

# **A Sustainable Environment: Our Obligation to Protect God's Gift**

by  
George P. Nassos

## **A Few More Recommendations to Reduce Carbon Emissions**

Last month, I provided a summary of COP26, where we are at and where we are heading with climate change, and some recommendations of what governments, companies and individuals can do to mitigate this environmental issue. Here are some other recommendations to help reduce carbon emissions and provide the future generations with a livable planet.

The transformation to electric vehicles will really help reduce carbon emissions but a complete changeover will not happen anytime soon. One negative with EVs is the range of the automobile and the time necessary for recharging. ElectReon, an Israeli firm, is developing an in-road inductive charging system that powers EVs via electrical fields generated by coils under the asphalt. This would allow cars to carry smaller batteries, thus reducing the weight and making them more efficient. This concept is being tested in Germany, Italy and Sweden, and it is planning to charge electric buses in Tel Aviv. Researchers at Purdue University are also developing a similar technology.

You may recall a company about ten years ago called Better Place that was trying to make EVs more efficient by offering a quick battery change-out. EV owners had a map showing where battery stations were located so they could drive by and change out the used batteries for fully charged ones in a matter of minutes. This system was operated in Israel and Denmark but failed after a few years because Renault-Nissan was the only auto company producing cars for this system and also because of some financial difficulties. To resolve the one negative issue with the Better Place technology, a San Francisco based company, Ample, has developed a patented design that allows its batteries to work with cars from any manufacturer in terms of both physical and chemical compatibility. This will provide for changing out batteries rapidly without wasting time recharging them.

Companies that want to cut their carbon footprints can get help from a company called Watershed. It collects data from every corner of a client's business that generates carbon emissions. This includes collecting data from supply chains, electrical usage, and even commuting patterns of the company's employees. The data are plugged into software that gives clients an idea where emissions are greatest so it can focus on making some reductions.

We don't have to depend on new technologies to identify ways to reduce emissions. There are many ways this can be done with old technology if they are just put into use. A simple example is something I first experienced almost 45 years ago. I had to ride an escalator in

Cologne, Germany to use the subway, but since the escalator wasn't moving, I decided to walk down on it. However, as soon as I stepped on it, the escalator started to move. When I got off at the bottom and no one else was on it, the escalator stopped. Why should it run continuously when no one was using it? The continuous starting and stopping of the motor may be a real negative but it just needs to be included in the evaluation of the two systems.

While living in Cologne, I had to drive on a four-lane boulevard that ran along the Rhein River, appropriately named "Rheinuferstrasse" (street along the Rhein). This boulevard had intersections about every kilometer for cars to enter and exit the road, and of course there had to be traffic signals at these intersections. What was unusual, however, was the placement of digital signals about halfway between the traffic signals. These digital signals would tell the driver how fast to drive in order to get a green light at the next intersection. This methodology reduced fuel consumption, emissions, congestion and stress. I don't know how many years this system was in operation before I saw it.

Another old technology that was prevalent in Germany 45 years ago and needs to be more prevalent here in the U.S. is pavement sensors to activate traffic signals. At an intersection of a main street with a side street, the main street should always have a green light unless there is a car on the side street that wants to enter the intersection. The sensor can then change the traffic light to green for the side street. While this technology has been utilized in the U.S. for many years, there are still too many situations where it needs to be installed.

How about improving the timing of traffic signals along a road? Do you get upset when you have a green light and after traveling two or three blocks you get a red light at the next intersection? We need to put more effort in setting the timing of the traffic lights so that there is much less idling. This is old technology that can be implemented without a problem, and it can even be installed to provide smooth traffic in both directions of a two-way street.

And here's another old system that is not employed often enough – that of traffic roundabouts. At an intersection of lightly traveled two-lane roads, there is no need to have stop signs for both roads. A circular round-about will allow the cars to enter the round-about in order to make a right or left turn or even to go straight on. The only rule that is important is that the vehicle in the round-about has the right of way – that is, except for France and Belgium. When I lived there 45 years ago, one had to be careful to adjust to the rules of the various countries. For some reason, in France and Belgium, the cars entering the round-about had the right of way. However, I am not aware if that rule has changed.

The common thread of most of these suggestions is efficiency. If we can be more efficient in everything we do, we'll be on our way to reducing carbon emissions.