

Dear Friends,

Each month in 2021 the Sustainability and Creation Care newsletter will focus on a different Climate topic. For February the topic is soil and waste -- which includes recycling, how regenerative farming can sequester carbon and what we can do about it. We're also continuing the "Climate 101" section which helps to develop a baseline of understanding around the science of Climate change.

If you know of others who should receive this email, please forward it to them, and let me know who, so I can add their name to the email list. More up-to-date info can be found on the Sustainable Winchester Facebook page at www.facebook.com/SustainableWinchester, please like that page and share with others who should know.

In Faith,

Josh

Epiphany Sustainability and Creation Care Group Meetings



The Epiphany Sustainability and Creation Care Group Meetings are held the last Monday of each month from 5:30pm – 6:30pm. In the first half of 2021 they will be Zoom Meetings.

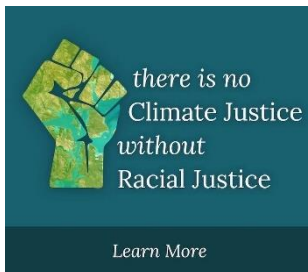
The next Zoom Meeting is **Monday, March 29.**

Zoom Meeting

<https://us02web.zoom.us/j/8734975675>

Meeting ID: 873 497 5675

Dial by Phone at: 929-205-6099



As a group committed to environmental justice, we stand with those calling for racial justice, accountability and an end to violence. We grieve for the loss so many are experiencing in our community, and we stand with those most affected by racist structures and systems. We commit to educating ourselves on the historic and current systems of racism in New England and to advocate for policies and elected leaders that are willing to address these issues.

CLIMATE 101 – UNDERSTANDING OUR IMPACT ON CLIMATE CHANGE

How much carbon does the average suburban Massachusetts household generate?

The average Winchester (or other suburban Mass.) household generates 64.9 tons of carbon/year.*

Group	Category	Tons CO ₂ per yr.	Total by Category
Travel	Car Fuel	6.5	9.5
	Car Mfg	1.6	
	Air Travel	1.3	
Home	Electricity	8.4	19.1
	Heating	3.9	
	Water	2.1	
	Other	2.3	
	Construction	2.3	
Food	Meat	4.7	11.9
	Dairy	1.8	
	Fruit/Veg	1.4	
	Cereals	1.5	
	Other	2.6	
Goods	Clothing	3.9	12.9
	Furniture	3.9	
	Other	5.1	
Services	Services	11.6	11.6
TOTAL			64.9

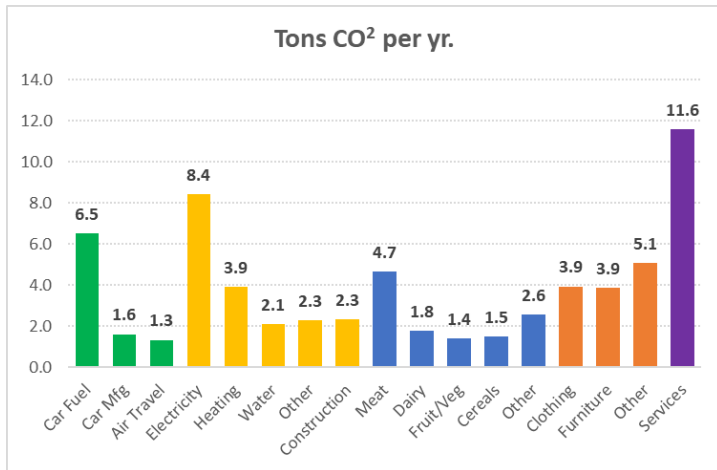
Here's how this breaks down by category.

- Cars and travel generates 9.5 tons
- The Home generates 19.1 tons
- Food accounts for 11.9 tons
- Purchased goods 12.9 tons
- Purchased services 11.6 tons

And this points to some substantial savings.

- ✓ Reducing the amount you drive your car by 30% (by working from home or taking public transportation) would save the 2 tons of CO₂.
- ✓ Reducing the meat you eat by 50% would save 2.4 tons.
- ✓ Switching to renewable electricity would save 8.4 tons.

* Source Cooler Climate Calculator: <https://coolclimate.org/calculator> . Winchester Average based on map of carbon footprint by zip code: <http://shrinkthatfootprint.com/american-carbon-footprint>



You can read more in this PBS Newshour article. <https://www.pbs.org/newshour/science/5-charts-show-how-your-household-drives-up-global-greenhouse-gas-emissions>

FEBUARY FOCUS: SOIL, REGENERATIVE FARMING AND WASTE

Regenerative Farming – removing carbon from the atmosphere



To combat Climate change, we need to focus not only on reducing carbon emissions, but on “sequestering” carbon or removing it from the atmosphere. Interestingly the soil itself can effectively sequester carbon if the techniques of Regenerative Farming are effectively adopted.

Regenerative farming techniques include minimal or no tilling of soil; rotating crops; planting crops to cover and benefit the soil after the main crop is harvested; and greater use of compost rather than chemical fertilizers. This newly-rediscovered technique has gained in popularity tremendously. In fact, the Biden administration is even considering incenting farmers to utilize regenerative techniques.

A recent NYT article at: <https://www.nytimes.com/2021/02/17/climate/regenerative-grazing-cattle-climate.html?referringSource=articleShare>

Can regenerative agriculture reverse climate change? Even big food manufacturers are betting on it.



Undisturbed soil naturally contains carbon and microbes, but once it's tilled for farming, the carbon is released into the air. Regenerative agriculture is a set of practices that builds organic matter back into the soil, effectively storing more water and drawing more carbon out of the atmosphere.

Since approximately 50% of large food manufacturer’s emissions come from agriculture, they are making major investments in regenerative agriculture. Is this greenwashing? Is this a legitimate paradigm shift? This NBC news article digs deeper. <https://www.nbcnews.com/news/us-news/can-regenerative-agriculture-reverse-climate-change-big-food-banking-it-n1072941>

Removing Carbon from the Atmosphere: 8 Ways to Sequester Carbon



Regenerative farming is not the only way to sequester carbon. Researchers are investigating reforestation and afforestation (planting trees where none have previously grown); Direct Air Capture and Storage; and biochar (partially-burned materials such as logging slash or crop waste which make a carbon-rich, slow-to-decompose substance). Also, coastal plants, such as mangroves, seagrasses and vegetation inhabiting tidal salt marshes, excel at sequestering CO₂ in vegetation.

This EcoWatch article discusses eight different techniques for sequestering carbon:

<https://www.ecowatch.com/carbon-sequestration-2461971411.html#toggle-gdpr>

Does recycling actually work?



Recycling of metal, glass and (to a lesser degree) paper are effective and financially viable. But plastic recycling is much more complex. Plastic film (like Saran wrap and shrink wrap) are not at all recyclable and actually cost money since they need to be removed from the recycling stream.

A clear plastic water bottle can be recycled into other items like nylon cloth. But despite the triangle label on the bottom of many plastic containers, jugs, jars and other items, much of this is not profitable to recycle. The best strategy is to reduce the use of these containers by using non-plastic containers.

Hear a more complete story of plastic recycling on this Gimlet Media Podcast:

<https://gimletmedia.com/shows/howtosaveaplanet/brh3jeg/recycling-is-it-bs>

Single-Use Plastics 101 – Dealing with a mountain of waste



We produce 300 million tons of plastic each year worldwide, half of which is for single-use items. That's nearly equivalent to the weight of the entire human population. And a whopping 91% of all plastic isn't recycled at all.

Reducing plastic use is the most effective means of avoiding this waste. Polyethylene terephthalate, one of the most commonly recycled plastics and the material that makes up most water and soda bottles, can be turned into everything from polyester fabric to automotive parts. But many types of plastic (plastic film – like Saran wrap; plastic bags) are not recyclable. And it's currently not profitable to recycle many other types, so they go to landfills. The best way to lower the volume of plastic in landfills is to use less.

This Natural Resources Defense Council article provides a useful overview of the challenges of plastic: <https://www.nrdc.org/stories/single-use-plastics-101>

7 ways packaging is changing to reduce plastic waste



Packaging accounts for 3.4 times more waste than any other use of plastic, but efforts are underway to reduce that volume of output. For example, Carlsberg beer has replaced the plastic rings holding six-packs of beer with dots of glue that stick the cans together. ICA Gruppen in Sweden has tried laser etching to replace labels on fresh fruit and vegetables. There are even edible coatings, like those

developed by Apeel and Mori in the US, that keep food fresh by using organic materials rather than plastic.

This World Economic Forum article discusses a variety of innovative ways manufacturers and retailers are reducing plastic in packaging: <https://www.weforum.org/agenda/2020/12/sustainable-packaging-reduce-plastic-waste/>

But as a consumer you can reduce plastic consumption by buying from companies that use no plastic at all. Here are 4 websites that sell plastic-free products.

[BlueLand](http://www.blueland.com): Eco-friendly cleaning products with no plastic. www.blueland.com

[Grove](http://www.grove.com): Natural cleaning, home and health-care products www.grove.com

[Package Free](http://www.packagefreeshop.com): Zero-waste personal care, household and specialty goods www.packagefreeshop.com

[Who Gives a Cr@p](http://www.whogivesacrap.org): Recycled, and paper-free toilet paper, towels and paper products www.whogivesacrap.org

MASSACHUSETTS CLIMATE POLICY

Baker and Mass. Legislature negotiating Climate Bill



Shortly after reconvening in January, the Mass Legislature re-submitted the Climate Bill which Governor Baker had vetoed at the end of the 2020 session. Now that Baker has responded with an itemized veto, both sides are negotiating the details of this bill. The Bill was passed in January with a veto-proof majority, so the Legislature could override the second veto. More likely the two sides will negotiate the areas of disagreement.

The Governor has dropped his objection to how offshore wind contracts are negotiated. So, the remaining areas of dispute are:

- *The 2030 emissions goal*: The Bill sets a target of 50% below 1990 emissions, the Governor is seeking 45%
- *Industry-specific emissions targets*: The bill sets binding targets for transportation, electric power, and commercial and industrial heating and cooling. Baker's amendment would make the targets non-binding if overall targets are met.
- *Housing*: The Bill enables municipalities to set energy codes that could force developers to change the way they construct buildings to reduce energy consumption (such as limiting natural gas). Baker is seeking clarification as to how this process would work.

- *Environmental justice*: Baker is actually seeking to strengthen this clause by considering cumulative pollution in a community when considering a permit for a development project.

Read a full analysis from Commonwealth Magazine at:

https://commonwealthmagazine.org/environment/baker-takes-more-conciliatory-tone-on-climate-change-bill/?mc_cid=8334950a7e&mc_eid=2b754619c9

OTHER NEWS

Vineyard Wind energy project backed by Biden administration



The long-delayed Vineyard Wind offshore project has been put back on track by the Biden administration. In one of her first actions as the new director of the Bureau of Ocean Energy Management, Amanda Lefton pledged on Wednesday to essentially resume the permitting process for Vineyard Wind.

The developers have changed the turbines they plan to use for the 800-megawatt project. The wind farm will now include 62 of Boston-based General Electric's Haliade-X turbines. A spokesman for Vineyard Wind said the goal is to begin generating power by the end of 2023. Katie Theoharides, Governor Charlie Baker's energy secretary, praised the federal agency's decision to keep the Vineyard Wind project moving along.

Read the Boston Globe article at:

https://edition.pagesuite.com/popovers/dynamic_article_popover.aspx?artguid=a594bfa6-7caa-4627-9a12-1a336918ebfb&appid=1165

DID YOU KNOW?

Epiphany's electricity is 100% locally-sourced wind, solar and hydro



Did you know that the 3 wind turbines above Route 128 in Gloucester power the Parish of the Epiphany church and Rectory? The WinPower 100 renewable municipal electric aggregation program (which PoE uses) negotiated the contract with electricity provider Dynegy with the requirement that electricity only be sourced from wind, solar and hydro generators in Mass, Me, NH, RI and VT.

Here are some examples of the sources for WinPower 100's electricity:

- The Blackburn Park Wind Turbines in Gloucester MA
- The Pemberton Point Turbines in Hull MA
- The Johnson RI solar farm
- The Hadley Falls low-impact hydro generator in Holyoke MA

Check out the full list of electric sources at:

<https://www.greenenergyconsumers.org/greenpowered/localsources>

For more info on WinPower 100 visit www.WinPowerMA.com. For similar programs in other towns visit www.greenenergyconsumers.org/aggregation

RECOMMENDED ORGANIZATIONS & GROUPS

Here are some organizations committed to climate change. This is only a small sample of the many environmental groups. If you have other groups that should be included on this list, please email joshua.reynolds85@gmail.com

350 Mass is a legal non-profit at 350mass.betterfutureproject.org

350 Mass Action engages in political action and is at: www.betterfutureaction.org

Cool Winchester www.coolwin.org

Heat Smart <http://heatsmartccl.org/>

Green Car Reports <https://www.greencarreports.com/>

Green Energy Consumers Alliance <https://www.greenenergyconsumers.org/>

Mass Clean Energy Center <https://www.masscec.com/>

Mass Interfaith Power & Light <https://www.massipl.org/>

Mothers Out Front.org <https://www.mothersoutfront.org/>

Sustainable Winchester www.facebook.com/SustainableWinchester
WinPower Community Choice Electricity www.winpowerma.org
Wright Locke Farm <https://www.wlfarm.org>