

The Ongoing Need for Pursuit of New Technology in Mining: An Opinion



Michael Greenberg*

Distinguished Professor Emeritus, Rutgers University, United States

Submission: April 17, 2024; **Published:** May 14, 2024

***Corresponding author:** Michael Greenberg, Distinguished Professor Emeritus, Rutgers University, United States

Opinion

This journal is filled with demonstrations of creative energy directed at maintaining the supply of mined resources for the world's increasingly technology-dependent standard of living. Some point to the rapid increase in mined production as evidence that we are on an unsustainable path to producing and consuming. I agree that we do not need everything that is produced, and that technology should be created with environmental and worker impacts in mind. Yet, the reality is that increasing global demands mean that governments and business will pursue mining technologies that produce competitive economic advantages and increase national security. Toward this end, I offer four lessons based on studying the mixed bag that is human reliance on technology.

i. Better technology is not going to make the world a better place. President Eisenhower and his colleagues tried to turn the world's attention from nuclear bombs to nuclear power that would be so cheap to produce that we would have free electricity. It never happened. Today, self-driving vehicles are seen as good for people who do not drive or should not drive, but as a source of great concern by others who worry about the kinds of motor vehicle failures that inevitably will result. The Internet has given more people a voice, but it has given some the power to control their populations and allowed misinformation to spread more effectively. The development and application of technology for mining is not going to solve our problems.

ii. The doomsday clock still has 90 seconds to go before midnight. Emphasizing potential negative consequences at every turn is as distressing as responding to every new idea as a contribution to a cornucopian life. The idea that world is running out of time because of proliferation of nuclear weapons, the growing reality of climate change, and the rapid pace of change has created daunting challenges. For example, we appear to have a generation of young people who are consumed by these fears and by a sense of hopelessness about their future, which has led

to increasing death rates in this distressed population. Yet, it is hard to see what ongoing technological advances in mining will do to push us closer to doomsday, and I do see meaningful efforts to produce technology that should reduce the mining industry's negative impacts. I worry a lot more about my grandchildren's attraction to smartphones than I do about what new mining technology will produce.

iii. Innovation in mining appears to increasingly be consistent with other progressive business and government practices. I first visited a coal mine in Pennsylvania in 1959. It was nasty place. I have been dismayed by what I perceive as resistance to practices that would be more protective of workers and the environment. Today, I see more training, application of GIS, drones, 3D models, and use of automation, including application of AI in order to better understand the working environment and protect employees, as well as make more efficient use of rare resources. What I do worry about is that business pressures to prematurely apply technology that have led to serious failures in the airline and motor vehicle industries will overwhelm the careful introduction of new ideas to mining.

iv. Protectiveness and efficiency should prevail. Many of the recently adopted and successful technologies – cell phones, Google, electronic maps, Alexa – have reduced the effort needed to accomplish routine activities. This will not be the case for mining. The bottom line is for mining technology to produce resources, as well greatly reduce negative consequences for employees and the environment. While abandoned mines are ongoing hazards, especially in rural areas where there are no funds to remediate the land, some success has been gained in remediating mines and converting them into public and private places, including for food storage, recreation and even housing and shopping centers [1].

Overall, mining is an essential component of the world economy, and it will continue to be so until our collective of leaders convince the population to pursue another paradigm.

References

1. Schneider D & Greenberg M (2023) Remediating and Reusing Abandoned Mining Sites in U.S. Metropolitan Areas: Raising Visibility and Value. Sustainability 15(9): 7080.



This work is licensed under Creative Commons Attribution 4.0 License
DOI: [10.19080/IMST.2024.04.5556235](https://doi.org/10.19080/IMST.2024.04.5556235)

Your next submission with Juniper Publishers will reach you the below assets

- Quality Editorial service
- Swift Peer Review
- Reprints availability
- E-prints Service
- Manuscript Podcast for convenient understanding
- Global attainment for your research
- Manuscript accessibility in different formats
(Pdf, E-pub, Full Text, Audio)
- Unceasing customer service

Track the below URL for one-step submission

<https://juniperpublishers.com/online-submission.php>