Michael De Metz

Prof. Bainbridge

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Pollution:

It Is *Not* Being Disposed of Properly!

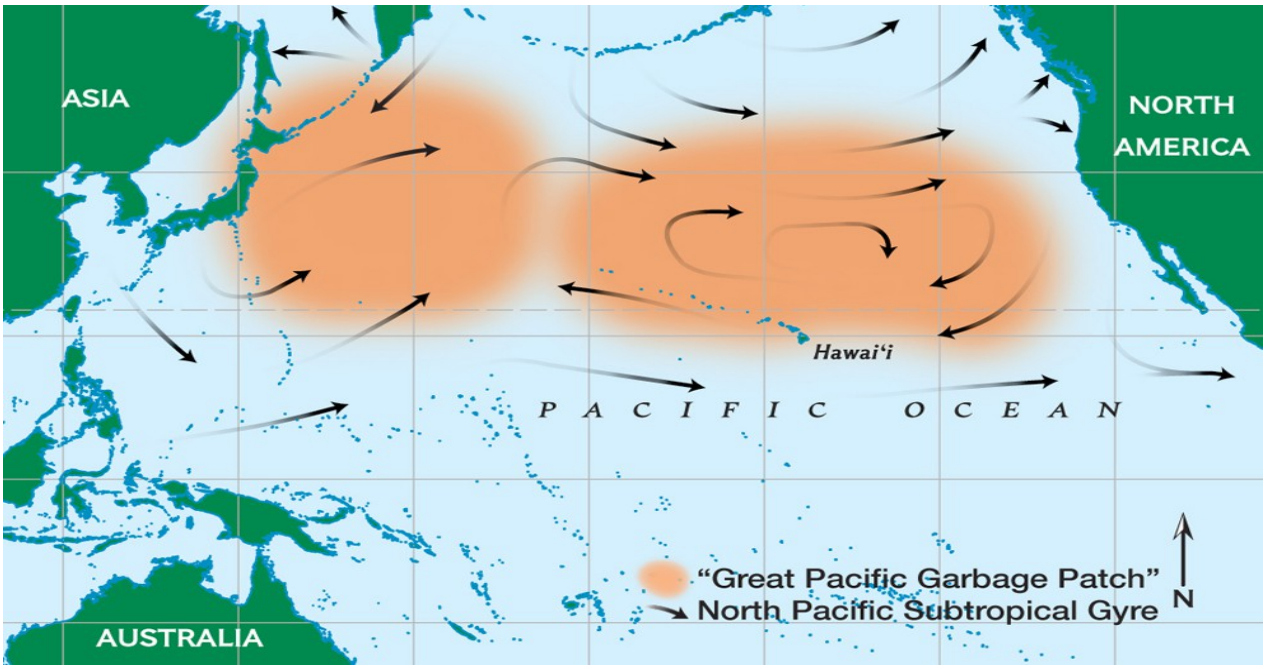
Pollution is probably the biggest problem plaguing the world, and at least the second biggest issue the United States today produced from things we use every day, and the biggest contributors to this is plastic in all its forms and toxic wastes like water that is used in the cooling towers of nuclear power plants.

We all use it in everything we do from the drink you get out of a machine or from a convenience store to the coating on the cover of your spiral pad of paper and even the chair you sit in at the dentist. We all see it laying on the ground while we are walking around the neighborhood and floating in the air when the wind catches it just right like a parachute, and how about whenever you turn on a light or use the microwave. Everyone in some way helps create this waste and contributes to the problem of pollution, and some in ways we don't realize, and some people that leave trash cans on the curb the extra day or two create a solution to some of it by doing just that.

I'm not saying if you see a piece of plastic laying around to pick it up and carry it with you to wherever you are going but if circumstances are right, maybe grab it and drop it in a trash can or recycling bin that you might see near you. Plastic is a non-biodegradable product that is

cheap and simple to make, that is why it is used so widely today. GarbagePatch.net says “plastic will break down over time to very small unnoticeable particles normally no larger than 5 millimeters in size each weighing 1.8 milligrams or less” (facts). Creating plastic in a way is recycling but not in the way you probably want to hear about, but I’m going to tell you anyhow.

The amount of plastic that is used and discarded each year from people on land and people on boats off all kinds is why there is a thing called *Trash Islands* or *Garbage Patches* in just about every ocean and sea in the world. The one in the pacific is the largest and may or may not be as bad as people say it is. GarbagePatch.net also says “By estimation, 80% of the plastic originates from land; floating down rivers or blown by the wind in the ocean and the other 20% comes from oil rigs and boats” (facts). The picture below provided by national geographic shows the locations of the garbage patches in the Pacific Ocean and the currents that basically keep them in place.



Source: education.nationalgeographic.com/education/encyclopedia/great-pacific-garbage-patch/?ar_a=1

In a partial document I was able to find *The Whats and Wheres of Ocean Trash* from February 2014 "Contrary to what the image suggests, 'There is no island of trash forming in the middle of the ocean nor a blanket of trash that can be seen with satellite or aerial photographs,' according to NOAA (The National Oceanic and Atmospheric Administration) documents. Rather, the debris is in the form of small bits of floating plastic, sometimes difficult to see even from a boat at surface level." These images were not available in the document for some reason and either way I do not believe the released statement. But there are tons of photos that are easily found on the web that show that there are more than just small bits floating around. And even pictures of sea animals that have died from ingesting things like bottle caps and even cigarette lighters that they mistake as food. There may or may not be "blankets of trash" as the document

The Whats and Wheres of Ocean Trash claims but I do believe that there much more than just small particles.

According to Maggie Hira, a contributor to eHow.com "Polyethylene terephthalate is most often used to make plastic bottles for water and soft drinks." According to Encyclopædia Britannica "*Polyethylene Terephthalate (PET or PETE)* is produced by the polymerization of *ethylene glycol* and *Terephthalic Acid*." Oh yay scientific names, I think the same thing but I'll explain in a minute. First ask, why is it that plastic isn't biodegradable if it core components came from the earth to begin with? *Ethylene Glycol* is most commonly used as an automobile antifreeze and if you haven't guessed is a product of *Ethylene*, which is a by-product of petroleum and natural gas. *Terephthalic Acid* is a product of *Xylene* which is a product of coal-tar and petroleum and used as an ingredient to aviation fuel. Doesn't that make you thirsty?

Most all your plastic components no matter what it's for are made out of the same core materials. Some have other additives placed in them while still being made into a resin before it is a finished product to make it harder. Like some of the parts in your car or the seats that might be in your boat. Even the gas tanks in that same boat are likely plastic with an additive mixed with the resin to make it even harder and stop gasoline from dissolving the plastic. The actual component used might be a trade secret and might be different for each company, so no more scientific names right now. I only know this because I worked in the industry and had to work with that particular resin mixture, it is hard to work with because it sticks horribly to the molds and the fumes it produces are strong enough to take your breath away.

It isn't all ugly, *Ethylene Glycol* can also be produced from the *Ethylene* in plant life. You may ask "Why didn't you say that to start with instead of making it sound worse that it is?" The answer to that is because I told you what you *needed* to know. Very little, if any, is produced

from plants, with as much plastic that is produced each year I would think we would be out of plants by now.

Alright, that concludes the plastic part of the lecture. "*What*, there is more?" Yes. It moves me to the next, and worse, part of the lecture on pollutions. Plastic was just, what I would call, the appetizer when it comes to pollution. Everything you see about pollution is what the media wants you to see. Everything you see about plastic pollution is horrible but nothing compared to, what I would call, the main course of pollution. Nuclear waste is pollution that is far worse for everyone and everything on the planet, and there is no real way to dispose of it at all let alone safely. Like I mentioned in the beginning, our power plants produce far more and far worse pollutants by comparison. The pollutants are dangerous in more ways than human and environmental health, they can also be targets of national security.

Nuclear power is only a faster form of geothermal power, it uses enriched uranium rods in a pressurized chamber to superheat water, also the most common coolant, to create steam that turns turbines that generates electricity. You might be asking "What happens to the uranium and coolant once it is used up and needs to be changed." Well, I only know of one thing right off hand that the *depleted uranium* is used for, building tanks for the military. Now that may or may not be the same material, in part or as a whole, that is used in reactor core since the construction of military equipment is classified and even if I knew I couldn't tell you. The radioactive coolant and all of the components that are in it are stored in cooling pools usually on site.

According to "Nuclear Energy Will Not Reduce Pollution" written by Helen Coldicott "Each typical 1,000-megawatt nuclear reactor manufactures 33 metric tons of thermally hot, intensely radioactive waste per year." Coldicott has a very interesting section in her article called *Problems of Nuclear Waste Storage* and I would love to share the entire thing with you, but to

try to keep it light I'll try to get some of the best points for you here. "Congress in 1987 chose a site in Nevada, northwest of Las Vegas, as a repository for the United States' high-level waste. But the site has subsequently been found to be unsuitable for the long-term storage of high-level waste because it is a volcanic mountain made of permeable pumice stone and it is transected by 32 earthquake faults" (Coldicott). Coldicott also thinks "This dangerous material will be an attractive target for terrorist sabotage as it travels through 39 states on roads and railway lines for the next 25 years." Wow, not very comforting to me to say the least.

That was just the icing on the cake so to speak, what kinds of things are in the cooling pools that are just sitting around? Well, Coldicott covers all that as well and after reading it I wanted to shut off my computer and just do this the old fashion way, pen and paper. "Four of the most dangerous components these pools contain are *Iodine 131* lasts for 6 weeks, *Strontium 90* lasts for 600 years, *Cesium 137* also lasts for 600 years, and *Plutonium 239* last for 500,000 years." "What! Plutonium, isn't that used to make nuclear weapons?" Let's hope that is being used by our government and not pirated by any other or terrorists.

Now you may be asking "What health risks do those thing pose?" Since we are not all scientist and know that stuff right off the top of our head, let's go over it. "*Iodine 131* enters the body through the air or ingestion and causes thyroid cancer. *Strontium 90* enters the body through cow or goat milk and causes breast cancer, bone cancer, and leukemia. *Cesium 137* enters the body through eating meat and causes muscle cancer" (Coldicott).

One of the bad thing about the aforementioned section of Coldicott's article is that it is a little outdated, 2005, but what does that mean? Did the United States move what they might have already had at the site or plan to? Has the United States found a new place by now? If not, when will either of those take place? If so, where is the new site and what kinds of dangers does it pose

to the economy and is the new site secure? I know in a way I'd like to have answers to at least some of those questions, how about you? I can say one thing for sure, Helen Coldicott really did her homework for this article and I would suggest everyone that wants to know, read it.

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