DRAMATIC CHANGE

by:
Mark Anthony T. Atienza
SHS Teacher II, Lamao National High School

At present, universal reluctance from individuals and organizations has compelled the world to rely significantly on technology in solving different environmental problems, which are all deep-rooted to humankind's imprudent production and consumption. However, the variety of technological changes necessary to counteract the growing environmental damage is expected to be pretty dramatic.

In the past, efforts to tidy up the environment have tended to focus on "cleaning technologies." Cleaning technologies, otherwise known as end-of-pipe technologies, focus on pollution control. As the name suggests, these technologies are added to the existing final process step to capture pollutants and wastes before discharge, consequently controlling and reducing pollution. Unfortunately, the problem with these technological fixes is that they do not address the cause of the problem; worse, they may give rise to potentially even more undesirable effects. For example, to efficiently burn fossil fuels, companies utilize a technology that increases the temperature of the combustion process. This contributes to the pool of oxides of carbon (a significant greenhouse gas) and oxides of nitrogen (a major element in the formation of smog) in the atmosphere. Thus, "clean technology" is on the rise.

Clean technology encompasses more than just a Tesla. It is a vast growing industry that includes numerous sectors like energy and power, transportation, water and waste management, agriculture, and biofuels. These involve modification in manufacturing procedures and the product themselves so that they are environmentally benign. In a nutshell, clean technologies, which are preferable to end-of-pipe technologies, focus on

pollution prevention technologies. However, developing or exploring those technological options and alternatives is still challenging.

Clean technologies are only sometimes available, and even if they are, companies tend not to replace cleaning technologies with clean technology because of a number of reasons. To mention but a few, a problem with clean technology is that it is relatively new, and lots of money needs to be spent on research and development in order to use it to make a significant environmental impact. Not only the research costs regarding clean technologies can be significant, but also the implementation costs for companies can add up. For instance, if a company wants to shift from fossil fuels to renewable resources, the equipment and the effort that is needed will cost lots of money. This, in turn, slows down, or worse, discourages, the development or implementation of advanced clean technologies to a certain degree. This is the main reason some companies refrain from switching to clean technology due to its high upfront costs.

In our present state, companies still heavily rely on standard technologies. Hence, it is unlikely to adjust the framework to clean technologies, and in the transition process, we will still be dependent on conventional technologies to a great extent. However, when can a dramatic and radical technological change or redesign occur?

References:

Beder, Sharon (2000, January), The Role of Technology in Sustainable Development 2000. Retrieved June 20, 2022, from https://ro.uow.edu.au/artspapers/48

Li, J.; Zeng, J.; Ye, Z.; Huang, X. (2021) Are Clean Technologies More Effective Than End-of-Pipe Technologies? Evidence from Chinese Manufacturing. Int. J. Environ. Res. Public Health 2021, 18, 4012. https://doi.org/10.3390/ijerph18084012

26 Key Pros & Cons of Green Technologies. E&C. (2021, August 7). Retrieved June 20, 2022, from https://environmental-conscience.com/green-technologies-pros-cons/