Extraction:

- Water
    - Only 55% of water from bottled water companies is actually from natural springs
    - Extracted groundwater aggravates droughts and *Lowers Soil Quality*, which leads to *Decreased Water Quality*, which leads to a *Loss Of Marine Life*, which *Disrupts ecosystems*.
- Petroleum
    - Refining petroleum creates air pollution; transforming crude oil into petrochemicals releases harmful chemicals into the air
    - Oil spills in transportation cause great environmental damage
        - Large spills occur all across the process during drilling, transport, and use
        - Requires huge amounts of fossil fuels to transport, which releases large amounts of CO_2, contributing to *CO_2 Emissions*, which further adds to *Global Warming*, which leads to *Climate Change*
        - Spills near water bodies lead to a *Loss Of Marine Life*, which leads to *Decreased Water Quality*, which leads to a *Loss Of Marine Life*, which *Disrupts ecosystems*

Production:

- Plastic bottle
    - PET, the main component of the plastic in bottles is produced in an oil refinery by chemically bonding oil and gas molecules together into very long chains. The use of fossil fuels contributes to *CO_2 Emissions*, which further adds to *Global Warming*, which leads to *Climate Change*.

Distribution:

Consumption:

Disposal:

- PET(Polyethylene terephthalate) photodegrades into smaller pieces of plastic. These fragments absorb toxins from the environment, contaminate soil, and sicken animals
- 80% of bottled water isn't recycled so much as it is down-cycled; the bottle is broken down into smaller parts and then thrown into a landfill anyways, often times in offshore countries

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1. My food, bottled water, can be modified in a number of ways to make it more ecologically friendly. One of the methods that can be employed to make bottled water more ecologically friendly is by switching from PET plastic to a plant-based biodegradable material for the bottles. This cuts out the greenhouse gas emissions associated with extracting oil and natural gas, which decreases the severity of climate change. Moreover, by using a biodegradable material, the bottles wouldn't be thrown into a landfill, and therefore wouldn't poison ecosystems or harm wildlife. Another method that can make bottled water more ecologically friendly is recycling more plastic bottles for reuse. During the disposal stage, all of the plastic used to make the plastic bottle can be reused to make other plastic bottles, eliminating the risk of poisoning ecosystems and harming wildlife associated with landfills. Biodegradable bottles could also aid in the extraction stage since less oil and natural gas is extracted to produce bottles.

2. My group members are Sigil Wen, James Chen, and Dhrumil Patel, and we are bringing eggnog to the potluck.

In the production stage of bottled water, PET, the main component in the plastic bottle has to be made by chemically bonding oil and gas molecules, which causes emissions of carbon dioxide, carbon monoxide, and sulfur dioxide, which all contribute to global warming and climate change.

One of the methods that can make bottled water more ecologically friendly is by recycling more plastic bottles for reuse. Although this is currently in effect, companies like PepsiCo and Coca Cola are moving closer to using more recycled plastic in their bottles, only about 50% of recycled plastic is reused; the rest is thrown into a landfill.

Currently, bottled water consumption greatly contributes to climate change, particularly during extraction and disposal. During extraction, oil and natural gas is extracted to make PET plastic for the production stage, which emits large amounts of carbon dioxide, methane, and other greenhouse gases, which results in changes to weather patterns and more severe natural disasters, characteristics of climate change. In the disposal stage, plastic bottles are often thrown into a landfill, leachate is carried to nearby water bodies, poisoning ecosystems and harming wildlife, which deprives the Earth of its natural mechanisms to combat climate change.