

Earth Rules, Natural Law and Corporate Governance

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Earth rules are a set of scientific principles which control the functioning of the Earth as a living planet. They are laws of nature, much like gravity, but related to the circular nature of Earth systems. Natural law is a concept of law that is considered a higher legal order – the law beyond the law. Human laws vary depending upon who controls the law-making body. Natural law is more basic and fundamental, based on reason and now science. And corporations are evolving to become critical forces and voices of reason in shaping our environmental and social future. To this end, corporate governance implementing natural law based upon Earth Rules is both sensible and an excellent opportunity to excel for those corporations seeking to be leaders in forging economic and social success on a livable planet.

Earth Rules

Earth rules are derived from the science of ecology which is relatively young, dating back to the late 19th century and the seminal work of Ernst Haeckel who coined the term oecologie based on the Greek word oikos meaning household. Interestingly, this is also the root word for economics and the origin of the concept of stewardship. Ecology, economics and stewardship springing from the same origin is a powerful starting point for this discussion.

The modern concept of ecology dates to *A Sand County Almanac* by Aldo Leopold. Leopold was a wildlife management expert who discovered that principles of ecology – the way that the Earth worked – were essential elements of wildlife management, a breakthrough concept brought to the general public through beautiful writing. And then in 1953, Eugene Odom and his brother Howard published their textbook titled *Ecology* which represents the modern emergence of ecology as a field of study.

In many respects, we have misinterpreted the role of ecology as it relates to the human economy. The Earth has evolved over 4 billion years to become a planet habitable for humans and other living things. Humans have often used biomimicry to help in design. Nature has created some excellent solutions – the beak of the kingfisher to design the nose of a bullet train, the foot of the gecko to design adhesives, the tubercles of the fin of the humpback whale to design wind turbines.

In addition to these specific examples and many others about mimicking nature, there is a larger picture of the functioning of the Earth. As Leopold explains in the essay titled “Song of the Gavilan”, we often miss the song by examining the instruments in detail rather than listening to and hearing the music. Our Earth systems have evolved to operate within a series of rules. There is structure to the ecological systems of the Earth – functional structure – that keeps the Earth alive, the planet of life. These elements of the physical structure of the Earth are Earth Rules – the rules by which the planet continues to function. And to be successful, the human economy not only should but must follow these ecological Earth Rules.

There are many examples of Earth Rules. In this paper, we will examine three. First, in the Earth’s system, there is little to no waste. The waste from one organism becomes the food supply of another, leading to a household – an economy – an ecology – that is circular. Plants are eaten by herbivores that defecate. This waste becomes the input for the earthworms, fungi and microbes that turn this waste into compounds that are recycled and reused in various cycles that keep the earth functioning. And the same process is followed by carnivores. We are all part of this circular system.

Our human economy is currently out of sync with the circular system of the Earth. Our economy is linear – we take, we make, we use and we throw away. That economic system is out of sync with the rules of the Earth which are circular in structure. As shown in figure 1, the human economy can become circular if we choose to make it so, and in that way we would be mimicking the Earth system and following Earth Rules.

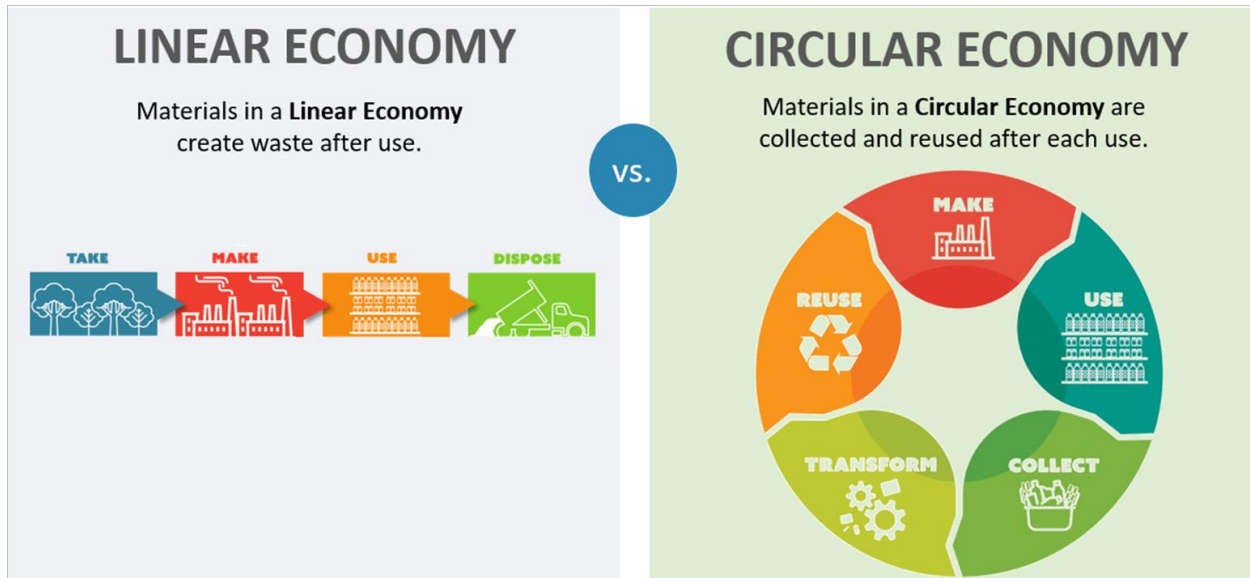


Figure 1. Comparison of linear economy and circular economy

The circular system of the Earth is comprised of several distinct cycles that are critical to the functioning of the Earth. There is the carbon cycle whereby carbon dioxide is removed from the atmosphere by photosynthesis and circulated through plants and organisms as organic carbon that eventually becomes broken down back into carbon dioxide which goes back to the atmosphere to repeat the cycle. There are similar cycles with the nutrients nitrogen and phosphorus. An example of the carbon cycle is shown in Figure 2.

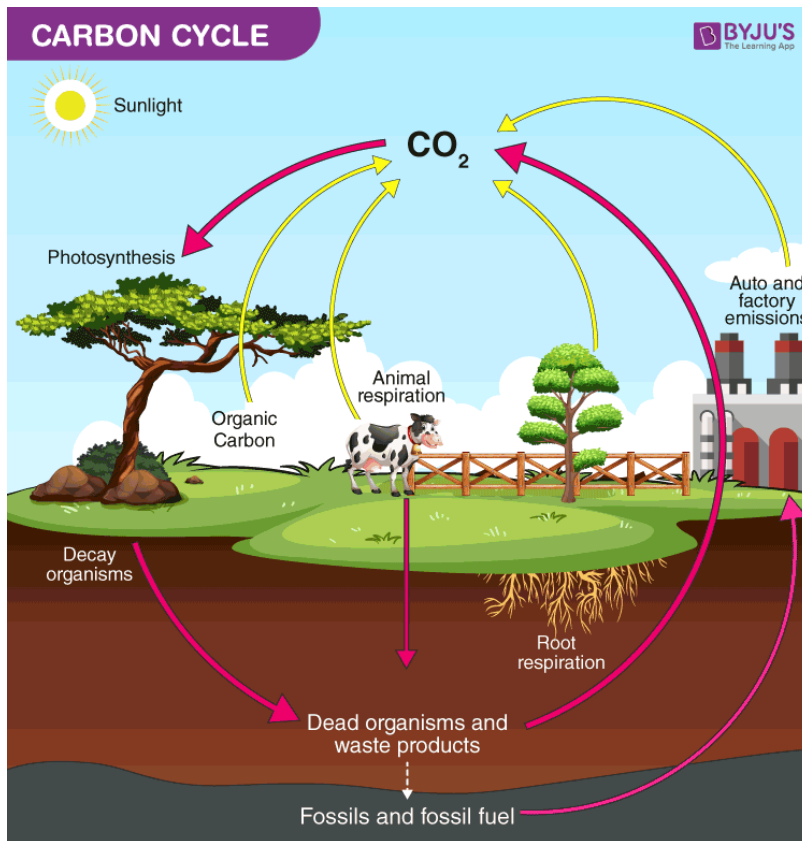


Figure 2. The carbon cycle. Source: <https://byjus.com/biology/carbon-cycle/>

As we all know by now, we humans have caused an imbalance in this carbon cycle. Since the early days of industrialization, we have been mining fossil fuels and burning them, leading to the emission of more carbon dioxide than can be accommodated within the limits of the existing system. As a result, the concentration of carbon dioxide in atmosphere has been increasing, leading to the greenhouse effect and a warming of the earth. Simply stated, the human economy is out of sync with the natural carbon cycle of the earth. We have violated the Earth Rule about maintaining the integrity of the carbon cycle.

There are also the nitrogen and phosphorus cycles to consider. Nitrogen and phosphorus use as fertilizer has led to imbalance in those natural cycles as well. Nitrous oxide is a potent greenhouse gas released from nitrogen fertilizer use. Nitrates have leached into groundwater and made it unsafe to drink in some areas. Nitrogen and phosphorus in stormwater runoff have led to

increased algal growth in waterways, causing a massive increase in plant growth and then oxygen depletion and dead zones when those plants die, leading to fish kills and other disruptive events. Again, a failure to respect the Earth rule of balanced cycles has led to impactful outcomes that disrupt life on Earth.

Similarly with water, we disrupt the hydrologic cycle with our impermeable surfaces and our yards that consume inordinate amounts of water, leading to lower flows into our natural watercourses in general as well as contributing to excess flooding during severe rains. We decreased the natural flow of rivers into our coastal estuaries, depleting natural productivity. We have covered over the recharge areas of aquifers, interfering with their recharge. And we have altered the temperature of the ocean, leading to more evaporation, and increased the temperature of the atmosphere, leading to more moisture-holding capacity and larger rains. The hydrologic cycle is shown in Figure 3.

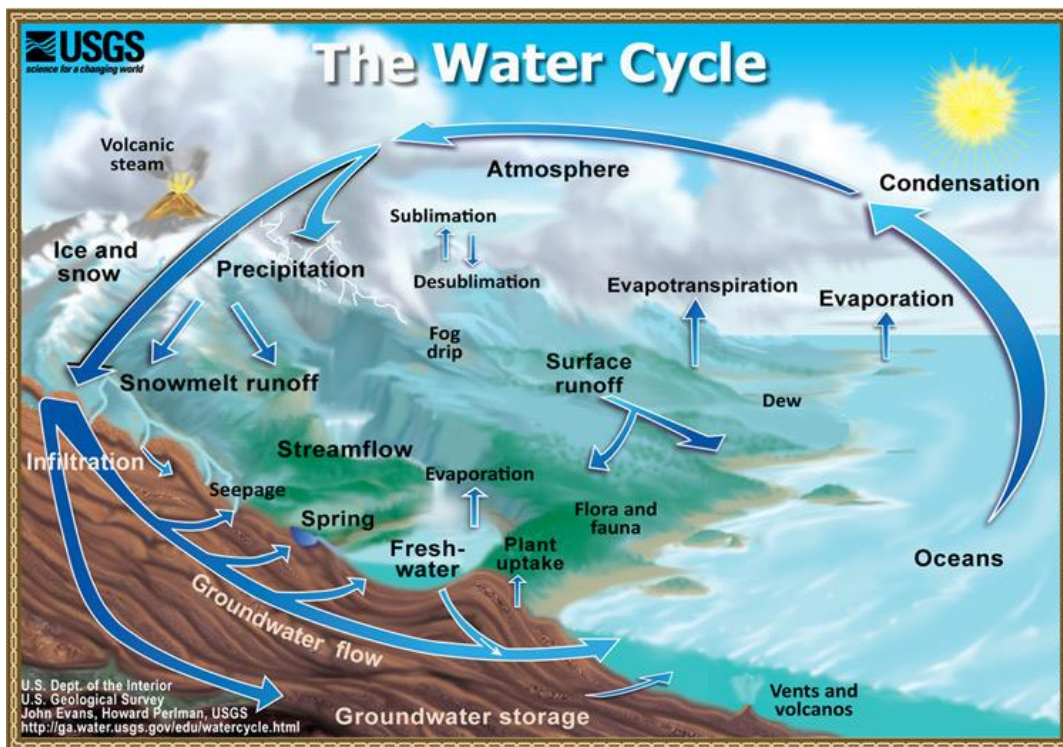


Figure 3. The hydrologic cycle from United States Geologic Survey (USGS).

It is one thing to consider the emergence of ecology as a field of study and another to envision certain principles of ecology as rules that must be followed in order for the Earth to remain functional as a planet of life. However, that is the implication of Earth rules. They are truly rules for maintaining life on Earth – rules that are separate from any country or philosophy of governing – rules with which the human economy must come into accord. That is a big step for what might be considered a young science, but an absolutely necessary one. To paraphrase Aldo Leopold, adherence to Earth Rules is an ecological necessity and an evolutionary possibility.

Natural Law

I have been researching and implementing the voluntary nature-based carbon credit market since 2012, and from the beginning I have been asked “What are the rules”? And typically, I and many others have answered that there are laws or regulations. But as I reflect upon Earth Rules, I know that this is not true. There are rules that control human action, but they have not been passed or decided by any governmental authority. Instead, the applicable rules are the Earth Rules discussed above. But how do Earth Rules fit into the human system of laws and regulations?

Earth Rules are derived from science. We have the laws of physics. We know that gravity exists. We don’t need to write that law down but we discover it when we humans leave our footing behind and try to stay up in the air. It simply does not work. However, there is a legal system that is based upon fundamental rights and knowledge called natural law. And it is very germane to this conversation about Earth Rules.

Natural law is law created from human reason – from our thought processes rather than from the decision by any country or governing body. In that sense, they are beyond the reach of individual countries or English common law or Spanish civil law or the Sharia legal system or other legal systems. Natural law is a higher authority, based on human reasoning – based on science.

Natural law dates back to Aristotle who spoke of a common law according to nature that should guide man-made laws. Historically, natural law has been linked to morals and ethics that are beyond what is called “positive law”, also known as human law. Natural law is cited as a basis for the Declaration of Independence and its inclusion of “unalienable rights” as a basis for the formation of a nation. These unalienable rights are rights beyond the reach of human laws. They are fundamental – basic to all of us.

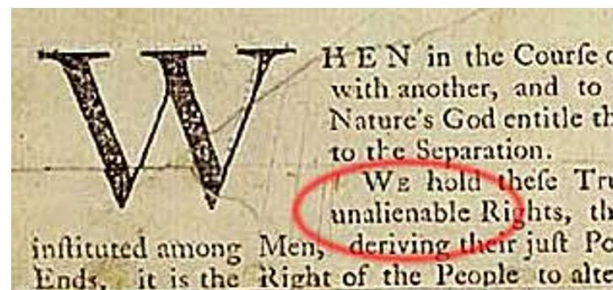
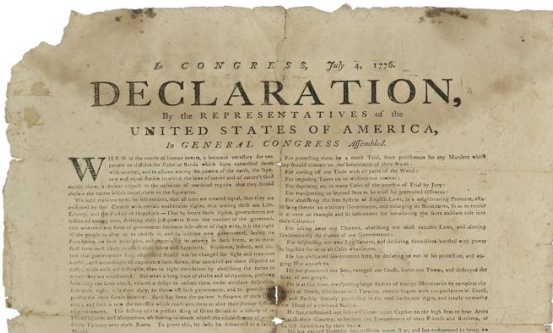


Figure 4. Excerpt from the Declaration of Independence.

Natural law is law that is just and serves the common good. It has a moral and ethical basis. It is based on human reasoning and knowledge. To date, natural law has not been linked to fundamental principles about the functioning of the Earth. As we learn more about ecology and Earth Rules, it seems reasonable that these truths about how the Earth functions should fall within the province of natural law.

Given the unique convergence of Earth Rules and natural law, it is reasonable to ask where might these concepts find acceptance and be adopted? And while it is conceivable that these principles can and perhaps will inform statutes and legal opinions of the future, that process is very slow and difficult. From a case law perspective, the argument will need to be set up in lower court cases for eventual argument before the U.S. or other human courts of law. From a legislative perspective, it will take the formation of coalitions to come together to agree on these natural law principles, a process that is fraught with the potential for failure and for taking up valuable

time that we do not have to spare. And from an executive perspective, these issues would need to move to the top of the agenda, which is unlikely to happen for several years. We need another outlet for the emergence of Earth rules as natural law.

Corporate Governance

The potential exists that a quicker pathway to implementation of Earth Rules and Natural Law exists in the arena of corporate governance which has been an interesting emerging area. If I had been asked to speculate about the role of corporate governance in environmental issues 50 years ago when I began to practice environmental law, I would have dismissed the possibility of a strong role for corporate governance. However, during these last 50 years, there has been a quiet evolution if not revolution in corporate governance and the metrics of corporate success.

Interest in corporate governance dates back to corporate social responsibility (CSR) which emerged in the 1950s with the concept of a social contract between businesses and society. This social contract is unwritten but implicit – a concept whereby the corporation goes beyond specific legal obligations to act as a responsible corporate citizen. It has been expressed as the unwritten conditions behind the license that allows a corporation – a created legal entity – to exist.

Early CSR focused upon corporate bribery, particularly overseas, after a number of scandals emerged in the late 1970s. Additionally, CSR often focused upon human rights such as child labor issues and equal pay for equal work. Here, the focus was upon setting up rules internal to the corporation for addressing these issues which are similar in some respects to the “unalienable rights” of the Declaration of Independence..

Since about 2000, there has been serious change in corporate thinking from the past. Sustainability concepts began to be integrated with CSR concepts in the mid to late 1990s following the Rio Conference on Environment and Development in 1992 and the adoption of the Millennial Goals in 2000.

Corporations began to measure social and environmental variables, and as the saying goes, what is measured is improved. Carbon and water and other resources began to be a focus of corporate reporting as was waste generated. Social issues such as diversity, equity and inclusion began to be analyzed and reported. These trends were only amplified by the global adoption of the Sustainable Development Goals in 2015 and the adoption of the Paris Accord on climate, also in 2015.

In the early 2020s, the concept of corporate environmental, social and governance or ESG issues emerged. And while the corporate interpretation of environmental and social issues has been quite expansive, governance generally has been interpreted in a more traditional manner to include company leadership, executive compensation, audits, internal controls, and shareholder rights. However, the issue of corporate governance does raise issues of adherence to legal norms, and here, a creative interpretation of governance could include adoption of concepts of natural law relative to Earth Rules.

This concept may be particularly useful for multi-national corporations that are hit with the different rules of different nations. By adopting Earth Rules under a concept of natural law, the company will likely be at the forefront of thinking about the circular economy, carbon footprint reduction and mitigation and water-related issues as well as nutrient-related issues. And while these are not the only subjects of environmental regulation, these are those that are based on physical rules about the maintenance of life on Earth.

Conclusion

As of 2025, it is possible to argue that corporations are setting themselves apart from governments as innovative and creative voices for understanding the needs of the 21st century. As a general proposition, they undertake these positions to make more money. And by adhering to Earth Rules, the corporation is likely to make more money because it will be necessary in the future to support Earth Rules to succeed in business. It just makes sense that

corporate policies that support the well-being of the Earth will help that corporation succeed in the long term.

It is here that Earth rules and natural law move to the forefront of corporate thinking. Many multi-national corporations find themselves subjected to many different laws and regulations from country to country. They need a concept of natural law to rely upon for corporate governance decision-making beyond the requirements of any one set of man-made statutes. Getting in touch with and in accord with Earth rules and natural law will take them to the front in creative thinking about making money in the future consistent with the rules of the earth.

This is the recipe for success in the future – coming into accord with Earth Rules and applying natural law. It is a good fit that will work for the benefit of all citizens of the Earth.