



A How-to Guide for Congregations

The Unitarian Universalist Congregation of Fairfax VA, Green Souls of All Souls Unitarian DC, and climate activists at Cedar Lane and River Road Unitarian Universalist Congregations (MD) and the Unitarian Universalists for Social Justice created this information kit to assist other congregations in taking steps to reduce their carbon dioxide emissions.

<http://uusj.net/wp1/carbon-footprint-game/>

<https://uucf.org/social-justice/social-action-groups/cag/carbon-footprint-game/>

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Carbon Footprint Background

More and more people today know that climate change is real, is caused by people, and is hurting people and the web of life right now. We know that our actions as individuals, families, congregations, businesses – and yes, even governments – can make a difference. The Carbon Footprint game was developed to invite participation of the whole congregation to act in their personal lives and as members of communities on this global issue. It invites children and adults to share ways to be a part of this important work together.

The game was developed and tested by congregations in the national capitol area. It helps to stimulate discussion between youth and adults about what each of us can do to make this world a safer, healthier place. Many are already taking actions to reduce their carbon footprints. The game visibly celebrates what we are doing, and encourages new and renewed efforts, big and small.

The game covers four subjects:

- Home Energy;
- Food and Water;
- Transportation;
- Recycling and Reuse



Some congregations devote a week for each topic. Others spend a month per topic. What's common is a large, black Carbon Footprint, placed prominently in the Church. For each topic, there are hand-outs, ideas and inspiration, social justice actions linked to the topic and STICKERS! The object is to for the game to be fun – but it has a serious side as well. Extreme weather and climate change is felt first and most strongly by people who are poor. Immigrants, minorities and poor neighbors are disproportionately exposed to environmental hazards that include pesticides, lead, landfills, polluting industrial facilities, pipelines and incinerators. As citizens, we must advocate for environmental and climate justice.

The goal of the Carbon Footprint game is to cover as much of the big, black Carbon Footprint with stickers as possible, reducing this visible black as a symbol of the congregation is reducing its own carbon footprints.

The next five sections provide an introduction to the topic, an information sheet which can be duplicated or adapted to fit your needs, suggestions of social justice actions and congregational engagement ideas appropriate to the topic, and a list of topic stickers. Following the topical sections are Religious Education program materials, Communication and Celebration resources and Resources. Have fun – and let us know how it goes, materials and ideas that made the Carbon Footprint Game work for you.

Home Energy

Home energy use equals 16 TONS of carbon emissions per person each year! Each of us can cut our carbon footprints at home by wasting less and increasing efficiency. Some will save money. Others may cost more than they save. But they all cut carbon.

Ways to Save Energy in Your Home and Reduce Your Carbon Footprint

Heating & Cooling Your Home

1. Go to the power company website to see what Home Energy Check-up Program they offer
2. Sign up for solar and wind power
3. Change your furnace filters regularly
4. Replace oil, coal, and natural gas heating systems with a modern heat pump
5. Install a programmable thermostat
6. Turn it down! Set heat at 68 or lower in the winter and A/C at 78 or higher in the summer
7. Use fans instead of A/C
8. Install a solar hot water heater and/or solar panels
9. Don't heat or cool unoccupied rooms
10. Tune up your furnace and A/C once a year
11. Close your fireplace damper and use insulated doors

The Whole House

1. Use LED light bulbs (preferably) or fluorescents
2. Turn lights off when you leave a room
3. Use programmable light switches
4. Install energy efficient, double-pane doors and windows
5. Insulate your home thoroughly
6. Caulk and apply weather stripping around doors and windows
7. Install insulated curtains and blinds, and open and close them to your advantage
8. Insulate hot water pipes
9. Disconnect **vampires** such as computers, DVD players, and other devices that draw energy even when not in use
<http://www.savewithsrp.com/advice/appliance/energyvampires.aspx>
10. Install low flow shower heads
11. Turn the temperature down on your hot water heater
12. Take shorter showers

In the Kitchen and Laundry Room

1. Run the dishwasher only when full
2. Use Energy Star appliances and devices
3. Run washers or dryers only when fully loaded
4. Let your dishes air dry
5. Wash your clothes in cold water
6. Clean your dryer vent after each use

In the Yard

1. Grow grass with 12 inch roots to increase carbon sequestration, www.pearlspremium.com
2. Mow less frequently
3. Collect water in rain barrels and use this water to irrigate your grass
4. Plant native trees for optimal carbon dioxide sequestration; www.behnkes.com has knowledgeable staff, species
5. Plant a bee and/or butterfly garden for better carbon dioxide sequestration and to reduce mowing

Home Energy Audit Resources

Know your footprint:

<http://www.earthday.org/take-action/footprint-calculator/>

Dominion's Home Energy Check-up Program (less intensive/expensive):

<https://www.dom.com/home-and-small-business/ways-to-save/energy-conservation-programs/home-energy-checkup>

Find certified energy auditor:

<http://www.bpihomeowner.org/>
<http://www.resnet.us/>

Sealing and insulating:

https://www.energystar.gov/index.cfm?c=home_sealing.hm_improvement_sealing

About Home Energy Sources

Homes energy sources include coal, oil, natural gas, solar, wind, and biomass. Each of these sources can be processed to produce electricity or heat. **Increasing home efficiency or reducing energy consumed is another source of energy.**

Fossil Fuels

Coal, oil, and natural gas use is the cause of global warming, and these energy sources are destroying our planet.

Fossil fuels (coal, oil, and natural gas) release substantial amounts of carbon dioxide into the atmosphere when consumed. Carbon dioxide and other gases are called “greenhouse gases” because they cause the earth to retain heat. Fossil fuel producers place great hopes on recapturing carbon dioxide—so-called carbon sequestration. However, this technology is not yet advanced enough to be adequate for the task.

Natural gas is sometimes considered the least damaging to the environment. However, unprocessed natural gas that is leaked from storage or pipelines into the atmosphere is an extremely potent greenhouse gas, and is far more damaging to the atmosphere than an equivalent amount of CO².



Renewable Energy Sources

Solar, wind, and biomass are ultimately derived from recent sunlight, and in that sense are considered renewable. However, not all forms of biomass are readily renewable.

Increased home energy efficiency is the least recognized and least costly source of energy for the home. Almost all sources of energy for heating and cooling must be processed and transported, at substantial costs

Wind energy is obtained primarily from wind turbines. Some recent studies conclude that modern turbines are now efficient enough that wind energy is a less costly source of energy than coal in favorable locations. When we consider implicit costs (such as harm to the environment due to global warming), wind energy clearly is a far cheaper energy source than coal. Of course, favorable locations for wind production do not always coincide with heavily populated areas, so for most of us, wind energy must be transported from where it is produced to where it is used.

Solar energy is captured through solar water heating and photovoltaic solar. The costs of producing photovoltaic solar energy have not yet fallen below the cost of fossil fuels, but the costs of harm to the environment due shifts the cost balance. Solar water heating is cheaper than photovoltaic solar energy and is quite possibly cheaper than all other sources. Not needing to transport solar energy from where it is collected further reduces its cost.

In recent years, some area homeowners have installed ground source heat pumps or **geothermal heating and cooling** systems. Heat pumps are bi-directional air conditioners. These pumps circulate water into the ground. In the winter, heat pumps extract heat from the ground, and in the summer, they pump excess heat into the ground.

The most convenient form of **biomass** for home use is wood. However, live trees that are cut down are not readily renewable and their loss destroys an important source of oxygen. Burning wood also produces pollutants and adds CO².

Books

“Alternative Energy for Dummies,” Rik DeGunthar “Basics of Energy Efficient Living,” Lonnie Wibberding

“Renewable: The World-Changing Power of Alternative Energy,” Jeremy Shere “Building Green,” Clarke Snell

Social Justice Actions:

- Petition, write Governor and state legislators to support voluntary state compliance with Clean Power Plan, increase requirements for energy from renewable sources, join interstate carbon emission reduction compacts, block pipelines, divest pension funds from oil and gas companies
- Rally and testify before local government officials in support of greater greenhouse gas reduction by local government operations, purchase of renewable energy, incentivizing businesses and homeowners to conserve energy and use renewable energy.
- Petition, lobby Congress to oppose cuts to environmental agency budgets, oppose weakening climate regulations, support commitment to Paris Climate Accords, support for Carbon Fee and Dividend

Engaging and Connecting with the Congregation

- Training teens and adults to do simple home energy audits and make simple weatherization and energy conservation repairs. The Energy Masters training program of the Arlingtonians for a Clean Environment provides an excellent model. Congregation members can learn how to seal air leaks around doors, windows, and electrical switch plates; install water conserving faucet aerators and low-flow shower heads; replace traditional incandescent light bulbs with more efficient, long-lasting LEDs; and provide energy efficiency education and outreach in schools, to community groups, and to individual residents and families in affordable housing apartments. Trainees can apply those skills at home, with others in the congregation who need help, and in community service projects to help low income, disabled and elderly neighbors reduce their utility bills, conserve energy, and cut greenhouse gases.



- Bring infrared thermometers and have kids find the coldest place in the sanctuary. Loan the inexpensive infrared thermometers so kids can check out drafts in their homes.
- Show LEDs and CFL lights, have people feel the heat coming from different types of bulbs

Sticker Ideas

Check for air leaks and insulate, caulk

Buy Energy Star appliances

Turn down thermostat (in winter) and up in summer

Install LED lights

Install low flow water aerators

Use power strips

Cut off power vampires

Don't heat/cool unoccupied rooms

Program thermostat

Buy solar or wind power

Clean refrigerator coils

Cut water use

Take showers, shorter showers

Install/pull down window blinds

Insulate

Wash Clothes in Cold Water

Full Dishwasher

Use window blinds

Turn off lights

Find drafts and insulate

Get an energy audit

Turn down/up thermostat

Use smart power strips

Turn off lights

Turn off TV

Turn off computer

Unplug chargers

Tune up furnace

Change furnace filters

Food and Water

Our food and water choices impact our carbon footprints. A serving of poultry costs about 90 gallons of water to produce — That quarter pounder is worth more than 30 average American showers --On average, a vegan, a person who doesn't eat meat or dairy, indirectly consumes nearly 600 gallons of water per day **less** than a person who eats the average American diet.

You can help solve climate change every time you choose what to eat or drink.

How we grow, harvest, preserve, and transport food has an enormous impact on our carbon footprint. Currently, more than 1/3 of all food produced is lost to waste. When food is wasted we also waste water.

How much water does it take to produce

one pound of food?

Beef = 1,847 gallons

Lamb = 1,248 gallons

Pork = 718 gallons

Chicken = 518 gallons

Eggs = 395 gallons

Cheese = 381 gallons

Butter = 665 gallons

Milk = 122 gallons

Almonds/Cashews = 1,929 gallons

Sustainable Food Practices:

- Buy only what you need
- Buy from farmers' markets and CSAs
- Buy organic, locally grown, seasonal food; avoid processed food
- Grow some of your food in your yard or join a community garden
- Compost
- Try Meatless Mondays
- Buy only pasture-raised meat, eggs, and dairy products
- Go vegetarian/vegan for one day/week
- Eat less beef, pork, and lamb
- Eat out at restaurants less often
- Eat fewer dairy products
- Drink fewer soft drinks
- Eat seasonal and local fruits and vegetables
- Eat fewer packaged snacks and junk food
- Eat wild fish that are not endangered
- Don't use bottled water, cut down on bottled sodas
- Walk to your local farmers market or grocery store
- Buy local
- Reduce meat intake
- Talk to employer, school about food
- Eat meat-free meals
- Don't waste food

Here are some good resources to learn more.

Books:

"Omnivore's Dilemma" Michael Pollen

"Permaculture" Jenni Blackmore

"A New Water Paradigm" Michael Kravcik

"Restoration Agriculture" Mark Shepherd

For children:

"Just a Dream" Chris Van Allsburg

Online:

Ted Talks: "How to Grow Plants Without Water"

"Al Gore's Optimistic Take on Climate Change"

www.gracelinks.org

Social Justice Actions:

- Ban throw-away plastic bottles in church functions
- Encourage recycling and composting at all church functions
- Petition school board for meatless Mondays in school lunches
- Encourage school sports events to refrain from using throw-away plastic water bottles.

Engaging and Connecting with the Congregation

- Offer vegetarian potluck dinner and cooking demonstration
- Share vegetarian and vegan food at the Carbon Footprint table.
- Provide a list of local farmers markets and CSAs.
- Collect vegetarian and vegan recipes for cook book.
- Distribute BPA free, re-useable water bottles from water authority.
- Display graphs showing water and CO2 to produce one pound of beef, chicken, lentils, almonds, etc.



Sticker Ideas

Ban bottled water

Eat More Veggies

Compost

Eat Vegetarian,
Vegan

Use nontoxic
cleaning supplies

No plastic food
storage

Buy locally grown,
produced

Buy organic food

Join a community,
school garden

Join a CSA

Eat seasonal food

Eat sustainable fish

Grow your own

Eat less junk food

Meatless Monday

Shop at farmers
markets

Drink less soda

Save water

Cut down on food
waste

Eat sustainable fish

Eat less junk food

Eat seasonal food

Don't use throw-
away water bottles

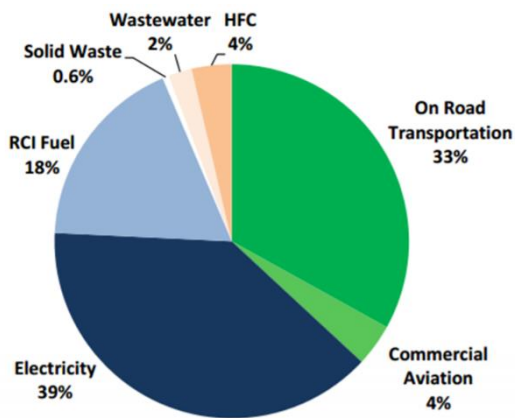
Shop farm markets

Eat local

Install low flow
aerators

Transportation

27% of all greenhouse gases come from transportation, and 90% is petroleum based. Examine how to curb climate change by our transportation choices. Consider, by holding one meeting a month by conference call, church committees can cut about 2 tons of greenhouse gases in a year (also saving \$400 in gas, 56 hours of commuting, and making it easier for people having difficulty driving at night to participate).



Metro Washington Greenhouse Gas Inventory (2012). One-third of all GHG generated by cars, trucks, buses.

The US imports 24% of its total oil. That dependence on foreign oil could be completely eliminated if the average fuel efficiency of cars was 45 mpg instead of 25 mpg. The average person uses 700 gallons of gas. This is because we are a one occupant per car transportation system.

- 65% of commuters drive alone
- 20% take carpools
- 5% walk
- 3% work at home
- 7% use mass transit

What you can do to reduce your transportation carbon footprint

1. Learn the carbon emissions of your car
2. Learn the carbon emissions of air, bus, train, and boat travel
3. Carpool
4. Use efficient driving techniques
5. Buy a low emission car
6. Take the bus
7. Take metro
8. Bike
9. Drive smarter
10. Walk
11. Combine trips
12. Drive the speed limit
13. Telecommute
14. Fly less
15. Conference calls for meetings
16. Drive a hybrid
17. Drive an electric
18. Avoid quick acceleration
19. Tire pressure, oil change
20. Drive less

Resources:

<https://www.energy.gov/energysaver/saving-money-gas>

SAVING MONEY ON GAS

DRIVING TIPS*

- Minimize idling your car by turning off your engine when your vehicle is parked for more than 10 seconds. Idling can use a quarter to a half gallon of fuel per hour, depending on engine size and air conditioner use, adding up to three cents of wasted fuel a minute. In the winter, most manufacturers recommend driving off gently after about 30 seconds. The engine will warm up faster being driven, which will allow the heat to turn on sooner, decrease your fuel costs, and reduce emissions.
- Drive sensibly and avoid aggressive driving, such as speeding, rapid acceleration, and hard braking. Aggressive driving can lower your highway gas mileage by up to 33% and your city mileage by 5%.
- Avoid high speeds. Above 50 mph, gas mileage drops rapidly. For every 5 mph above 50 mph, it's like paying an additional \$0.19 per gallon of gasoline.
- Reduce drag by placing items inside the car or trunk rather than on roof racks, which can decrease your fuel economy by up to 8% in city driving and up to 25% at Interstate speeds.
- Avoid keeping heavy items in your car; an extra 100 pounds in your vehicle could increase your gas costs by up to \$.03 cents per gallon.
- Combine errands. Several short trips, each one taken from a cold start, can use twice as much fuel as one trip covering the same distance when the engine is warm.
- Check into telecommuting, carpooling, public transit and active transportation like bicycling or walking to save on fuel and car maintenance costs. Many urban areas provide carpool lanes that are usually less congested, which means you will get to work and home faster and more refreshed!

*All cost estimates assume an average price of \$2.69 per gallon. Source: fueleconomy.gov

CAR MAINTENANCE TIPS

- Use the grade of motor oil your car's manufacturer recommends. Using a different grade of motor oil can lower your gas mileage by 1%-2%.
- Inflate your tires to the pressure listed in your owner's manual or on a sticker that is either in the glove box or driver's side door jamb. This number may differ from the maximum pressure listed on your tire's sidewall.
- Get regular maintenance checks to avoid fuel economy problems due to worn spark plugs, dragging brakes, sagging belts, low transmission fluid, or transmission problems. Fixing a serious maintenance problem, such as a faulty oxygen sensor, can improve mileage by as much as 40%.
- Don't ignore the check-engine light—it can alert you to problems that affect fuel economy as well as more serious problems, even when your vehicle seems to be running fine.

<https://www.energy.gov/energysaver/saving-money-gas>



Social Justice Actions:

- Petition, lobby Congress to support mass transit construction and maintenance, higher miles per gallon standards for cars and trucks, incentives for electric vehicles
- Petition, lobby local government officials to support bike paths and bike lanes; provide adequate, stable funding for mass transit; zoning and transportation planning to reduce need for cars and to encourage walking, biking and mass transit use.
- Organize car pools for congregational events, hold meetings by phone or video conference rather than in person meetings.

Engaging and Connecting with the Congregation

- Organize bicycling outings for families
- Organize hiking and picnicking for families
- Conduct mindfulness walks in woods or other natural places to enjoy and savor the Earth and its beauty
- Share state or local government mass transit and bike maps, mass transit schedules.
- Invite local bicycle store to bring over bicycles and electric bicycles to demo.
- Organize a showcase or parade of hybrids, plug ins and electric cars.

Sticker Ideas

Walk, walk more

Carpool

Use mass transit

Tune up car

Bike, bike more

Use electric car

Telecommute

Meet by

Take the bus

Use hybrid car

Fly less

conference call

Stuff we buy: Recycle, Reuse

Did you know? Over 40% of the US carbon footprint is directly tied to making, moving, and disposing of all the things we use – and throw away – every day. The good news is that this big number presents a big opportunity. Everything we consume – from a can of soda to a sheet of paper – requires energy for its manufacture, transportation and disposal. This energy is usually produced by burning fossil fuels such as coal or gasoline, and burning fossil fuels means that carbon dioxide and other greenhouse gases are released into the atmosphere.

Every person, every age, and every home can lower carbon pollution. Some of these activities save money, some cost money but each reduces carbon footprint. When we cut down on the **Stuff We Buy** we conserve natural resources, landfill space, energy, and protect the environment.

REDUCE – SIMPLIFY. The best way to manage waste is to not produce it. Shop carefully and consider these guidelines:

1. Buy in bulk. Larger, economy-size products and concentrated forms use less packaging and often cost less. Bring your containers.
2. Avoid over-packaged goods; they are difficult to recycle and are more costly.
3. Avoid disposable goods, such as paper plates, cups, napkins, razors, and lighters. Throwaways contribute to the problem, and cost more because they must be replaced again and again. Use cloth napkins; dish towels, not paper.
4. Buy durable goods - ones that are well-built or that carry good warranties. They will last longer, save money in the long run and save landfill space.
5. At work and home, make two-sided copies whenever possible.
6. Maintain central files rather than using several files for individuals.
7. Use electronic mail or main bulletin board.
8. Remove your name from the mailing lists you no longer want to receive, cut out your address label and write to: Mail Preference Service, c/o Direct Marketing Assoc., P.O. Box 90008, Farmingdale, NY 11735.



REUSE

It makes economic and environmental sense to reuse products. Sometimes it takes creativity:

1. Reuse products for the same purpose. Save paper and plastic bags, and repair broken appliances, furniture and toys. Avoid buying a new car frequently, unless you buy a hybrid or electrical car!
2. Reuse products in different ways. Use a coffee can to pack a lunch; use plastic microwave dinner trays as picnic dishes.
3. Sell old clothes, appliances, toys, and furniture in garage sales or ads, or donate them to charities.
4. Use resealable containers rather than plastic wrap, preferably glass/ceramic for food items.
5. Use a ceramic coffee mug instead of paper cups.
6. Reuse grocery bags or bring your own.



RECYCLE

Buy products made from recycled material. Look for the recycling symbol or ask store managers or salesmen. Check collection centers and curbside pickup services to see what they accept, and begin collecting those materials.

1. Consider purchasing recycled materials at work when purchasing material for office supply, office equipment or manufacturing, greeting cards.
2. Speak to store managers and ask for products and packaging that help cut down on waste, such as recycled products and products that are not over packaged.
3. Buy products made from material that is collected for recycling in your community.
4. Use recycled paper for letterhead, copier paper and newsletters. \
5. Shop in thrift stores

What does carbon reduction in STUFF WE BUY look like?

1. Give fewer gifts; craft/make your gifts
2. Make organic food gifts
3. Avoid fancy gift wrap
4. Reuse bags and/or recycle
5. Reuse bottles
6. Use simple cleaning products
7. Buy second hand instead of new
8. Practice Simplicity; Simplify
9. Try out jazzy clothing, toys, furniture at local thrift stores or donate your used items to them
10. Frequent Consignment shops; buy used
11. Donate rather than gifts
12. Buy energy star appliances
13. Take your own bags for shopping
14. Less grass, more natives
15. Grow food
16. Reusable, non PBA water bottles
17. Recycle more
18. Buy less stuff
19. Learn to free cycle (see below)
20. Repurpose – Reuse
21. Donate “stuff” to Yard Sale
22. Declutter & Share
23. Neighborhood Garage Sales
24. Plant native plants
25. Plant pollinator friendly

BOOKS

The Upcycle: Beyond Sustainability--Designing for Abundance, William McDonough, Michael Braungart
Confessions of an Eco Sinner: Travels to Find Where My Stuff Comes From, Fred Pearce.
Cradle to Cradle: Remaking the Way We Make Things, Michael Braungart, William McDonough

Social Justice Actions:

- Petition, lobby Governor, state legislature to support bottle bills to incentivize recycling and reuse of glass and plastic bottles.
- Advocate for recycling, curbside composting, landfill ban on yard debris
- Advocate local (or state) plastic bag bans or charges for plastic bags.
- Advocate for and support local farmers market at or near church
- Volunteer or organize volunteers for Earth Day for a cleanup effort in your community.
- Organize a recycling drive in your neighborhood or at school. Collect bottles, glass, plastic, newspapers or books and take them to your local recycling center or a charity in need.
- Create a community drop-off site for old computers and electronics.
- Set up a composting program for your neighborhood or school. It only takes a small amount of land space to collect organic waste into a compost pile. The compost can be bagged and sold for community and school funds.
- Hold a “donation picnic” at your local park or rec center. Participants can eat, talk and bring their old toys, clothes, books, furniture and other items for charitable organization
- Petition, lobby for bike paths and bike lanes.
- Petition, lobby to ensure that mass transit, buses, subways have adequate, stable funding.

Engaging and Connecting with the Congregation

- Church-wide yard sale
- Organize recycling days. Separate days for electronics; oil, paints, toxic chemicals; clothes; bicycles
- Sponsor a “Repair Café” Repair Cafés are all about repairing things (together). Congregants bring their broken items from home. Together with the specialists they start making their repairs in the Repair Café.
- Donate your old computers and tablets to a school or social service organization. Donating used (but still operating) electronics for reuse extends the lives of valuable products and keeps them out of the waste stream for a longer period of time.
- Be smart with your smart phone! It contains precious raw materials. Learn how to keep your information and our environment safe when donating your old device. [Check out our guide](#)

Sticker Ideas

Consignment shops	Grow food	Recycle more	Declutter & Share
Donate rather than gift	Buy Used	Buy less stuff	Neighborhood Garage Sale
Buy energy star appliances	Simplify	Fewer gifts	Plant native plants
No plastic bags	No fancy giftwrap	Learn to Freecycle	Plant butterfly garden
Handmade gifts	No plastic water bottles	Reuse more	Take a walk in nature
Less grass, more natives	Reuse water bottles	Donate Yard Sale	Pick up trash

Religious Exploration

Climate change is a confusing topic, not to mention terrifying. It often feels more about problems than solutions, which makes it easy to push to the sidelines as “something scientists can deal with.” This course developed by the Unitarian Universalist United Nations Office <https://www.uua.org/environment/climate/curriculum> aims to give participants a solid understanding of the facts behind climate change, an appreciation of the earth, and tools to find solutions on a range of scales.

This curriculum is aimed at fourth and fifth graders. However, it can be used for a range of ages. It is a six unit course, meant to be spanned over six sessions, about an hour each. The curriculum is divided into six classes: climate change and religion, food shortages, human health, natural disasters, energy use, and tragedy of the commons. Each class starts with an introduction that contains general information for your use. The learning objectives give an outline of what participants should come away with, and they can be used as a guide to focus time and energy on the aspects of the activities that help achieve them. The chalice lighting and check-in begin each session. There is also a story provided to get participants thinking about the subject. The core of each lesson is the activities. Two to three are provided with each lesson along with the materials and location needed. At the end of each session there is an action section to check in with the participants about their Do One Thing projects. Finally, each session ends with extinguishing the chalice.

- Lesson One: [Climate Change and Religion](#)
- Lesson Two: [Changing Food Supply](#)
- Lesson Three: [Human Health and Climate Change](#)
- Lesson Four: [Natural Hazards](#)
- Lesson Five: [Energy](#)
- Lesson Six: [Tragedy of the Commons](#)
- [About the Author and Background](#)
- [Appendices](#)



Energy and Getting Active Videos appropriate for religious exploration:

Younger children

<https://www.youtube.com/watch?v=V0IQ3ljl40>

For older children:

<https://www.youtube.com/watch?v=w1I8HXa3HLk>

Discussion guide for Kindergarten and First Grade

- 1- How do you feel today? Do you feel like moving around? Show me what moves you can do? Can you do some jumping jacks? Other moves?
- 2- That's ENERGY!
- 3- Where did you get this energy from? What makes you grow?
 - a. What you ate?
 - b. What types of food give you energy?
 - c. Have kids tell what they eat. Put the pictures of food groups on the board (meat, fish, grains, dairy, vegetables, fruit)
- 4- But we don't just need to eat. We do other things in our lives. What are some of your favorite activities? How about your parents? Get some answers and write them down or draw them.
- 5- Play the matching game with the cutouts.
- 6- But what if the power runs out? What if there is no more water? We won't be able to do these things anymore. So how can we save energy to make sure we have enough?
- 7- Coloring activity: How are they saving electricity? Let's color these activities in green
- 8- How are they wasting energy? Let's color these in red.

Draw arrows to show an energy chain on each picture. Start from the sun.



Sticker ideas

- | | | | |
|--|--|---|---|
| <ul style="list-style-type: none"> • Turn off lights • Turn off TV • Turn off computer • Unplug chargers • Walk to friend's house • Walk to school • Ride bike to friend's house • Ride bike to school • Take the bus • Take the metro | <ul style="list-style-type: none"> • Carpool • Reuse or recycle plastic water bottles • Find out the carbon from 1 hour of videogame • Find the carbon from 1 hour of smartphone • Find the carbon from 1 hr. car ride • Find the carbon from 1 hr. bus ride | <ul style="list-style-type: none"> • Find the carbon from 1 hr. plane ride • Use less AC in summer • Use less heat in winter • Find the carbon from the cars at your home • Find the carbon from your heating • Find the carbon from your home AC | <ul style="list-style-type: none"> • Find the carbon from your home electricity • Know the carbon from meat • Know the carbon from vegetables • Buy clothes at second hand shop |
|--|--|---|---|

I need energy

We use energy every day, from the time we brush our teeth in the morning to the time we turn off the bedroom light at night. Energy comes from many different sources, including coal, natural gas, oil, water, wind and even the sun. But many energy sources are non-renewable, which means they cannot be replaced. One way we can help preserve the world's energy sources is by conserving energy. Every little bit helps! In the chart below, list 10 ways that you use energy in a typical week.

what i do each week that uses energy
Ex: I watch television.

Interfaith Prayer Flags for Climate Action

Families often are too busy to stop and think about the importance of the natural world and the impact of climate change. This activity is designed to help people consider climate change and what they value.

WHAT:

Most belief systems have a tradition of prayer, though the forms vary. With due respect for all faiths, we've borrowed from the Tibetan Prayer Flag tradition because of the universality of the principles drawing from nature. Prayer flags are simple devices that, coupled with the natural energy of the wind, quietly harmonize the environment, impartially increasing happiness and good fortune among all living things.



WHY:

Climate change is a common and overwhelming concern for all mankind. Think of your artwork as you will . . . a prayer, a hope, a plea, an intention and a commitment. Children can think of it simply as something in Nature that they love and never want to lose. Our collective prayers for humans to cease inducing Climate Change will be sent into the universe. . . . blowing 'silent prayers spoken on the breath of nature, to fill all of space.'

WHEN:

This is a short activity that can be done in many different settings.

- With family at home.
- At church – Sunday School
- In schools – elementary through high school integrated into an art or cross-curricular activity. After school clubs.
- At community fairs/festivals.

HOW:

1. Tear an old bed sheet into 7" squares. One flag will include 5 squares. *Tip: after tearing a long length, iron it before tearing into squares to make it easier to draw on.*
2. Tear the bed sheet into 2" X 4'-5' lengths to string the five 7" squares together.
3. Use markers to create designs & messages on each flag.
4. Use a simple running stitch to attach the squares to the long piece.
5. Hang outside your home, your church, your school.



Communication and Celebration

Announcing the Carbon Footprint Game to Congregation and Religious Exploration Parents

The Carbon Footprint Game is coming!

Together, all of us, will make cover our Carbon Footprint with personal and family commitments to cut carbon and heal the web of life. Bring your hearts and laughter to this game of sharing and learning.

For parents: More and more people today know that climate change is real, is caused by people, and is hurting people and the web of life right now. We know that our actions as individuals, families, congregations, businesses – and yes, even governments – can make a difference. Now, with joyful spirits, we will share ways to be a part of this important work together.

We invite you and your family to play this sticker game. We especially like to have your children ask questions of the adults, asking what each of us is doing to make this a safer, healthier place for them to grow up in. We hope that a lot of the discussion will focus on steps we are already taking to reduce our carbon footprint (the children and you get stickers for that) and we ask each of us pledge a new action, small or big. Your children will get stickers to put on Big Carbon Footprints in each RE classroom, and you will get stickers to place on the Big Foot in the Commons.

We will be talking about the game with teachers about how to work the game into their curricula. Sharing together steps we are already taking to cut our carbon footprints – and pledging new actions – will take little time and not interfere with the RE curriculum.

The game will cover four subjects. Every Sunday, we will offer hand-outs, ideas and inspiration so you can pick to your heart's content which action step appeals to you. We have been studying the subjects of HOME AND ENERGY USE, FOOD and WATER, TRANSPORTATION, and the THREE R'S (REDUCE—REUSE--RECYCLE) so we can advise you and answer your questions.

Our goal is to cover as much of the big Carbon Footprint with stickers as possible, reducing this visible black as a symbol of how we are reducing our carbon footprints. At the end, we will have a celebration for all the children and adults who participate, and share what we've done to make this a better environment.



Sample Church Newsletter Bulletin Carbon Footprint Notices

Play the 'Carbon Footprint' Game! Everyone is invited to join us to cut **Carbon at Home**. Almost 40 percent of each person's carbon foot print comes from their home. So doing activities to reduce your home carbon emissions is a great way to reduce **all of our Carbon Footprints**. Government can't legislate things that everyone can do, at every age, and in every type of home to reduce climate change risk. We will suggest some that save money and some cost money but they all cut carbon. Beginning next week, we will have a large black Carbon Footprint cutout in the church and smaller footprints in every Religious Education classroom. We also have a list of carbon saving activities. When you commit to a carbon saving activity you get a sticker to put on the Carbon Footprint. Get stickers at the Carbon Footprint Game table in the Commons after each service.

Play the 'Carbon Footprint' Game! Home Energy. Home energy use equals 16 TONS of carbon emissions per person each year! We will suggest some ways to cut your carbon footprint that save money. Some cost money but they all cut carbon. Join us in covering the large black Carbon Footprint with stickers with our commitments to carbon saving activities. Televisions, radios, computers, clocks, computers, and game consoles that consume power even when they turned off! The list of carbon saving activities and the stickers will be at the table after each service.

Carbon Footprint Game: Food and Water. Our food and water choices impact our carbon footprint. Put up a sticker on the Carbon Footprint of an action you or your family took this week to reduce your carbon footprint through your food or water choices. A serving of poultry costs about 90 gallons of water to produce. A quarter pound hamburger is worth more than 30 average American showers. On average, a vegan, a person who doesn't eat meat or dairy, indirectly consumes nearly 600 gallons of water per day **less** than a person who eats the average American diet.

Carbon Footprint Game: Transportation: In the US, 27% of all greenhouse gases come from our cars. Join us in examining how to curb climate change by our transportation choices. Consider – by holding one meeting a month by conference call and our second in person with a conference call option, a church committee cuts 2 tons of greenhouse gases in a year (also saving \$400 in gas, 56 hours of commuting, and making it easier for people having difficulty driving at night to participate). Come by the table for Transportation ideas.

Carbon Footprint: Reuse, Reduce, And Recycle. Culminating our Carbon Footprint Game we focus on **Reuse, Reduce, and Recycle**. Visit the table and place your commitments on the big Carbon Footprint cutout. Make a difference by practicing the three R's: Reuse, Reduce, Recycle.

Celebration at end of Carbon Footprint Game

Carbon Footprint Celebration

Congratulations to everyone who played the Carbon Footprint Game! Bring all your name tags to the Community Lunch after the service Sunday. Remember to bring your church name tag!



We enjoyed seeing new faces and thank you for your excitement and great conversations!



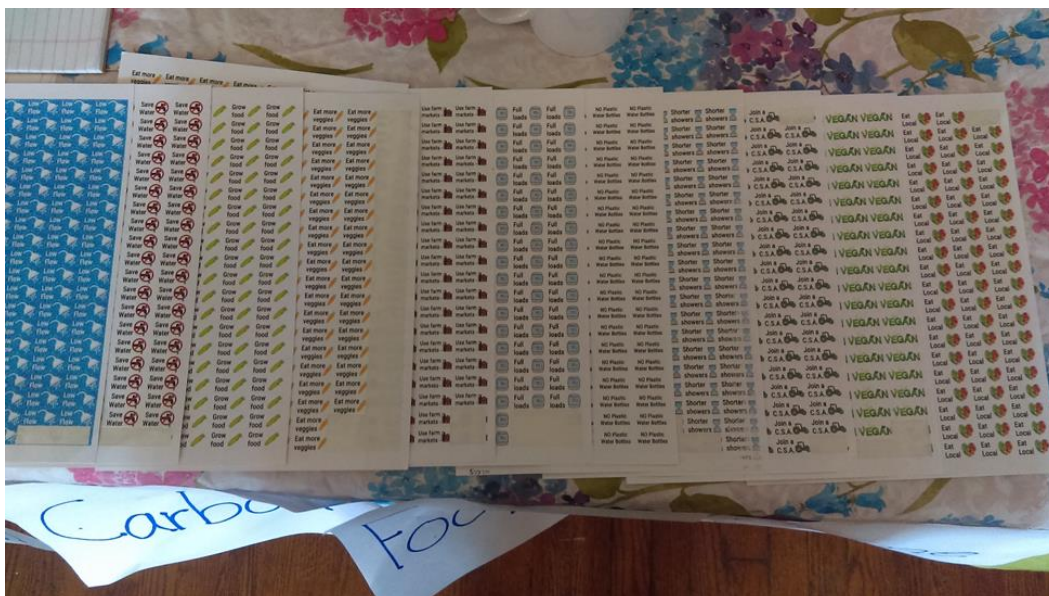
Resources

Printing Stickers:

We've found that using Avery "Easy Peel Return Address Labels" (product # 8167) is an 80 label sheet with individual labels 1/2" x 3/4" were inexpensive, and could be easily printed using standard copiers. They can be printed in color or black and white. The PDF files can be print directly on the Avery 8167 sheets. Nothing more is needed. The pictures below show what the sheets look like.

The labels are grouped into the four areas: Home Energy, Food, Transportation, and Recycle Reuse. PDFs of all the stickers can be found at the Unitarian Universalists for Social Justice website:

<http://uusj.net/wp1/carbon-footprint-game/>



Write Here! Write Now!

A Toolkit for Letter-Writing Campaigns developed by Unitarian Universalists for Social Justice

What is *Write Here! Write Now!*?

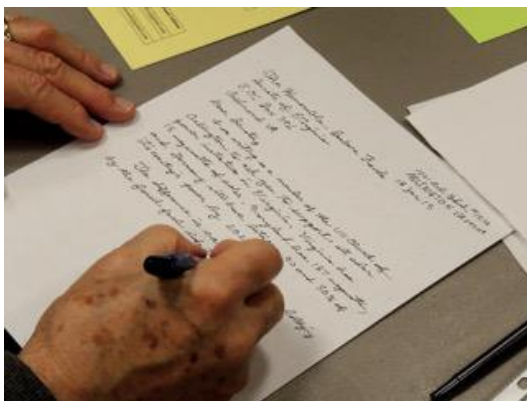
Write Here! Write Now! offers congregation members a way to communicate with opinion leaders and policy-makers to advocate for positive change, or to express a point of view on public issues facing our community, state or nation. As part of an advocacy initiative, letter-writing can be an effective means to let officials know how our faith and values compel us to seek a better way of life for people.



Policymakers value hand-written letters much more than emails or petitions because they understand that their constituents have taken time to express their own message in their own words on a topic that is important to them. Research shows that elected officials respond more favorably to hand-written letters from their own constituents than to emails and petitions. When an entire congregation writes letters and they are delivered to the policymaker by members of that congregation they are even more powerful.

This *Write Here! Write Now!* Toolkit provides all you need to know to launch an effective letter-writing campaign. You can generate a sizable number of letters and promote an issue important to your congregation by giving congregants an opportunity after Sunday service (or at any other congregational or secular gathering) to "write here, write now." Provide signage, paper, envelopes, addresses* of legislators or other officials, and sample talking points and a table and chairs where they may write them. In some cases the "target" of the campaign will be an elected official at the federal or state government level, in other cases perhaps an appointed official such as a department head who makes key decisions. In other situations it might be a corporate leader who needs to understand the perspective of his/her firm's customers, stockholders, or community neighbors.

Letter-writing Campaigns as Issue Advocacy



Advocacy – the act or process of supporting a cause or proposal – is an important part of UU efforts to make the world a better place. By promoting better public policies we can have a positive influence on social justice, consistent with our UU values and principles. As citizen advocates we have an opportunity – and a responsibility – to make our voices heard for the greater good. Writing letters is an important piece of an advocacy campaign. It should be grounded in an overall strategy to inform and influence policy-makers and opinion leaders on important social justice issues.

The full *Write Here! Write Now!* Toolkit may be found at:

http://salsa4.salsalabs.com/o/50780/p/salsa/web/common/public/signup?signup_page_KEY=8693

An example of a Write Here! Write Now! Climate Action letter

CEO Michael Corbat
Citi Bank
388 Greenwich Street
New York, NY 10013

DATE:

Dear Mr. Rodgers

I am writing you as a U.S. citizen who is requesting that Citi Bank divest from the North Dakota Access Pipeline. I am sure that many of your shareholders are deeply concerned about future of our planet and about the land and water rights of the indigenous peoples of our nation. Indigenous, First Nation people have historically experienced genocide and mistreatment in our country. The Dakota Access Pipeline project will not only destroy their burial sites, prayer sites and culturally significant artifacts but the 'Black Snake' and contamination due to breaches will have environmental impacts on their sources of water and capacity to utilize their own land to sustain their communities. Mr. Corbat, would you want your own children to be faced with drinking contaminated water?

The solution to this problem is NOT to reroute the pipeline off these lands but closedown the project entirely. I would assume you are aware of the science on climate change and the sizable impact of fossil fuel use on the climate. Conclusions from the Paris Agreement, COP 21 and Marrakech, COP22 have told us that in order to save our planet for future generations we must leave fossil fuel in the ground and depend on sustainable energy resources as we go forward. The Dakota Access Pipeline goes against all that we have come to understand as the truth in addressing climate change.

In conclusion, I am asking Citi Bank to divest from the Dakota Access Pipeline, not invest in any future fossil fuel infrastructure and instead invest in sustainable energy resources. Thanks very much for your attention.

Regards,

Name:

Address: