would otherwise turn into heat and instead converts it into electricity. In this system, the motor drives the wheels during acceleration or cruising, but the wheels drive the motor while decelerating. This two-way energy flow allows the motor to act as a generator, resisting the rotation of the wheels and creating electricity to recharge the vehicle's battery."⁵



Acknowledgements

[Visit the Laudato Si' Website: Click Here!](#)

References

1. "Types of Electric Vehicles." EVgo Fast Charging, <https://www.evgo.com/ev-drivers/types-of-evs/#bevs>.
2. "Explaining Electric & Plug-In Hybrid Electric Vehicles." EPA, Environmental Protection Agency, 15 Sept. 2021, <https://www.epa.gov/greenvehicles/explaining-electric-plug-hybrid-electric-vehicles>.
3. "Laudato Si: On Care for Our Common Home." USCCB, <https://www.usccb.org/offices/general-secretariat/laudato-si-care-our-common-home>.
4. The Editors of Encyclopaedia Britannica. "Mole." Encyclopædia Britannica, Encyclopædia Britannica, Inc., 8 Oct. 2020, <https://www.britannica.com/science/mole-chemistry>.
5. Choksey, Jessica Shea. "What Is Regenerative Braking?" J.D. Power, 25 Jan. 2021, <https://www.jdpower.com/Cars/Shopping-Guides/what-is-regenerative-braking>.
6. "Keeping Your Vehicle in Shape." Www.fueleconomy.gov, U.S. Department of Energy, <https://www.fueleconomy.gov/feg/maintain.jsp>.

Contributing Editors

Kyle Forbush

Digital Marketing Coordinator
Caritas Vehicle Services

Sr. Sharon Zayac, OP

Speaker & Author on Climate
Change
Dominican Sisters of Springfield, IL.

Brad Forbush

Director & Ministry Support
Caritas Vehicle Services

Chris Hoar, OFS

President & C.E.O.
Caritas Vehicle Services

Contact Us!



Brad Forbush, Director
(414) 813-8036



[Visit our Website](#) ✨



bforbush@fleetservices.com



7400 W National Ave.
Milwaukee, WI. 53214