Realizing A Low Carbon Society

Tetsuji OKUDA
Executive Director, Member of the Board

The disaster at Fukushima No.1 nuclear power plant in the wake of the Great East Japan Earthquake caused nuclear power plants across Japan to cease operations and this situation continues today. From this situation, energy-related debates have become extremely active and there has probably never been a better time to proactively engage in energy-saving activities.

On the other hand, global warming due to the consumption of fossil fuels as well as the depletion of fossil fuels have been issues for a long time, but progress to switch to an alternative means of energy has not been easy going.

I would like to raise some points regarding how each and every one of us can do our part to protect the global environment in ways other than saving energy and resources.

One is leveraging the energy that comes from the sun. The four seasons are brought about due to the planet's axis of rotation being on an angle of 23.4 degrees against the orbital plane. The significant temperature difference between summer and winter is solid proof of the tremendous energy being emitted from the sun and it is inconceivable that we would not take advantage of it.

The second point is utilization of the energy which already exists naturally on the planet. Wind power and hydraulic energy go without saying, but not all possible energy sources are apparent on the earth's surface. Magma, found deep within the earth, is an excellent example of enormous thermal energy. As with solar energy, we cannot afford not to utilize it.

The third point is improving the energy efficiency of transportation devices, machines and so on and efficient regeneration.

For example, trains consume a large amount of power therefore recently there has been a shift from the conventional resistance control and chopper control to inverter control. This shift achieves not only energy savings but also creates power regeneration of a large kinetic energy at the time of braking. The automotive industry is also engaging in activities such as thermal efficiency and energy regeneration upon braking in the case of hybrid and electric vehicles. Also, in regards to machine tools which represent industrial machinery, the mainstream numerically-controlled machine tools are seeing energy improvements and energy regeneration. These technologies must be advanced even further.

Incidentally, I was stationed in West Virginia, USA from 2006 to 2010. West Virginia is famous for its coal, and there were railroad tracks near where I lived at the time along which freight trains transporting coal were constantly travelling back and forth. As such, coal-fired power generation is the primary form of power in the region. However, in the mountaineer power house near where I worked, a carbon dioxide collecting reservoir system was installed and apparently practically all of the waste discharged from the chimneys that loomed over 300 m tall was water vapor. It surprised me that America was going to such lengths to prevent global warming.

West Virginia is nicknamed the "Mountain State" due to the abundance of natural bounty such as mountains and forests found in it, and the American employees where I worked were not only passionate about saving energy, but proactively engaged in activities to conserve the planet environment such as recycling industrial water, switching to low power consumption lighting and other resource-saving measures in general. When I realized this, I swore to myself that we Japanese would make every effort to be just as dedicated.

JTEKT's corporate philosophy is "contributing to the happiness of people and the abundance of society through product manufacturing". "Technology to protect the global environment". While this may not sound all that fancy, to us it is the most important kind of technology. Energy-saving, high-efficiency energy regeneration, low friction and weight reduction are just some of the ways in which we intend to contribute to society with groundbreaking technology development and rock-solid monozukuri methods.