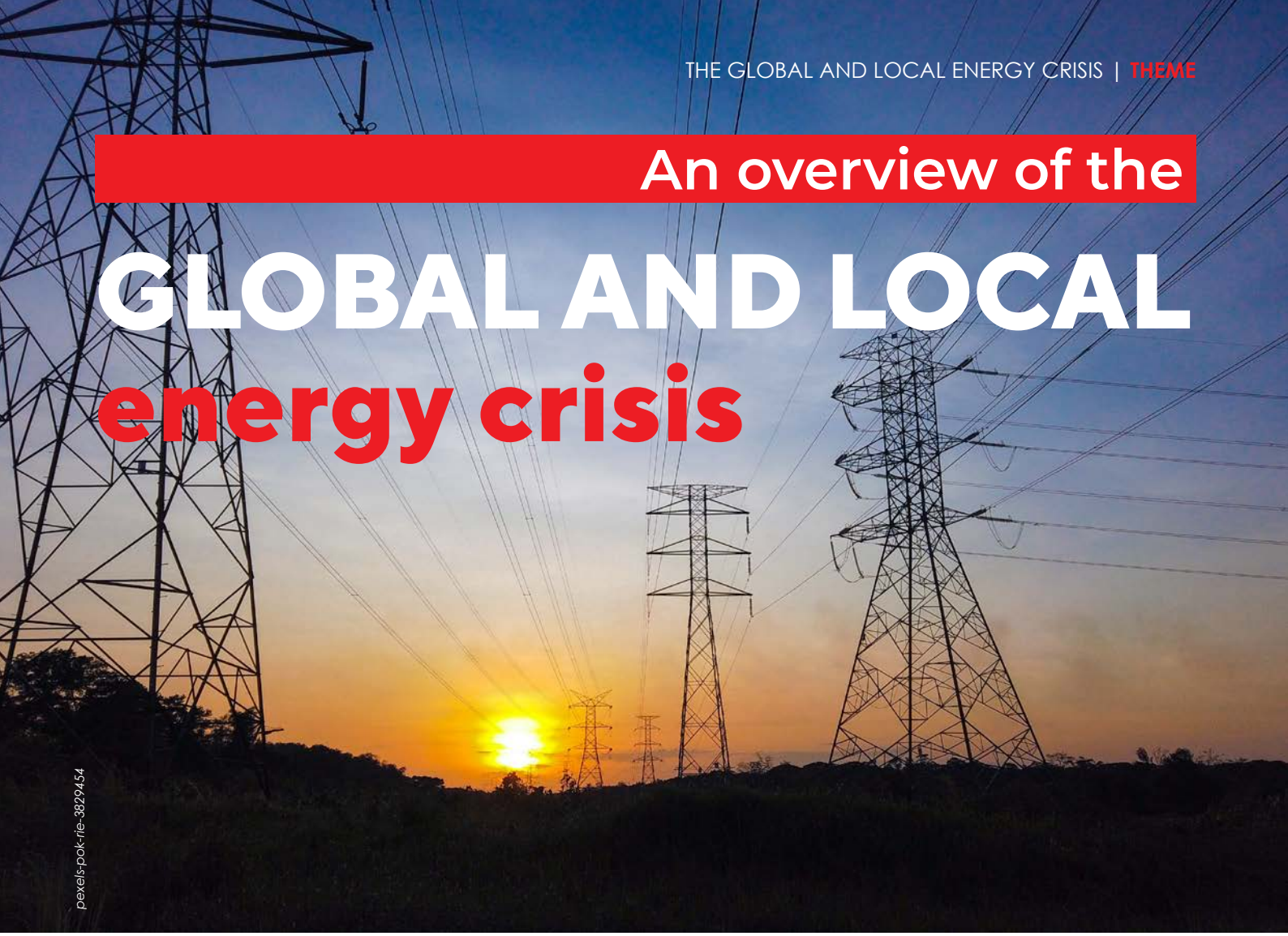

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An overview of the GLOBAL AND LOCAL energy crisis

To solve a problem, you first need to understand the problem and its causes. There has been much talk about the global and local energy crisis, but what do we actually mean by "energy crisis"? And how can we collaborate to better conserve energy? Here, we provide an overview.

Over the years, the availability and use of energy has had a direct impact on the quality of lives we lead and the growth of our industrial society. While the use of energy continues to sustain us, we cannot deny the energy crisis that we are faced with currently. In particular, the availability, supply, consumption and distribution. The challenges that we are faced with as a result of an energy crisis have detrimental effects on the economy as well as the quality of life for our generation and for future generations.

What is an energy crisis?

It is important to define what an energy crisis is – that way we can decipher the origins and causes as well as seek to understand the different ways we can alleviate the crisis. An energy crisis is a significant shortage of energy supply to a certain country or demographic, or the increasing demand of diminishing natural resources so as to sustain the modern day industrial society.

An energy crisis is a multifaceted issue driven by a variety of factors. One of the primary factors contributing to the crisis is the increasing global demand for energy. As global population grows and economies expand, the demand for energy continues to rise. This puts pressure on existing energy infrastructure and supplies, making them more vulnerable to disruptions such as natural disasters, geopolitical conflicts, and technological failures. A limited supply of fossil fuels also leads to an energy crisis. Fossil fuels, such as coal, oil, and natural gas, are finite resources that are becoming increasingly difficult and expensive to extract. This means that the cost of energy production will continue to rise, making it more difficult for people and businesses to access affordable and reliable energy.

Political instability in key producing regions also leads to energy crises. Many of the world's largest producers of fossil fuels are located in politically volatile regions, such as the Middle East and Africa. Conflicts and tensions in these areas can disrupt energy supplies and drive-up prices, leading to shortages and price spikes. For example, the Ukraine-Russia political instability disrupted the flow of natural gas from Russia to Europe which led to an energy crisis.

The lack of investment in alternative energy sources and infrastructure also leads to energy crises. While there has been some progress in developing renewable energy sources such as wind, solar, and hydro power, these alternatives still account for a relatively small percentage of total energy production. There has also been a lack of investment in energy storage and distribution infrastructure which is needed to make renewable energy sources more reliable and accessible.

The pressure to reduce greenhouse gas emissions in response to climate change can contribute to an energy crisis in a few ways. One major factor is the transition to more sustainable energy sources, such as wind, solar, and hydro power. While these sources can help to reduce emissions, the transition to them can be disruptive to existing energy production and consumption systems and may not always be smooth. In addition, as we reduce our reliance on fossil fuels, there may be challenges in finding alternative sources of energy that are cost-effective and reliable, which could potentially lead to an energy crisis.

These factors are closely interconnected and will require a coordinated and sustained effort to address. Governments, businesses, and individuals all have a role to play in ensuring a sustainable and reliable energy future for all.

Energy conservation – a shared responsibility

Individuals have a huge role to play in energy conservation through choosing appliances, transport modes and renewable energy that they invest in. Similarly, businesses should invest more in technology and energy that is clean and embrace renewable energy. The government should impose policies that encourage being more sustainable and regulate energy efficiently. Lastly, institutions should research and develop ways to better generate, store and be efficient with energy. A collaborative effort amongst stakeholders will ensure that feasible and realistic solutions are implemented for the advancement of the planet.
The South African energy crisis or loadshedding as it commonly known, is a recurring problem that stems from the country`s heavy reliance on coal-fired power

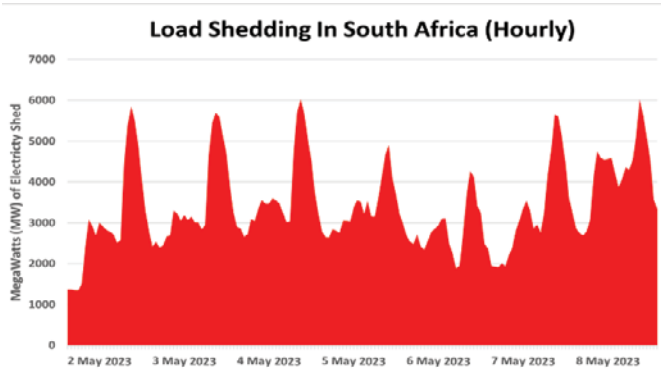

Figure 1: Eskom loadshedding over a period in 2023

plants. The persistent power cuts, as shown in Figure 1, continue to harshly disrupt the country's economic growth as no sector has impunity to escape the adverse effects of persistent power cuts. Additionally, the country's coal supply has been capricious due to operational issues and interruptions caused by labour strikes. Corruption and mismanagement of our national power supplier, ESKOM, have exacerbated this energy crisis. According to ESKOM and government officials, the solution requires the construction of additional power stations and generators.

As the main issue with the energy crisis is the inability to generate enough to cater for the growing amount of people, the solution needs to revolve around how to meet the demand for more energy. One such would be a method already in use, where there are policies that reward the usage of clean energy and being environmentally friendly. Another method would be to create and make use of energy efficient measures in everything that is done ranging from transportation to buildings and so forth. The diversity of energy supplies used so that there is not too much dependency on a single source, will also help, and stronger collaboration between countries would also contribute significantly in meeting the energy demand.

Although the planet is able to replenish its natural resources, this process can take up to a thousand years and this is a real time issue we are currently facing. As such, there has been robust discourse around energy conservation and how everyone can play a part in prioritising the use of renewable energy sources.

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