

Research Topic: **Imaging a clean environment**

Initial Researcher: Karl Horak

1. **Problem Statement.** Our natural environment is under attack. The land we live on, the food we eat, the air with breath, the water that nourishes us are all being compromised by the sheer weight of human numbers. Ecosystems that provide the services we need to survive are being degraded or destroyed.

Adding injury to insult, in the last 4 years the United States has rolled back half a century of protective regulations, over 100 of them reversed or debased by the current administration. As a result, polluters have little incentive to reduce their waste or properly treat it.

Imagine instead dense but livable cities veined with public transit and leafy parks, infrastructure humming away to remove carbon dioxide from the atmosphere, fake meat that tastes better than the real thing, species recovering and rewilding the world, the rivers silver with fish, the skies musical with flocking birds.

This is a future where the economic inequality, racism and colonialism that made decades of inaction on climate change possible has been acknowledged and is being addressed. It is a time of healing. Many ecosystems have changed, but natural resilience and thoughtful human assistance is preventing most species from going extinct.

2. **History.** In New Mexico we have a history of first come, first served so that ranchers, miners, and drillers who staked their claims earliest could use and abuse their chosen resource. Ranchers could overgraze and turn thousands of square miles of short grass prairie into useless creosote bush-covered flats. Miners could dump hazardous tailings from uranium, gold, silver, and copper mines without thought of the watershed they were poisoning. Oilmen could extract vast wealth from the earth, contributing to our rising CO₂ fiasco and global warming while venting the more potent greenhouse gas, methane, without penalty.

Even so, New Mexico also has indigenous traditions of holy mountains and sacred spaces that protect the natural environment. Some, like Redondo Peak (Wavema to the Jemez Pueblo people), Shiprock (Tsé Bit'a'í to the Navajo) or Tapia Canyon shrine are off limits to the public. Others, like Mount Taylor (Kaweshtima to the Acoma) or Chicomo, have public access, often despite Pueblo complaints.

3. **Failure of Reforms.** Since the 1970s, environmental health has gathered pace. Local, state, national, and international regulations, laws, and treaties have made attempts at controlling pollution and limiting the harm caused by our lifestyles. Meanwhile, climate change threatens to overwhelm every attempt to reduce our impact. Within one 4-year term, a feckless president with a compliant Congress and court system has undercut even our best efforts. Regulatory protection efforts, while laudatory, are fatally weak as the Trump administration has shown by the unprecedented reversal of protections for Bears Ears National Monument. Our withdrawal from the Paris Accords threatens the entire global climate and billions of lives as rising temperature and sea levels force hundreds of millions from their homes and destroy their livelihoods. In New Mexico, a failure to transition away from oil and natural gas has led to atmospheric methane plumes that are detectable from orbit.

4. **Necessity of Transformation.** Rates of extinction, of increasing CO₂, of sea level rise, of health impacts from polluted air, water and food point towards a critical need to make measurable headway in environmental protection within less than a decade. For all our progress from 1972 until 2016, that was 45 years in the making—far too slow to avert the catastrophes we face on so many fronts.

The elephant in the room is increasing greenhouse gases; climate change driven by a warming world will exacerbate virtually all of the environmental concerns outlined above. While personal efforts at reducing GHG emissions in one's lifestyle are laudable, to meet goals that can realistically hold global temperature increases to less than 2°C, we need concerted international efforts.

Energy consumption is by far the biggest source of human-caused greenhouse gas emissions, responsible for a whopping 73% worldwide. The energy sector includes transportation, electricity and heat, buildings, manufacturing and construction, fugitive emissions, and other fuel combustion.

The other top sectors that produce emissions are agriculture, such as livestock and crop cultivation (12%); land use, land-use change and forestry, such as deforestation (6.5%); industrial processes of chemicals, cement and more (5.6%); and waste, including landfills and waste water (3.2%).

The above issues impact the clean environment problem-space and are covered as separate topics in this study group: Water, Energy, Utilities, Local Food Production & Distribution, Community Land Trusts, and Local Renewable Energy Systems. That leaves clean air, clean water, and conservation of our natural environment as areas of concern for this topic.

5. **Transformation Model.**

We must:

- Save what's left,
- Clean up what we've done, and
- Stop making it worse.

This in turn will require broad-ranging efforts to conserve nature, restore the natural balance, and make deep changes in our consumptive lifestyles. To save what's left, we need to reinstate the 100+ regulations gutted by the Trump administration that were hard won through 45 years of diligent work. However, to truly transform we need to instill a deep understanding of our environment as a sacred space critical to our physical and spiritual well-being. For many Christians, this means invoking Biblical ideas of stewardship as opposed to having “dominion over ... every living thing that moveth upon the earth,” which has been used to exploit resources indiscriminately.

To clean up the mess we've made, the single most effective thing we can do is to eliminate our dependence on fossil-fuels and petrochemicals. This will immediately improve our situation with regard to global warming, air quality, clean water, plastic pollution, and food safety.

To stop making things worse, we need to transform our cities into resilient ones that work with instead of against natural forces. As we do this, environmental injustices and cultural intolerance will be lessened all the while improving quality of life.

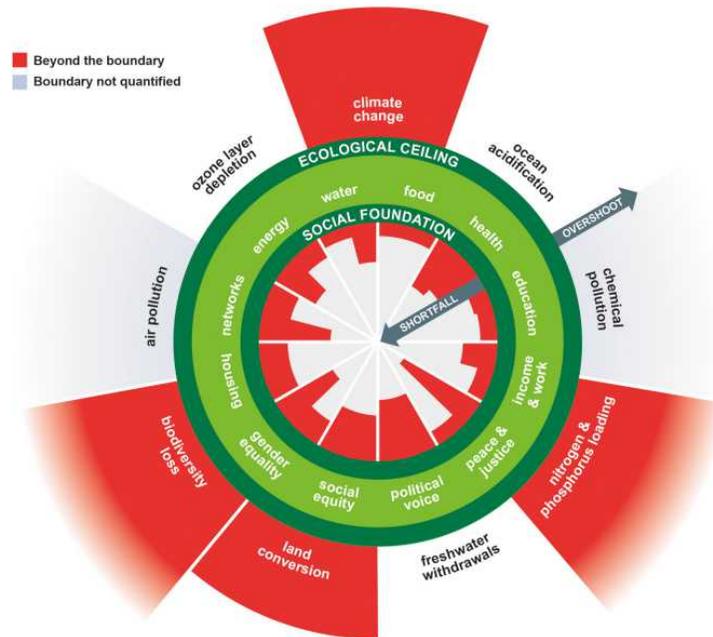


Figure from Raworth, Kate. Doughnut Economics.