Building the Grid of Tomorrow, Today

When we use the word sustainable as it relates to the power industry, several keys come to mind, keys that are not always understood or shared. For us, sustainability in the power industry is a multifaceted concept that encompasses the development and implementation of energy systems that are environmentally friendly, economically viable, and socially responsible.

At its core, sustainability in this context aims to reduce the environmental impact of energy production and consumption while ensuring that energy remains accessible and affordable for all. Often affordability forces decisions that are unsustainable but they need to go hand in hand. We are well aware that the **"electrification of everything"**, creating demand growth we have not seen in decades, involves a transition from traditional fossil fuels, which are major contributors to greenhouse gas emissions, to renewable energy sources such as wind, solar, and hydroelectric power.

US administration's love for carbon fuels, the power industry is too far along the path to sustainable and affordable to turn back now. Coal plants are not clean, expensive to operate and take a lot of people to operate. Given the current labor shortages, trying to go backwards will work against sustainability and affordability.

In addition to the shift towards renewables, sustainability in the power industry also involves improving energy efficiency across the entire energy supply chain. This includes advancements in technology that allow for more efficient energy generation, transmission, and consumption. Smart grid technology enables better demand management and reduces energy waste by allowing for real-time monitoring and control of energy flows. At APC Media we believe that investing in energy storage solutions, such as batteries and pumped hydro storage can help to balance supply and demand, especially when dealing with the intermittent nature of renewable energy sources.

These renewable sources are not only abundant and inexhaustible but also produce little to no emissions during operation, making them a key component in reducing the carbon footprint of the power industry, leading to a more sustainable and cost-effective solution. Despite the current

The transition to a more sustainable power industry must be financially feasible, for utilities, regulators, industry and consumers, or prosumer which I call my son with his rooftop solar. We must create policies and incentives that encourage investments in renewable

Photo: Pexels

energy projects and the development of new technologies.

Governments and private sectors play a significant role in this by providing subsidies, tax breaks, and other financial mechanisms to support the growth of sustainable energy infrastructure. Our industry cannot be whipsawed between election cycles. There is more than enough room for renewables and carbon-based generation, simply because we cannot meet the new demand curve if we don't focus on the best financial, and readily available, solution.

Continuous advancements in technology are essential for overcoming the challenges associated with creating an affordable, sustainable and resilient grid, and collaboration between governments, research institutions, and private companies is vital to drive these innovations forward.

At APC Media we are passionate about the impact that technology will have on sustainability in the power industry, closely linked to innovation and research. Continuous advancements in technology are essential for overcoming the challenges associated with creating an affordable, sustainable and resilient grid, and collaboration between governments, research institutions, and private companies is vital to drive these innovations forward.

Our industry is undergoing somewhat of a revival in how we are looked at by the next generations of engineers and trades workers. Why? Because not only is it a great, long term career choice at every level, it is also creating the future that the future generations deserve. Focusing on energy sustainability is a great way for them to know that what they do, every day, matters.

Alan M Ross
CRL, CMRP
Managing Editor
APC Media
Technical Director

Alan has decades of experience in the power systems industry and is one of the greatest reliability experts out there.