Private Sector Toolkit

2022

PREPARED BY

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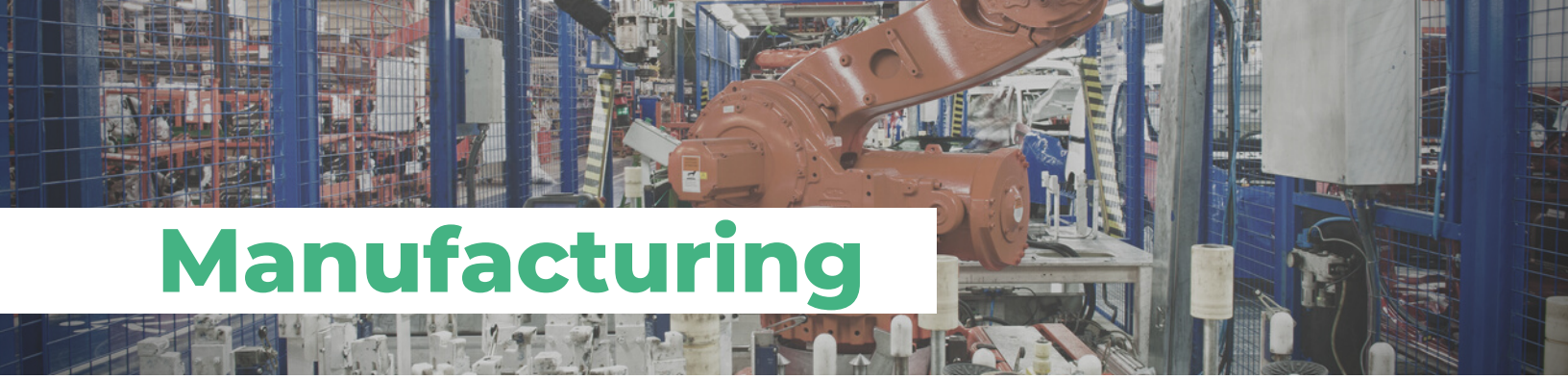
WHAT IS IN THIS TOOLKIT

As a by-youth, for-youth movement, we at Youth4Nature are keenly aware of the private sector's contribution to climate and biodiversity issues. Youth4Nature's Private Sector Taskforce defines the private sector as the typically for-profit part of the economy owned by private groups or individuals, separate from the government and voluntary sectors. Youth4Nature is working to challenge the profit-motive (the notion that people, the planet, and profit should be equally weighted) and ecological modernization (the idea that green growth and tech utopianism are appropriate ways to hope to achieve environmental sustainability).

A recent survey conducted by Youth4Nature with youth aged 18-35 from Youth4Nature's regions of Afrika, Asia & Pacific, Europe & Central Asia, Latin America & Caribbean, North America, and West Asia revealed that only 7% of youth feel informed regarding the environmental impacts of the private sector and only about 17% have a solid understanding of what **greenwashing** is (see Appendix for definitions of bolded terms). The same survey reported that the environmental impacts of the private sector invoke feelings of concern for about 93% of youth and that most youth feel overwhelmed by these issues. Interestingly, awareness of the private sector's environmental impact only influences the purchases of 7% of youth, and the vast majority of youth rightly believe that it is the private sector's responsibility to ensure future sustainability.

We hope that this toolkit will be useful in not only providing information about the environmental impacts of the private sector, but also supporting *you* - young people with the capacity to change the status quo - to take an active role in improving the environmental sustainability of your own purchases and demanding that corporations make lasting positive systemic changes.

This toolkit focuses on manufacturing, agriculture and food systems, the energy transition, and social justice. It will provide you with an overview of each thematic area and describe practical ways you can help lead change in the private sector. Furthermore, while no company is perfect, we highlighted a few actions that some companies are taking to reduce their environmental impact. The toolkit concludes with advice for youth from inspiring young professionals actively engaged in improving the ecological sustainability of the private sector.



Manufacturing

Manufacturing refers to the use of large-scale machinery to create products.

STATISTICS

- The manufacturing industry is responsible for two thirds of the world's greenhouse gas emissions.
- Fewer than 35% of companies' emission reduction targets are credible.
- Fast fashion is responsible for 10% of global carbon emissions and the production of 92 million tons of waste annually.

PROBLEMS

- Manufacturing processes usually require the burning of **fossil fuels** which emit greenhouse gasses, contributing to air pollution, climate change, and **ozone depletion**.
- The sourcing of natural resources such as oil, coal, and wood for manufacturing processes damages natural habitats and fuels the reduction of biodiversity.
- The building of factories requires the clearing of land which is fueling deforestation and consequently erosion, habitat destruction, biodiversity loss and climate change.
- Factories usually contain hazardous materials which often leak into the ground, leading to water, soil, and land pollution. This damages local ecosystems, decreases the productivity of crops, and contaminates our food supplies.
- Manufacturing processes use a significant amount of water for their processes, contributing to water waste.
- Oil spills and leaks are also common and further contribute to biodiversity loss.

WHAT YOU CAN DO?

1. Aim to purchase from sustainable companies that do not greenwash

Why?

Greenwashing is when companies mislead their customers into believing that they are concerned about their environmental impact when in reality their operations contribute to environmental destruction. It is important that we learn how to avoid making purchases from companies that greenwash and direct our money towards companies with true sustainable values.

How?

Be careful about buzzwords! Several companies use the words "eco-friendly," "natural," "clean," or "sustainable" to describe their operations; however, these terms are not regulated. Some companies take advantage of the loose definitions.

Recognize certifications and endorsements! Rather than judging how sustainable a company is by how they describe themselves, check if they have received legitimate certifications (e.g., **Fair Trade** or **Cradle to Grave** certification) or if they have been endorsed by credible eco-organizations (e.g., the **Sierra Club** or **Greenpeace**).

Do your research! Look into the brands you buy from to investigate their production processes. If you can, reach out to them to ask for their eco-credentials. Importantly, if companies share little or no information about their practices, they may not be environmentally friendly.

Be willing to invest in more durable products! Cheap products are often less durable and perhaps indicate the use of poor working conditions. Whenever possible, seek better quality and more sustainable products, which may come with a higher price tag upfront but will retain their value in the long run.

Question carbon offsetting schemes!
There is usually very little transparency regarding companies' carbon offsetting schemes. This makes it difficult to know whether they are actually having a positive impact. Carbon offsetting schemes also disincentivize companies from implementing real solutions to climate change as they allow companies to operate as they usually do.

2. Improve your shopping habits

Why?

Our consumption habits and choices impact greenhouse gas emissions, air and water pollution, waste production, and energy consumption. While it is clear that companies' promotion of consumerism and capitalism is the true harm, when you have the option and additional time and funding, individual choice can support sustainable change.

How?

Use reusable bags! To reduce the production of plastic waste, try bringing your own reusable bags to the store.

Only buy what you need! Buying more than what you need contributes to the environmental damage associated with the resource extraction, manufacturing, transportation, and disposal of goods. Instead, try only purchasing durable products with limited packaging and low carbon footprints.

Buy second-hand! Thrift shopping or using resale websites to buy used items helps to re-use products and limits the waste production, environmental damage, and carbon emissions involved in producing new items. Try to donate and sell your own used goods so they can be reused by somebody else.

Reduce your use of disposable products! Make the transition from non-durable to durable items (e.g., from plastic water bottles to reusable water bottles, paper napkins to cloth napkins, disposable batteries to rechargeable batteries). This helps to eliminate waste production and associated environmental harms.

Start upcycling and repairing! Get creative and crafty by repurposing items you may have lying around the house. The Internet is a great place to start exploring projects. Upcycling helps to reduce waste and decrease energy use, emissions, and the environmental costs that would be involved in the production of new items.
Avoid fast fashion by shopping local! Fast fashion brands entice customers to frequently purchase low-quality clothing for cheap prices. Instead, try to support local clothing businesses that are more ecologically aligned.
Reduce your electronic waste (e-waste)! E-waste releases hazardous chemicals which contribute to water, land, and air pollution; the bioaccumulation of toxins in animals and marine life; and the decline in biodiversity. Try cutting down on how much e-waste you produce by buying fewer electronic products, taking care of the ones you own, buying certified electronic products (i.e., those that are labeled Energy Star or that are certified by the Electronic Product Environmental Assessment Tool) and donating your used electronics.

3. Demand change

Why?

Corporations and governments are usually resistant to change. However, strong public will has been shown to increase the likelihood of them prioritizing our demands.

How?

- **Advocate for change!** Use social media, suggestion forms, and your networks to let decision-makers know what you need and expect from their products.
- **Protest!** Take part in local protests fighting for climate action such as the Fridays for Future or Extinction Rebellion movements.

ROLE OF THE PRIVATE SECTOR

IKEA: a Swedish company that sells furniture, kitchen appliances, and home accessories.

- Has implemented aspects of a **circular economy** into its production.
- Began a buy-back scheme allowing customers to receive vouchers when they return unwanted furniture.
- Created the first-ever second-hand store.
- Committed to only using renewable and recycled materials and producing 100% circular products by 2030.
- In 2019, gave 47 million products a second life and sold 38 million products second hand.

Patagonia: an American company that sells outdoor clothing.

- Has pledged 1% of all sales to environmental conservation.
- Uses recycled or organically grown raw materials.
- Aims to be carbon neutral by 2025.
- Connects consumers with local activist groups.
- Creates high-quality and durable products.
- Offers a repair and re-use program for second-hand products.
- Ran a “don’t buy this jacket” campaign to tackle the issue of consumerism.
- Conducted research on the impact of microplastics.

Agriculture & Food Systems

Agriculture and food systems refers to the practices of farming and cultivating crops and rearing animals for the purpose of providing food and other products.

STATISTICS

- 72% of poultry production, 43% of egg production, and 55% of pork production comes from factory farms.
- 75% of the global grain trade is controlled by four corporations: ADM, Bunge, Cargill, and Dreyfus.
- 26% of global greenhouse gas (GHG) emissions come from food production.
- 70% of the world's freshwater is used for agricultural purposes.
- According to the IUCN Red List, agriculture and aquiculture pose a threat to 24,000 out of the 28,000 species threatened with extinction.
- 71% of habitable land is being used for food production.

PROBLEMS

The world's food systems and agriculture are controlled by a handful of corporations. In order for these corporations to maximize their profits, they have sought to implement industrial agricultural, meat, and fish production practices which are very damaging to our environment.

- Agriculture

Pesticides and fertilizers, both of which contain toxic chemicals, are used to augment crop yields. This leads to water pollution, the destruction of ecosystems, and the loss of soil fertility. This nutrient run-off can cause algal blooms which deplete oxygen levels in water bodies and create **hypoxic** conditions and dead zones through a process called **eutrophication**.

- The use of **monocultures** to improve the efficiency of agricultural practices reduces genetic diversity and makes crops more susceptible to disease, leading to the loss of nutrients and the degradation of soil.
- The deforestation of trees to clear land for agriculture fuels erosion, biodiversity loss, soil infertility, and climate change. Irrigation systems that supply crops with water exhaust our precious freshwater supplies.
- Farming mechanization and the transportation of food also require a significant amount of energy which is often sourced from fossil fuels, further contributing to climate change.

- Meat Production

- Rearing livestock and growing their feed uses a significant amount of land, water, energy, and resources.
- **Concentrated Animal Feeding Operations (CAFOs)** are used to augment the economic efficiency of meat production. They usually house anywhere from hundreds to millions of animals at once, most typically cows, hogs, and chickens.
- CAFOs are a major source of GHG as their operations require lighting, irrigation, equipment operation, and transportation, all of which release carbon dioxide and nitrous oxide into the atmosphere.
- The rearing of livestock and the disposal of their waste is a significant contributor to methane production which fuels both air pollution and climate change.
- Meat production releases copious amounts of sewage, hazardous waste, and particulate matter, which pollutes ground and surface water bodies and destroys aquatic ecosystems.

- Fish Production

- Fish farming or **aquaculture** can lead to an imbalance of fish at different trophic levels, disrupting aquatic food chains and contributing to the decline of certain aquatic species.
- The limited genetic diversity of fish farms and the confinement of fish populations to limited regions of the ocean encourage the outbreak of disease in fish populations.
- The application of nutrients and the generation of waste cause eutrophication, hypoxic ocean conditions, and dead zones.
- Aquaculture is disrupting the migration patterns of wild fish.
- Natural ecosystems, including biodiversity-rich mangrove forests, are often destroyed. Mangroves are an important refuge for several different species, serve as accumulation sites for contaminants and sediments, prevent coastal erosion, and serve as an important carbon sink. The loss of mangroves hinders coastal land stabilization and increases the risk posed by climate change.

WHAT YOU CAN DO?

1. Reduce or stop your meat and fish consumption when the option is available and fits into your diet, both culturally and nutritionally.

Why?

If many people transitioned to a plant-based diet and chose to eat foods that are lower on the food chain it would help reduce greenhouse gas emissions, pollution, water consumption, and land usage.

How?

- **Start small!** Perhaps start with committing to one meat- and fish-free day a week, or trying to only eat meat or fish in one of your three meals a day.
- **Find substitutes!** More and more meat substitutes are becoming available for purchase at grocery stores, think about giving one a go if you have the access and funding available.
- **Try out new recipes!** Most meat dishes have viable vegetarian alternatives; try experimenting with new recipes, textures, and flavors.

2. Reduce your food waste

Why?

When food ends up in landfills, it can generate methane, which fuels climate change. Reducing food waste also ensures that the energy, land, and water used to produce our food does not go to waste.

How?

- **Avoid buying too much!** Take shorter and more frequent trips to the grocery store to ensure you buy less food at once.
- **Save your leftovers!** If you've made too much food for once sitting, save it and eat it the next day.
- **Make a shopping list!** This will help make sure you only buy what you need and avoid purchasing unnecessary products.
- **Make a weekly menu!** This can help you narrow down what you should buy and organize your food usage.
- **Store your food properly!** Ensure your refrigerator remains below 5 degrees Celsius, food is kept in sealed containers, and perishables like fruits are stored away from each other. Try freezing fruits, vegetables, and prepared dishes to prevent them from spoiling.
- **Buy smaller portions!** When eating out it's easy to be enticed by deals for bigger portions but try to select a portion you know you will finish or can take home to eat later.
- **Understand the difference between sell-by and use-by!** Sell-by and use-by dates are used by manufacturers to help markets know when to restock their goods. Consumers often assume that these dates are expiration dates, leading to them throwing away edible food. Keep in mind that these labels give you a general idea of how fresh a product is and do not necessarily have to be strictly followed.
- **Compost your scraps!** Research ways to create a compost from your food scraps, turning your waste into nutrient-rich fertilizer.
- **Make packed lunches!** Purchase reusable food containers from consignment stores so you can eat your leftover food from home for lunch.

3. Buy locally produced and seasonal foods whenever possible.

Why?

The production of local and seasonal foods requires less energy-intensive processes.

How?

- **Stock up on healthy snacks!** Instead of buying packaged snacks, keep healthy options such as fruit and vegetables, mixed nuts, and hummus at home.
- **Try growing your own vegetables!** Maintaining a small vegetable patch in your garden or kitchen can help cut down the emissions and pollution that are generated from intensive farming practices.
- **Adapt your diet to the seasons!** Buying produce that's in season helps to avoid the GHG emissions that are involved in transportation. It also helps to support local farmers.
- **Be mindful of labels!** Try to purchase foods that indicate that social and environmental conditions were considered during the production process these may include Animal Welfare Approved, Rainforest Alliance, Fair Trade, and Carbon Footprint. However, be mindful as false labeling is also common. Additionally, if a company fails to disclose how their food is produced, consider writing them a letter asking for transparency regarding their food production processes.

ROLE OF THE PRIVATE SECTOR.

Beyond Meat: an American company that sells plant-based meat substitutes.

- Offers nutrition in a way that has a smaller environmental impact than conventional meat production.
- Develops faux-meat products using plant-based ingredients.
- Uses 99% less land and 46% less energy and generates 90% fewer greenhouse gas emissions compared to conventional meat production processes.

BEYOND MEAT®

Unilever: a British multinational consumer company.

- Represents several consumer brands such as Lipton and Ben & Jerry's.
- Adopted a Sustainable Agriculture Code in 2018 that is working to source raw materials in ecologically sustainable ways.
- Has cut its emissions by 65% and waste disposal by 96% since 2008.
- Reuses and recycles much of its packaging and ensures that its single-use products are sold in containers their customers can re-use.

Unilever

The Energy Transition

The energy transition refers to the shift from using fossil fuels to using renewable energy sources.

STATISTICS

- The energy supply sector, which accounts for electricity, heat, and other energy, is the largest contributor to global greenhouse gas emissions.
- Since 1970, resource extraction has tripled. Fossil fuels have accounted for 45% of this increase.
- Carbon dioxide emissions from energy and industry have risen by 60% since the 1992 United Nations Framework Convention on Climate Change.
- In 2019, only 11% of global primary energy came from renewable sources.
- While clean and renewable energy reduces or eliminates harmful emissions and places us on the path to a greener future, there are ecological concerns that must also be taken into consideration

PROBLEMS

- Oil and Gas

- Mining oil and gas damages coastlines and aquatic ecosystems and causes water pollution. This harms animals and insects, prevents photosynthesis in plants, and disrupts food chains.
- Oil spills frequently contaminate our soil and water and lead to explosions and fires.
- The burning of oil and gas releases greenhouse gasses which cause air pollution and contribute to climate change.
- Furthermore, burning oil releases carbon dioxide and causes ocean acidification. As the ocean absorbs more carbon dioxide, its pH levels decrease. This makes it harder for marine organisms to form shells, which has the potential to disrupt entire ecological food chains.

- The infrastructure required for oil and gas extraction destroys pristine wilderness. Even after oil companies abandon their extraction sites, it can take hundreds of years for them to recover.
- The human traffic associated with oil extraction disrupts wildlife, including their habitats, communication, breeding, and nesting.
- The light pollution from oil and gas sites has been shown to harm pollinators such as bees, which are crucial for the growth of fruits and other plants.

- Coal

- Mining and burning coal releases several airborne toxic pollutants including mercury, lead, sulfur dioxide, heavy metals, nitrogen oxides, and particulates which are damaging to human and animal health. Unfortunately, underground coal mines are at risk of fires with the potential to burn for decades, further accelerating the releases of these pollutants.
- Burning coal pollutes water bodies through **acid mine drainage** and contributes to ocean acidification.
- Coal emits greenhouse gasses that contribute to climate change and **acid rain. Acid rain** leads to the release of extra aluminum, which is responsible for the death of several plant and animal species. It reduces the ability of fish to reproduce, impacting aquatic food webs. Additionally, acid rain removes nutrients and minerals from the soil and disrupts plants' ability to take up water, making it more difficult for them to grow.
- Coal mining, particularly the **strip mining** method, destroys landscapes and habitats across the globe. Deforestation, or the cutting down and burning of forests to clear land for mining operations, accelerates erosion. Without the trees' roots securing topsoil, land shifts, increasing the risk of flooding and killing fish and plant species downstream.

- Tidal

- Generating tidal power causes environmental damage to some estuarine sites.
- Tidal power also sometimes negatively impacts upstream ecosystems.

- Solar

- The production of solar energy requires mining, manufacturing, and transportation - each of which uses a significant amount of energy. The energy is often sourced from burning fossil fuels, contributing to air pollution and climate change.
- The mining of components needed for solar panels contributes to environmental degradation and habitat destruction.
- Hazardous chemicals are also involved in the production of solar energy and sometimes companies do not dispose of this waste properly.
- Solar panels eventually need to be replaced. They are rarely recycled and instead end up contributing to e-waste. This poses the risk of air, land, and water pollution, especially in countries that lack the proper means of e-waste disposal.
- Solar facilities require the use of a significant amount of land. To make way for this land must be cleared, fueling deforestation and consequently erosion, habitat destruction, biodiversity loss, and climate change.
- Manufacturing solar panels requires significant water for cooling.

- Wind

- Wind turbines have the potential to injure migrating birds and bats.
- The construction of wind turbines often requires the removal of trees. This deforestation results in soil erosion, habitat fragmentation and destruction, and physical barriers that restrict wildlife corridors. Furthermore, oil and wastewater from these construction sites can seep into the soil, causing environmental damage.
- Offshore wind turbine construction can increase the **turbidity** of seawater, damaging local aquatic ecosystems.
- Wind farms have also been shown to alter regional climates, which results in long-term impacts on wildlife patterns.

- Nuclear

- Nuclear power creates radioactive waste, which can remain radioactive for thousands of years, posing a threat to human and animal health.
- The operation of nuclear power plants, mining of uranium, and transport of radioactive waste all emit carbon dioxide, contributing to climate change.
- Nuclear power plants emit low levels of radiation, which has been shown to damage the DNA of wildlife, plants, and humans.
- Nuclear power plants require cooling systems to ensure they do not overheat. This necessitates the extraction of water from oceans and rivers contributing to water usage and aquatic habitat destruction. Once this water has been used to cool the plant, it is returned to the ocean or river, but the water that is returned is usually significantly warmer and results in the death of aquatic life.

- Hydroelectric

- The creation of hydroelectric dams sometimes requires land flooding which can destroy ecosystems and habitats.
- The turbine blades inside hydroelectric dams have the possibility of injuring aquatic wildlife.
- Stagnant reservoir water accumulates sediment and nutrients which can lead to eutrophication, the creation of hypoxic conditions and the death of aquatic wildlife. Moreover, when sediment is trapped behind dams, aquatic wildlife residing downstream of the sediments are deprived of the nutrients they need to thrive.
- Hydroelectric dams disrupt the migration patterns of fish and mammal species.
- The installation and dismantling of hydroelectric dams emit greenhouse gas emissions.
- Dams increase the risk of some waterborne diseases that breed in stagnant waters.

WHAT YOU CAN DO?

1. Reduce your energy usage at home

Why?

If you live in an area or home with high energy consumption and multiple appliances, some of the best ways to save energy start at home! Saving energy helps to reduce air and water pollution, conserve natural resources, and mitigate climate change.

How?

- **Turn off unnecessary lights!** To help save energy switch off lights you are not using. When bulbs burn out, purchase LED lights wherever possible and try maximizing the natural light in your home.
- **Reduce your water usage!** Cut your shower time down; consider taking colder showers; and turn off the tap while shaving, washing your hands, and brushing your teeth.
- **Unplug unused electronics and appliances!** Standby power can account for 10% of a household's electricity use, unplug those that are not being used and turn off your laptop/computer when you're done using it.
- **Reduce your thermostat usage!** Keep the temperature on your thermostat closer to the outdoor temperature and try only using your heating and AC when necessary.
- **Invest in energy-efficient appliances!** In some regions, utility companies and governments provide rebates for a discount off the upfront cost of these high-quality technologies.
- **Use your microwave instead of your stove or oven!** The microwave heats food more efficiently and uses less energy so try using it as an alternative to your stove and oven.

2. Choose your form of transportation wisely

Why?

The transportation sector accounts for 25% of the world's energy usage. Choosing less energy-intensive transportation options can help to reduce air and water pollution as well as greenhouse gas emissions.

How?

- **Walk, cycle, or take public transport!** On an everyday basis, try walking, cycling, or taking public transport to reduce your energy usage. If you normally drive, try car-sharing or driving an electric vehicle.
- **Avoid flying!** Try traveling by train, boat, or car for long distances since flying is the most carbon-intensive form of transportation. If you do choose to fly, fly in economy class on a full flight whenever possible.
- **Do your research on electric cars!** Although electric vehicles produce less carbon than petrol and diesel cars, they also pose a new set of environmental issues. For example, fossil fuels are often used to generate the electricity electric cars run on, producing electric cars is an emission-intensive process, and the mining of cobalt and lithium for the car batteries produces greenhouse gasses and hazardous waste.

3. Demand change and transparency

Why?

If each of us only purchased products from companies that used clean energy sources, it would help to combat climate change, pollution, habitat destruction, and land degradation.

How?

- **Write a letter!** If a company fails to disclose the energy sources they use, consider writing them a letter asking for transparency.
- **Invest wisely!** Choose to invest in companies that are powered by renewable resources.
- **Join a campaign!** There are several campaigns demanding change and transparency from big corporations. For example, the Stop Cambo campaign is a U.K.-based campaign working to stop the government from approving the creation of future oilfields.

ROLE OF THE PRIVATE SECTOR

Carbo Culture: an American climate technology company that converts carbon dioxide from power plants into carbon that can be stored away for over 1,000 years.

- Aims to remove 1 billion tons of carbon dioxide from the atmosphere.
- Their technology uses heat from power plants to generate renewable energy and produce biochar which can be used to enhance soil or to create carbon-negative construction materials.
- Working to install its technology in Europe by 2024 and in several locations across the globe after 2025.

carbo culture

Geo Renewables: a Polish company that manages energy projects.

- Has set up wind parts across Poland.
- Offers consulting services to companies on their wind energy projects.
- Is one of the top private wind energy start-ups.
- Has established over 12 renewable energy projects.
- Is partnering with Geo solar to expand the use of solar energy.

geo renewables

Social Justice

The topics shared in this toolkit have interconnected challenges and solutions. In everything we do, it is essential to keep equity and social justice at the forefront of our minds to ensure solutions benefit all people.

AGRICULTURE AND FOOD SYSTEMS

Case Study: Eutrophication in Western Lake Erie

In 2019, western Lake Erie's algal bloom expanded over 620 square miles. This was caused by agricultural pollution and posed a threat to public health and aquatic life. Over 500,000 people were no longer able to drink, bathe, or wash in the river. While the surrounding communities complained about the ecosystem's degradation for over two decades, local officials merely responded with loose promises to eventually upgrade the water treatment facility. This is an example of a social and environmental justice issue as the lake poses elevated health risks for low-income communities and communities of color.

In response, Toledo's youth and citizens collected over 10,500 signatures and developed the Lake Erie Bill of Rights, which gave Lake Erie the right to "exist, flourish, and naturally evolve" and provide citizens with the right to a "clean and healthy environment." This led to the amendment of Toledo's municipal charter to recognize the river's rights and empower its citizens to sue on behalf of the lake.

British Petroleum (BP), an oil and petroleum company, then spent over $300,000 creating ads that claimed this Bill would destroy the economy. Furthermore, a corporate agricultural entity called Drewes Farms sued the city of Toledo for allowing its citizens to amend its own Charter. The state of Ohio joined the suit as a co-plaintiff and in the end, the district judge overturned the bill on the basis that providing a river with rights would be unconstitutional.

Despite this outcome, the Lake Erie Bill of Rights case gained international attention and was the first law in the U.S. to acknowledge that ecosystems deserve rights. It has helped to spearhead the “rights for nature” or “environmental personhood” movement which aims to grant ecosystems and animals intrinsic protection from pollution and other harms.

An algae bloom along the Lake Erie shoreline.
Photo by Olga Nohra via Flickr Creative Commons

MANUFACTURING

Case Study: Chemical Valley in Sarnia, Canada

The region Sarnia in Ontario, Canada has been dubbed “Chemical Valley” and is known to have the worst air in Canada since it houses 40% of the country’s petrochemical industry, which is unfortunately responsible for air, water, and land pollution. These industries are located near the First Nation Aamijwaang Reserve. Consequently, the Aamijwaang populations suffer from higher rates of cancer and miscarriage.

Despite several protests, environmental damage and unreported chemical leaks from these industries persist and the government refuses to conduct thorough investigations into the effect these petrochemical industries have on the First Nation community.

This serves as an example of environmental racism because the Aamijwaang First Nation is a racialized group that forced to endure the environmental and health burdens of these industries. They have fewer resources and less political power to fight back.

Much of the lack of power held by indigenous populations in Canada and the social inequality they experience can be attributed to the Indian Act which created a system in which the government has the power to oversee indigenous populations. Moreover, because Chemical Valley was chosen to be located next to the Aamijwaang First Nation reserve, it exemplifies the Not In My Back Yard (NIMBY) concept as it has allowed white, non-indigenous, wealthier communities to evade the environmental and health risks that the industries pose while simultaneously benefitting from the plastics, cosmetics, pesticides, fertilizers, and other products that they produce.

Vanessa Gray grew up in Chemical Valley and since a young age, she has been working with her community to end environmental racism. In 2015, to send a message to the government, she turned off a pipeline which resulted in her getting arrested. Vanessa and her sister Lindsay also began hosting “Toxic Tours” around Sarnia in an attempt to raise awareness about the devastating impacts that refineries can have on the First Nation community.

Chemical Valley in Sarnia, Ontario

In an attempt to improve transparency regarding the impact of these refineries, Vanessa also helped to create the Pollution Reporter App, which releases data on how many and which chemicals each industry is releasing, allowing surrounding communities to remain informed. The app issues details on Canada's permission-to-pollute system and allows individuals to share information regarding the occurrence of oil spills.

THE ENERGY TRANSITION

Case Study: Use of kerosene lamps in Kenya

An overwhelming 92% of rural households in Kenya use kerosene lamps to light their homes. Kerosene lamps contribute to greenhouse gasses and are hard to recycle. Furthermore, their by-products have been shown to increase the risks of asthma and cancer. The use of kerosene lamps can also lead to fires and explosions as well as cause eye and skin irritation. The World Bank reported that every day, 4,000 people die due to kerosene-induced illnesses. The expensive nature of kerosene lamps hinders the ability of students to complete their homework or continue to study after dark.

In response to this issue, Salima Visram, a McGill University graduate from Mombasa, founded Soular Backback while in high school. This social enterprise develops solar backpacks which consist of a solar panel, battery pack, and LED lamp. During the day, the solar panel stores power which allows the LED lamp to work at night. These backpacks have been distributed to thousands of students across rural communities in Kenya. The company's social impact data reveals that the backpacks have helped to improve the health and grades of children that are using them and have saved families an average of 20% of their income.

Advice to Youth

ADVICE TO YOUTH FROM YOUNG PROFESSIONALS WORKING IN THE PRIVATE SECTOR

Rayan Kassem

UN Region: West Asia

Rayan has always been interested in finding ways to ensure our world's natural resources are managed sustainably. This led him to pursue a double master's program in Environmental Science at both the University of Natural Resources and Applied Life Sciences in Austria and the University of Copenhagen in Denmark. His thesis focused on exploring which diet is the least water-intensive. After joining Youth4Nature, he represented the organization at the UN Food Systems Summit. He is now also working with the organizations Act4Food Act4Change and Real Food Systems which are tackling the issues of hunger, malnutrition, and finding sustainable diets.

Advice

- "Every young person should read Factfulness by Hans Rosling."
- "Be mindful of the media, it often hyper-focuses on extreme circumstances. Make sure you have the real facts."
- "If you spotlight your attention on the negative media it can lead to burnout or youth feeling that they cannot make a difference."

Hannah Waxman

UN region: North America

Hannah grew up surrounded by and connected to nature. This made her feel as if she was part of something bigger. She believed that the best way to solve environmental problems was to pursue environmental engineering. Her desire to ensure that businesses can be sustainable led her to undertake a master's program in Sustainable Business. Hannah now works with the ex-CEO of Unilever to improve the sustainability of various industries.

Advice

- “Advocacy is the most important thing we can do as citizens.”
- “Using your voice is so powerful.”
- “There are spots that you can point a finger at, but there are also points worth celebrating.”
- “Hear one good side of the climate story a day if you can.”

Esethu Cenga
UN region: Africa
Esethu studied Philosophy, Politics and Economics at the University of Cape Town. Her masters in Developmental Economics sparked her interest in sustainable development. She wrote her thesis on how clothing production could be a source of development in the era of climate change, she specifically researched the feasibility of textile recycling in developing countries.

Esethu co-founded a textile recycling start-up called Rewoven which recycles textiles, diverts usable materials from landfills and collects pre-consumer and post-consumer waste. These are then used to create new fibres, fabrics and a variety of recycled products. Rewoven's recycling process emits 50% fewer carbon emissions relative to how virgin fibres are currently made and reduces the reliance on fabrics that are water-intensive or require chemicals for their production. The start-up also focuses on creating jobs.

Advice

- “We are the ones who are going to be here for the next 80 years. Our parents and the baby boomers aren’t. We have to be the ones coming up with solutions we’re going to live with. There is no choice but for young people to lead.”
- “Young people are very influential when it comes to many things in society ... It’s a matter of taking up space everywhere to create the world that we want.”
- “A lot of what happens is that we’re waiting for permission from the older generation to lead... You shouldn't do that. You should not wait to be given a seat at their table, you'll wait forever. As the youth, we should rather create our own table."

Rory Jacobson
UN region: North America
Rory is fascinated with finding solutions to the climate crisis through land management practices. To tackle the issues of greenwashing, fraudulent carbon offsetting practices, and the private sector's lack of transparency regarding their environmental impact, he began working for Carbon Direct. Here he helped companies find ways to appropriately account for their carbon offsets. Now Rory works for Carbon 180, a U.S.-based NGO co-founded by a young entrepreneur that works to find carbon removal solutions using engineered technologies.

Advice

- "Be bold: reach out to changemakers you want to talk to."
- "Building coalitions and friends that are working on these same problems is beneficial. Without this, the problem looks trickier."
- "Even if the climate crisis isn't your day job, basic literacy on the issue is crucial."
- "Engage early and try to understand the big problems in this field."

Glossary

Acid mine drainage: the movement of acidic water.
Acid rain: precipitation that contains acidic components. When sulfur dioxide and nitrogen oxides are released into the atmosphere they react with water, oxygen, and other chemicals, eventually forming acid rain.
Aquaculture: the farming of aquatic animals or plants for food.
CAFOs: meat, dairy, or egg facilities that raise animals in confined areas for food production processes.
Carbon offsetting: the act of compensating for carbon emissions by participating in programs that make equivalent reductions in carbon emissions.
Circular economy: a new form of production in which there is a closed-loop system that efficiently minimizes waste and the use of raw materials.
Cradle-to-grave: a life cycle assessment of a product that is conducted from the resource extraction phase to the disposal phase.
Eutrophication: the presence of excess nutrients in a body of water.
Greenpeace: a global campaigning network working to protect, preserve and restore the world's ecosystems.
Greenwashing: when companies mislead their customers into believing that they are concerned about their environmental impact when in reality their operations are contributing to environmental destruction.
Fair Trade Certified: goods that were produced meeting rigorous social, environmental and economic standards.
Fossil fuels: fuels that are made from decomposing plants or animals, including coal, oil, and natural gas.
Hypoxic: a deficiency in oxygen levels.
Monoculture: the growing of a singular crop in a given area.
Ocean acidification: the increase in the pH value of the oceans caused by the increase in absorption of carbon dioxide.
Ozone depletion: the reduction in the Earth's ozone layer.
Sierra Club: an American grassroots non-profit environmental organization working to protect the environment.
Strip mining: a form of mining that requires the removal of soil and rock above a layer of coal.
Turbidity: the measure of how clear a liquid is.
Upcycling: the re-use of materials to create products of a higher quality.

ABOUT THE AUTHOR

Iman Lalani

Iman is one of Y4N's interns. She is from the United Kingdom but is currently completing the final year of her undergraduate degree at the University of Toronto. She is majoring in Environmental Management and Human Geography and minoring in Environmental Policy and Law. In her free time, Iman enjoys photography, cooking, baking, traveling, and volunteering.

ABOUT YOUTH4NATURE

Youth4Nature (Y4N) is a by-youth, for-youth, international non-profit organisation that educates, equips, and establishes youth as leaders on system-wide solutions for the nature and climate crises that are rooted in traditional & scientific knowledge and are grounded in intergenerational justice. We do this through capacity building, knowledge sharing, and storytelling programmes.

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