

Lesson 4 Save Earth, Save Us

Reading 1

The Tale of the Boiling Frog and Our Climate Crisis

Two frogs are peacefully minding their own business in a pond when a chef suddenly captures them. They find themselves in a kitchen, where they are held captive by the chef. The chef boils water and throws one of the frogs into it. The frog, feeling the intense heat, immediately jumps out and escapes through the window. The chef fills the pot again but this time with cool water and without turning on the stove. He drops the second frog into the pot, and the frog feels comfortable in it. Gradually, the chef turns up the heat. The water temperature increases so slowly that the frog does not notice. In fact, it simply enjoys the pleasantly warm water. Only when the surface begins to bubble does the frog realize that it is in trouble.

In fact, this tale is not scientifically true of frogs. In reality, a frog will detect the gradual increase in water temperature and leap to safety. Humans, on the other hand, tend to behave more like the second frog from the story when it comes to climate change.

We seem perfectly happy to sit in the pot and slowly turn up the heat. Some even deny that it is our hand on the stove control that is making the temperature rise. While others admit that human activities such as burning fossil fuels are the cause of the rise, they still wonder, "Does it truly matter?"

Yes, it certainly does. Since 1850, the average global temperature has risen by one degree Celsius. This may seem insignificant, but it's quite substantial.

Why? This "one degree" is an average, with some regions already experiencing much higher increases. Arctic regions, for instance, have warmed by four degrees, and if the average global temperature rose another degree, the Arctic's coldest nights could become 10 degrees warmer.

Owing to the rising temperature, glaciers and ice sheets in mountains and polar regions are already melting at an alarming pace, which leads to increased sea levels. This poses a significant risk to nearly two-thirds of the world's largest cities, as they are located in areas vulnerable to sea level rises.

In fact, approximately 40 percent of the global population lives within one hundred kilometers of a coastline. If no action is taken, major cities like New York, Shanghai, Abu Dhabi, Incheon, Rio de Janeiro, and many others could face submersion during our lifetimes, which will force millions of people to relocate.

Notably, greenhouse gas emissions are the root cause of the rise in temperature that is making sea levels rise. If we continue releasing greenhouse gases at our current pace, scientists predict that the average global temperature will rise by four degrees by 2100 compared to its level in the early 19th century. They have identified 1.5 degrees of warming as a threshold beyond which the negative impacts of climate change will become increasingly severe. To avoid crossing this threshold, we must reduce our greenhouse gas emissions down to what is called net zero. Net zero means that we absorb as much greenhouse gas as we emit to ensure there is no net increase.

Reaching net zero emissions requires comprehensive efforts in all areas of society. This includes significantly increasing the use of renewable energy. Renewable energy, derived from naturally replenishing resources like wind, solar, and water-generated power, is the key to reducing our dependence on fossil fuels. Reforestation, or the practice of planting trees in overexploited areas, can help balance the carbon cycle because forests act as essential carbon sinks absorbing vast amounts of carbon dioxide. It's crucial to remember that reaching net zero is not just about technology and policy; it also requires a significant cultural shift toward sustainable living at an individual level. Sustainable living means minimizing the environmental impact of our consumption, energy use, and overall lifestyle. To achieve sustainable living, we can take important initial steps by making eco-friendly choices such as reusing and recycling.

What do you think you could do right now to help achieve net zero? Can you suggest any actions to your friends? Jumping out of the pot is not an option for us, but we can do something the frogs can't: turn down the heat.

Reading 2

Living the Green Way: Amber's Life in 2050

What will the world look like in 2050? By then, the climate change we have already set in motion will have had significant effects and altered everyone's way of life. Let's step into the daily life of Amber who lives in 2050.

Amber's Day on April 22, 2050

It's 6 a.m. when Amber wakes up to pull back the curtains. She is relieved to see that the two-week-long heavy rain has finally ended, with the sun now breaking through the thin gray clouds. Her AI assistant tells her that last week's flooding almost broke down the sea barriers in some cities. This news is a cruel reminder of why she relocated to this climate refugee co-living complex a decade ago, when rising sea levels claimed her seaside city home. Most of Amber's housemates have similar stories of loss: Hurricanes, wildfires, floods, or typhoons made them homeless. Co-living complexes first sprang up in the 2030s, when the climate crisis began displacing millions worldwide.

For breakfast, Amber eats alternative bacon, which is made of seventypercent lab-grown meat and thirty-percent vegetable protein, along with eggs from the complex's shared chicken cage. After breakfast, she puts on low-water jeans. They are made with laser technology, a sustainable alternative to the traditional methods that were commonly used in the early 2000s and consumed high amounts of water. Amber's shirt is made from recycled orange peel, and her second-hand coat is lined with fleece from plastic bottles.

Once dressed, she opens her car-sharing application to commute. Amber is picked up by a shared car, which, like almost every car on the road, is electric. She passes along the highways, enjoying the cityscape full of green spaces. Urban forests were planted long ago to absorb carbon and cool city temperatures.

After a short ride, Amber arrives at her workplace, a wind farm located at sea where she works as an engineer. She secured this job when wind farms began sprouting up in large numbers along the coastlines several years ago to provide a renewable alternative to natural gas.

Amber's working day finishes around six, and she takes a bus to head home. Upon arriving, she finds vegetables in a recycled paper box waiting at her doorstep, which was delivered by a local farm. The food box reminds Amber of a time when every fruit was individually wrapped in plastic. However, single-use plastic has been almost entirely phased out of production by now. At the dinner table, Amber receives a withdrawal notification from the banking application on her mobile phone. It is about her regular donation to a nonprofit organization that cleans up marine plastic waste. Amber feels proud of her contribution to this initiative for plastic-free oceans.

What do you think of Amber's life in 2050? While the world in 2050 may be far from perfect, it is likely to be considerably better than the future we will face without decisive actions in the present. If we grow complacent and abandon our environmental efforts, an alarming future awaits us. But if we work together to achieve net zero emissions, the world will become more sustainable in the long run. The decisions we make now will determine the kind of world we will inhabit in 2050.