

Eastern Oregon Climate Change Coalition

SUSTAINABLE CONSUMPTION: WHY IT MATTERS AND WHAT WE CAN DO

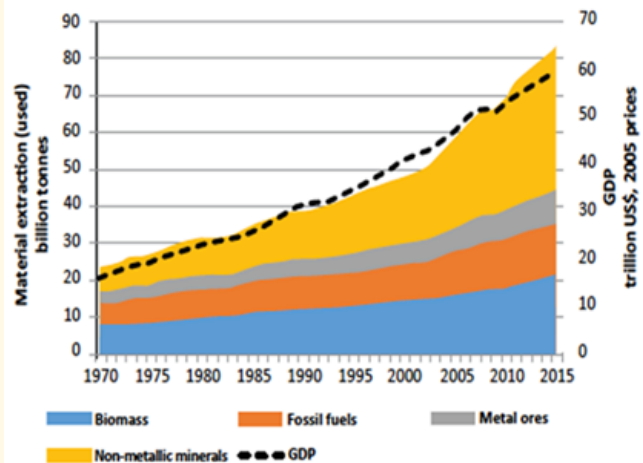
Elaine Blatt, Senior Program and Policy Analyst,
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In the past 50 years, humans have consumed more resources than in all of previous history. Our economy is tied to global markets for these materials, and competition and prices for those materials is increasing.

The materials we're using are also changing. In 1900, 41% of the materials used in the U.S. were renewable. By 1995, only 6% were. That shift puts our economy at risk, as well as our national security. The Pentagon has become very interested in e-waste for example, as an alternative source of strategically important rare earth metals that are largely controlled by China.

The rapid rise in material use has also led to serious environmental effects, including climate change, toxic chemical exposures, acidification, loss of soil fertility, nutrient imbalances in oceans and lakes, resource depletion, reductions in biodiversity, and declining "natural capital," which is the basis not only for our economy, but life itself. Evidence suggests we're already overtaxing our planetary resources. Prior to 1950, human resource use stayed within our planet's limits – resources used in a year could easily regenerate in a year. We were staying "on budget" – our withdrawals from the environment were equaled by "deposits." Today, increased resource use has put stress on these systems. You may have heard of "Earth Overshoot Day" – the day in the year when we have used up our allotment of resources for the year. It's been steadily creeping backward and is projected in 2023 for its earliest date, July 27. In the past we were in equilibrium with the planet – in just 70 years we've now reached a point where we

Global material extraction, 1970-2015



Source: UNEP (2016) Resource Efficiency: Potential and Economic Implications, p. 13

need 1.7 planet's worth of resources to sustain current activity. The best scientific projections suggest that in another 40 years we could face a dying Earth System unless we change our current consumption behaviors.

So, What Can We Do?

Changing our trajectory requires pursuing a wide range of solutions, some big scale and technology-driven. But others involve individual behavior – here are four things we can all do right now.

Reduce food waste

Paul Hawken's groundbreaking work, *Drawdown*, tells us the number one way we can address climate change is by reducing food waste. Preventing food waste has 6 to 7 times the greenhouse gas reduction

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potential of just keeping food waste out of landfills. We waste 35% of the food we produce in the US – when we waste that food, we also waste the land and water used to produce it and end up using potentially harmful chemical fertilizer and pesticides for foods we'll never eat.

Resist the upgrade

We face enormous pressure to buy the next, newest version of technology. But creating these devices places enormous burdens on our planet. Mining of tin, gold, and coltan ore (tantalum) threatens habitats and endangers wildlife. Manufacturing contributes to climate change and other environmental impacts, e.g., reduced water quality. In the end, we need to manage the disposal of our devices.

Americans replace their phones every 2 years on average, more frequently than most other countries. Just think of how we could collectively reduce impacts if we simply kept our phones for a year or two longer! And when you finally do need to replace your devices, be sure to recycle them through the E-Cycles (or similar) program, so that valuable elements remaining (especially the metals) can be reused.

Make every thread count

Consumers are buying more clothes and wearing them less. The average consumer now buys 60 percent more clothing items a year and keeps them for about half as long as 15 years ago. Worldwide, clothing production doubled between 2000 and 2014. By 2014, the number of garments exceeded 100 billion. Many of those garments don't last as long as they used to. The average life of clothing shortened by 50 percent from 1992 to 2002. Americans throw away over 32 billion pounds of textiles a year!

It can take 1,500 gallons of water to manufacture just one T-shirt and pair of jeans. That's how much water you will drink in 13 years. Textiles manufacture also causes water contamination from toxic dyes and uses a lot of energy. Extending clothing life by just three months can reduce carbon, water and waste footprints by up to 10 percent. So, focus on buying only the clothes you need and care for them well to make them last.

Repair rather than replace

Other things we buy have shorter and shorter lifespans. Keeping these things in circulation longer reduces impacts and the pressure we're putting on planetary resources. Repair items if you can, rather than replacing them. In addition, maybe don't buy some things at all – "buy nothing clubs" allow people who to share or barter items to avoid purchasing something they may need only infrequently.

Web Resources:

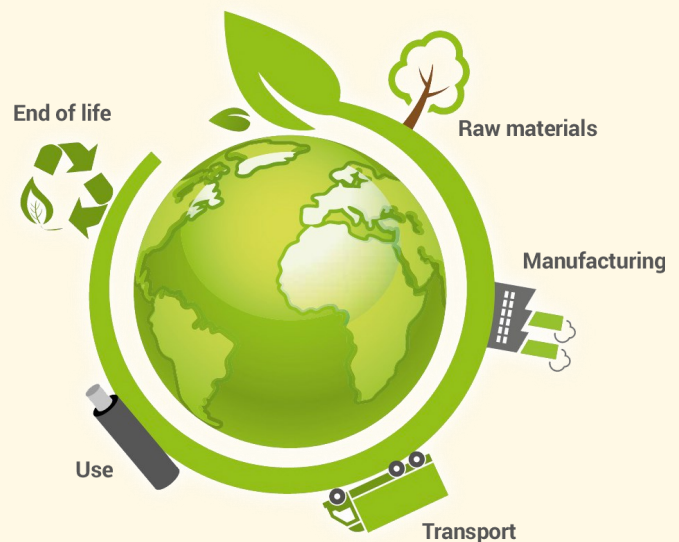
[Oregon's Consumption-Based Emissions Inventory](#), [Global Footprint Network 1.7 earth calculation](#), and [OECD projections for resource demand](#). See also [About - Earth Overshoot Day](#)

See [Project Drawdown](#); also [From Farm to Kitchen: The Environmental Impacts of U.S. Food Waste | US EPA](#)

[The Secret Life of a Smart Phone \(epa.gov\)](#); [Top 6 environmental threats caused by digital electronics | HPE](#)

[Department of Environmental Quality : Make Every Thread Count: Stakeholder Resources : Waste Prevention Campaigns : State of Oregon](#)

[BNProject | Home \(buynothingproject.org\)](#)



A Word From the Editor



Welcome to the fourth issue of the Eastern Oregon Climate Change Coalition newsletter. When we started this effort last spring, our intent was to use the newsletter to communicate with members about climate change issues and topics ripe for individual's engagement, whether it be with legislators, policy makers, media (social and traditional), etc. We also hope to use this forum to educate people about matters related to climate change and what we can do in our community and in our homes to make a difference in the future of our planet.

Toward that end, this version includes some work that we believe you'll find interesting and illuminating. Elaine Blatt is a Senior Policy and Program Analyst with the Oregon Department of Environmental Quality and gave a wonderful presentation to EOC3 on what we can do to reduce food waste and the attendant impacts on climate change. Her article in this newsletter looks at the way humans are using the earth's resources and is a call for reducing our consumption of these resources.

Member Norm Cimon is an EOC3 member and valuable resource and in this issue provides an article about rethinking the ways that our nation's energy is generated and distributed with a view towards a future of generation and storage of energy at a smaller, more local scale.

Here's a plea for help—We are in need of a publisher for this newsletter. The publisher is only responsible for assembling the newsletter in Office Publisher or a similar program, with articles that are edited and provided by the editor. We aim to have one newsletter every 3 months or so, but strive to avoid the tyranny of deadlines! If you feel lead or inspired to help in this way, please let me know (email address below) - and thank you!

As always, if you have any suggested newsletter topics useful for EOC3 members, please get in touch with me at the email below or any of the EOC3 board members.

Happy reading!

Bill Aney
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2023 Climate Conversations

The EOC3 Board has completed lining up the monthly climate conversations for the rest of 2023, and as usual has an exciting and interesting slate of presenters and topics. These conversations are held on the third Tuesday of each month, and the next one is scheduled for March 21 when Geoffrey Donovan will speak about the relationships between trees and human health and the climate change implications.

Look for an email from EOC3 with the zoom link for this (and subsequent) presentation.

Below is the entire slate of 2023 Climate Change Conversations:

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| Jan 17 | Casey Brown – Climate change effects on understory plant phenology: Implications for large herbivore nutrition |
| Feb 21 | Ellen Morris Bishop – Climates through time; how and why climate changes have happened |
| March 21 | Geoffrey Donovan – Overview of relationships between trees and human health, and how climate change has been affecting them |
| April 11 | Gordon Grant – Where will our water come from in 50 years, and what are the implications for forests and people? |
| May 16 | Steve Chrisman – Pendleton UAS range: How UAS (drones) will help to combat climate change |
| June 20 | Youth and Climate Education workgroup-sponsored program (contact: Mary Davis) |
| July 18 | Bryan Endress – Program about CTUIR's vision for upland first foods and their management/sustainability |
| Aug 15 | Ed Townsend/NWS – Program about extreme weather |
| Sept 19 | Kate Ely – Age of groundwater resources in the upper Umatilla River Basin: Do we have a renewable supply? |
| Oct 17 | Christina Hagerty – Climate change and pathogen dynamics in an agricultural context |
| Nov. 21 | [Reserve for possible program by Bob Carson – at BMCC for Blues book, or Short History of the Earth program to be presented via Zoom] |
| Dec 19 | Holiday party (no program/presentation) |

Policy and Legislative Contacts

We live in a representative democracy, where elected officials appoint judges and make law and policy that affect us all. These officials need to hear from us to know what is important.

The significant renewable energy incentives in the Inflation Reduction Act of 2022 are good examples of how legislators and policy makers can make a difference in our efforts to reduce our impact on the earth's climate.

Whether on this piece of policy and legislation or other climate change concerns, you can make yourself heard. Write a letter, send an email, make a phone call – individual citizen voices do count!

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Save the Date – March 21, 2023 at 7:00 pm

Geoffrey Donovan – Overview of relationships between trees and human health, and how climate change has been affecting them

Inflation Reduction Act Encourages Energy Co-ops and PUDs to Invest in Renewables

[An earlier EOC3 newsletter](#) mentioned the advantage Oregon's large investor-owned utilities gained through a twenty-year participation in the Energy Trust, learning how to include renewable energy provided by customers into their systems. Co-ops and PUDs declined to join the Energy Trust then, but the Infrastructure Reduction Act (IRA) has incentives for them to participate in the transition. That was mentioned in [our last newsletter](#).

Twenty-five percent of Oregon residents – many here in Eastern Oregon – are served by non-profit utilities such as electric cooperatives. Incentives in the IRA help co-ops take advantage of investments in renewable energy. That will bring us closer to eliminating reliance on fossil fuels, a big step in dealing with a changing climate.

Electricity has reworked every aspect of society for over a century. The last fifty years, it powered the development of digital networks setting the stage for its own transformation. During that time, there has been an overhaul of the business world brought about by computer networks. Electric power is next, and digital technology is turning the top-down power grid into one that works from the bottom up.

A post from Bloomberg's [Greener Living](#) highlighted how residential developments east of Los Angeles are showing what it will mean for all of us. Homes are designed with energy efficiency in mind, and according to the post heat pumps and other appliances will reduce energy consumption up to 40% compared to a conventional home. That's just a lead-in to the real change that's happening: the post reports "...what you *can't* see is what could truly transform the energy system. The 78 homes under construction ... are connected to form a microgrid, a self-contained power system that can operate independent of California's grid if it fails."

A second nearby development is planned where homeowners will be power brokers, and technology which is supplying both the solar panels and batteries for each house can automatically maximize energy production and reduce costs. When a resident commutes to work, for example, they can turn down their thermostat and put appliances in economy mode. When that same resident gets home and utility rates spike, the house can draw on the solar electricity stored in its battery or sell that power back to the grid. A smart panel also lets

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homeowners choose which appliances to power in a blackout.

The ability of customers to set rules for when and how power will be safely and efficiently maintained and preserved is part of what's called demand management.

The takeaway:

- Electric customers use less power
- They use some of the power they generate when they need more
- They are storing any excess in the community
- It will be sold to utilities when the demand arises

How, where, and by whom electricity is produced is changing. Homeowners, renters, developers, and utilities benefit as utility customers become producers. It's also why utilities must redo the way they plan and manage their power. It will be priced and bought locally for their use. Non-profit utilities must be a part of this, or risk being left behind.

This is a very different power grid than the one that's been managed from far away to provide electricity imported from remote fossil fuel power plants. There will be fewer line losses from long distance transport, and less chance for destructive forest fires. It's also a very different business model for

utilities which have benefited from large infrastructure that has a higher profit margin. They will have to adapt.

The Inflation Reduction Act facilitates all these changes. There are credits for heat pumps, for solar panels, for charging electric vehicles, even for the changes to electric panels to host those chargers. That's on the consumer side. For rural electric cooperatives, there are "(L)oans, modifications of loans (including debt relief), and other financial assistance (including grants) to achieve the greatest reduction in carbon dioxide, methane, and nitrous oxide emissions associated with rural electric systems through the purchase of renewable energy, renewable energy systems, zero-emission systems, and carbon capture and storage systems, to deploy such systems, or to make energy efficiency improvements to electric generation and transmission systems of the eligible entity." (link [to IRA guidebook](#))

It will all fit together, but only if utilities put their pieces of the puzzle into place.

Submitted by Norm Cimon

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Acting Locally

As we go about our daily routine, we have impacts on our environment. As people interested in ways we can reduce our carbon footprint, and therefore reduce risks to the health and sustainability of our planet, it's worth considering our daily routines. Thinking globally and acting locally!

Recently I ran across some research from scientists in Quebec that evaluated different ways of brewing coffee for their relative climate change impacts (article in [The Conversation](#)). My morning cup of coffee is important to me, and/but I recognize that each step in the process of growing, harvesting, drying, roasting, transporting, packaging, grinding, and brewing this coffee generates greenhouse gases. Does the way we choose to brew our coffee make any difference?

The folks in Quebec evaluated the carbon footprint of growing and preparing a cup of coffee by four different methods: traditional paper filter brewing (think Mr. Coffee), coffee pods, French press, and instant (soluble) coffee.

I was dismayed to find that the traditional filter method was reported to be the least environmentally friendly. Our go-to in the morning is a cone filter pour over, not quite the traditional brewing machine but similar. The article points out that this method uses more coffee to produce a cup and more electricity to heat the water and keep the coffee warm. I was also surprised that using instant coffee has the lowest carbon footprint, largely because it uses the least coffee per cup and wastes no hot water. Coffee pods also use less coffee and hot water, and with reusable capsules could be the most environmentally friendly.

The best thing we can do is reduce the amount of coffee we use or waste. Production of coffee makes up more than half of the environmental cost of our caffeine habit and the energy cost of preparing our morning cup is very dependent on how our electricity is generated and delivered, with hydro power being among the least impactful methods.



Acting Locally is intended to be a regular feature of the EOC3 newsletter, with ideas about how we can reduce our carbon footprint in our daily lives. Your ideas are welcome—please let the editor know if you have something to share.