2015 is International Year of Light

Can you imagine a world without light? Seldom do we pause to reflect on how dependent our world is on light. Yet without light there would be no world as we know it. In fact, in this age of illumination and radiance light is available to us all the time! But beyond just the brightness, light has also been put to our service in many different ways which are also benefitting the Earth. It is this connection that our world has with light that is behind the UN declaring 2015 as the ***Year of Light***.

"The International Year of Light is a global initiative which will highlight to the citizens of the world the importance of light and optical technologies in their lives, for their futures, and for the development of society. It is a unique opportunity to inspire, educate, and connect on a global scale."

http://www.light2015.org/Home/About.html

The concept of sustainable development - finding a balance between economic development and conservation of natural resources gained momentum in the 1970s with increased consciousness of the impact of human activities on the environment. Light and light technologies have and continue to play an important role in sustainable development which is given recognition by the declaration of 2015 as the Year of Light.

Light–based technologies are being used to find solutions to worldwide challenges in energy, education, agriculture, communications and health.

Medicine

In medicine, breakthroughs in light technology continue to transform the science. For example, the invention of the laser has increased the role of light in medical processes such as dermatology, ophthalmology and dentistry etc.

Communications

Today, lasers are key tools in manipulating and communicating information in CD and DVD players, supermarket barcode readers and broadband

telecommunications, in measurement e.g. surveying and environmental studies, chemical analysis of foods, medical specimens and materials and, increasingly, in transforming materials welding, cutting and etching, printing, and surgery.

Lasers are also employed in fibre-optic communications - broadband depends on the transmission of light pulses along optical fibres, which are generated and relayed via lasers. This is made possible by fibre amplifiers, invented in the UK, which are an important component in long-distance fibre links. Television, social media, skype, video conferencing with family and friends – are examples of how the internet allows people around the world to feel connected in a way that was not possible before.

Internet Communication Technologies (ICTs) utilize just about 2-3 % of global energy use but reduces the world's energy consumption by reducing the need for people to travel since they can communicate via the internet, cell phones etc.

Education

Light makes it possible for students to study during the night reducing the likelihood of eyestrain. Generally, lighting improves the quality of life and provides safety and security, while also enhancing architecture.

Lighting and climate change

It is also important to note that lighting represents 20% of global electricity consumption. With the majority of this electricity being provided by fossil fuels, lighting does contribute to carbon emissions and hence global warming and climate change. However, a branch of light technologies called ***Green Photonics*** has made available new and innovative lighting designs and technologies that improve energy efficiency. Also, the use of solar energy, offers an alternative that provides a cleaner, more sustainable future. Solar energy also provides a practically-inexhaustible resource that will reduce pollution and help in the fight against climate change.

Green Photonics and Sustainable Development

Apart from energy efficient lighting, Green Photonics is contributing to sustainable development through eco-efficient designs using laser produced lightweight materials and laser enabled designs. Also, more eco-efficient products and production is made possible e.g. organic solar cells that are low cost, flexible, transparent, lightweight and easy to handling due to plastics.

Therefore, as we celebrate 2015 - the International Year of Light and Light Based Technologies - let us all take the opportunity to become aware of the problem-solving potential of light technology.

Share your ideas and questions by sending letters to: "Our Earth, Our Environment", C/o EIT Division, Environmental Protection Agency, Ganges Street, Sophia, Georgetown or email us at eit.epaguyana@gmail.com.