**Cleaner energy**

BY S H A H M U N I R K H A N 2022-02-17

BARACK Obama once said, `We are the first generation to feel the effect of climate change and the last generation who can do something about it.` According to the World Energy Outlook, 2021, the global temperature has risen by 1.1 degrees Celsius since the pre-industrial era, leading our planet to its warmest level in over 11,000 years. At this pace, the increase in global temperatures will cross 1.5°C mark by 2030 and rise to 2.6°C by 2100. It will be catastrophic.

The report says that the rise in global temperatures will lead to the doubling of extreme heat events by 2050 which will be 120pc greater in intensity than now. Water shortage, droughts, flooding, wildfires, pest invasion, etc will become a frequent feature. Already polluted air is causing five million deaths every year. The energy sector is responsible for 75pc of greenhouse gas emissions that have led to higher temperatures.

The share of electricity in the hnal energy consumption is 20pc. Coal, which is the most carbon-intensive fossil fuel, is the single largest source of electricity production with a one-third share. But its share is three-fourths in carbon emissions, followed by natural gas. Natural gas is the largest source of electricity in advanced economies with its demand expected to grow by 15pc in 2030 and 30pc by 2050. Apart from carbon, methane`s share in the rise of global temperatures is 30pc. Today, on an average, 8pc of natural gas leaks into the atmosphere producing carbon dioxide emissions that are more than the emissions generated by all the cars in the EU.

The 26th UN Climate Change Conference of the Parties held late last year revolved around curbing greenhouse gas emissions to keep global warming below 2°C, preferably at 1.5°C, as pledged in the Paris Agreement. More than 100 countries made pledges related to net zero emissions, reversing deforestation, slashing methane emissions, phasing out coal-fired power plants, reducing reliance on fossil fuel, travelling in zero-emission vehicles, and increasing the focus on renewable energy sources. But unfortunately, pledges alone can`t control the rise in temperature which is expected to reach 2.1°C by 2100 even if the policies are implemented.

The need of the hour is to follow the net zero emissions policy in line with the Sustainable Development Goal of keeping global warming below 1.5°C. By following net zero emissions policy, ie maintaining the balance between greenhouse gas emitted into and taken out of the atmosphere, the global temperature trajectory peaks to 1.5°C by 2050 and declines afterwards (1.4°Cin 2100). If we follow this path, by theyear 2030, the demand for oil drops by 20pc, natural gas 10pc and coal 50pc, and there are 1.9m fewer premature deaths due to pollution out of which 95pc of the reduction will occur in developing economies.

During the last decade, carbon emissions from electricity generation rose by just 9pc compared to a 25pc increase in demand, mainly due to an increase in renewable energy production which met much of the growth in demand. The sale of electric vehicles is expected to grow exponentially.

Fossil fuel-based vehicles are being phased out. Technological progress has made the transition to renewable energy much cheaper and there has been a reduction of 90pc in the cost of solar PV. With current pledges, an additional 13m employment opportunities are expected in the renewable sector and it is estimated that 80pc of the energy efficiency potential can be reached by 2030 cost-ef fectively.

China, the world`s largest energy consumer and carbon emitter, is currentlyleading in terms of renewable energy installations and has announced it will no longer unance coal plants abroad. Globally, coal-fired power plants are being retired and the use of coal in energy production has been on a declining path.

The role of indi-viduals, societies and organisations is critical to mitigating the effects of climate change. However, the primary impetus should come from governments especially in the developing economies as advanced economies account for only one-third of the total carbon emissions. Feed-in tariffs should be introduced to support renewable energy projects and a long-term investment policy and clear direction should be set to support this transition. Emerging economies need to be supported in the transition to cleaner energy as the required investment in the latter is estimated to be $4 trillion in the next decade alone to be on the path of net zero emissions. Subsidies and easy loans are a priority if we want entrepreneurs to follow green practices. Every crisis presents an opportunity and in this case, the path towards renewables should be seen as one.  The writer is a PhD scholar at University of Naples Parthenope, Italy and is associated with IBA , Karachi.

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