Special Conference 1

Reducing dependency on energy supplies from politically unstable regions

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Introduction

The geopolitical issue of reducing dependency on energy supplies from politically unstable regions carries far-reaching implications, most importantly putting energy security at risk. This means uninterrupted availability of affordable sources of energy. Regions like the Middle East, parts of Africa and Eastern Europe often have vast reserves of oil, natural gas and other vital forms of energy. In those areas political unrests, wars, sanctions and general diplomatic tensions can lead to unpredictable and volatile energy supplies thus affecting global markets as well as economies. Since energy underpins virtually every aspect of modern life, any supply disruptions can have paramount implications for economic, social, and political factors as well as national security.

The importance of the issue was especially highlighted after the Russian invasion of Ukraine at the start of 2022, which has led to significant efforts from the European Union to reduce dependency on Russian gas. Although highlighted in that example, the issue is certainly not bounded by it and extends in a manner which affects almost, if not all nations worldwide. As strategic approaches and solutions are being developed we must aim to foster global cooperation to navigate a delicate balance between economic growth and environmental sustainability with solutions that recognize the unique circumstances of both purchasing and supplying countries. It is likely that addressing this issue will come with overcoming challenges such as cost, technological barriers and social resistance. Nonetheless the benefits that are paired with a future encompassing a more sustainable and stable energy landscape, is promising and worth working towards.

Definition of Key Terms

Energy Security

The ability of a country to access affordable, reliable and sustainable sources of energy free from coercion.

Energy Dependence

The reliance of a nation on the importing of fossil fuels, electricity, or other energy resources to meet domestic energy demand.

Net-zero

Global net-zero emissions describe the state in which carbon dioxide emissions resulting from human activities and the removal of these gases are in balance over a specific period.

Political instability

The unstable structure of a government and its inclination to collapse in a short time often due to high crime rate, political tensions, government incompetence, economic struggles as well as natural disasters.

General Overview

Importance of energy security

Energy security is of critical importance to practically every commercial activity on the planet and vital for the provision of some of humanity's most basic needs including access to food, water and heating. Energy insecurity can impact job loss, poverty, social segregation, economic decline, and environmental degradation, due to having economic, social and environmental implications.

Economic costs of energy insecurity stems from when a nation is in a position that requires them to import the majority if not all of their fuels to meet their energy needs. This creates vulnerability due to fluctuations in prices if the areas where they import energy resources experience political instability due to conflict, a natural disaster or other major events. Energy insecurity further impacts economies due to the importance of energy in agriculture to manufacture fertilisers, pesticides and insecticides, as well as influencing Industrial output.

Social impacts are evident if prices are unstable. Higher cost will most definitely affect low income households the most when a larger portion of their income has to be spent on energy. In many less developed countries including Tanzania, Sierra Leone, Gambia ect, energy insecurity has led to repeated blackouts further affecting the ability for citizens to work. A lack of energy security also poses environmental risks as short term solutions to energy deficiency often entail processes harmful to the environment for example.

The wake up call, year 2022

The events that affected the global energy market in the year 2022 have permanently changed the perception of truely how intertwined geopolitics and energy are. During the COVID-19 pandemic the demand and consumption of energy plummeted. Just as the effects of the pandemic began to abate, Russia invaded Ukraine leading to a major restructuring of the global energy markets.

The EU's energy dependence on Russia

At the end of 2021 over one third of the EU's oil can came from Russia and just under half of the EU's natural gas was imported from russia. This led to an immense dependence for energy depending greatly on a single nation, creating vulnerability after the invasion. Sanctions placed by the EU prohibiting imports of coal and oil from russia completely contributed to oil prices being 6 times higher mid 2022 compared to april 2020 and gas prices being 10 times higher than in 2021. At this time the International Energy Agency (IEA) shared the statement that the world was facing its first truly global energy crisis due to the overlapping issues created by the pandemic and the Russian invasion.

The effects of EU's new interest in LNG

In efforts to diminish dependence on Russian gas the EU and other nations initially dependent on Russian gas shifted focus to LNG, and had their demands met in 2022. The demand for LNG increased by 73% in the UK, 108% in the Netherlands, 157% in Belgium, 88% in France and more. Nonetheless the effect of this shift impacted countries who were already reliant on LNG imports such as Pakistan receiving 22% less and Bangladesh revicing 10% less due to being out bid. This has increased vulnerability in these nations who were already energy unstable due to

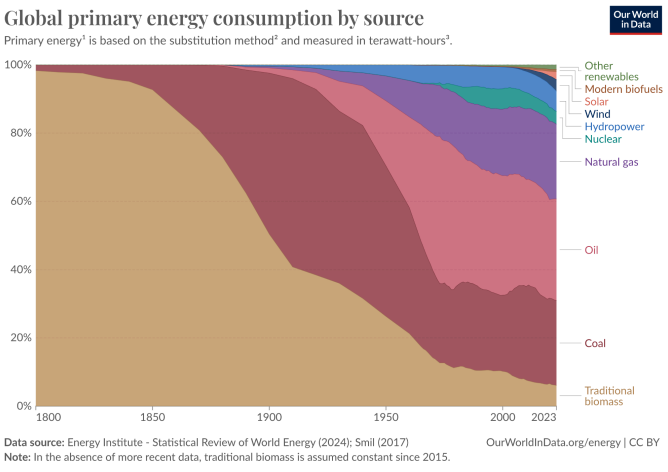
common floods, poor economic infrastructure manifesting in common blackouts which has affected large factories in clothing manufacturing.

Power in production cuts

The year 2022 was also the year where Saudi Arabia, the leading country in the Organization of Petroleum Exporting Countries (OPEC) cut oil production aiming at stabilizing and potentially increasing oil prices to ensure lucrative revenue streams from its crude exports. The Biden administration at that time tried courting Saudi Arabia not to cut oil production to keep stable energy prices for US citizens, despite having heavily criticized the nation for their human rights violations 2 months before. This illustrated how energy security needs can end up turning almost everything else in geopolitics - an idea which can undermine efforts in combating other vital issues, such as human right violations.

The current energy landscape summarized

Although efforts are being made to move towards more renewable energy sources at the end of 2023, 80% of primary energy sources still come from fossil fuels. as can be seen on the following graph:



The following tables show the major suppliers of the types of energy around the world, which are nations that other countries are often dependent on:

Top 10 Oil producers		
Country	**Million barrels per day**	**Share of world total**
United States	21.91	22%
Saudi Arabia	11.13	11%
Russia	10.75	11%
Canada	5.76	6%
China	5.26	5%
Iraq	4.42	4%
Brazil	4.28	4%
United Arab Emirates	4.16	4%
Iran	3.99	4%
Kuwait	2.91	3%
Total top 10	74.59	73%
World total	101.81	

Top 10 Natural Gas producers	
Country	**Natural Gas Production (m^3)**
United states	1029000
Russia	618000
Iran	263000
China	225000
Canada	188000
Quatar	170000
Australia	154000
Saudi Arabia	124000
Norway	122000
Algeria	101000

Besides these major players in the energy sector recently, there has been a significant rise in coal production in China. However, most of this increase is used within the country, allowing Indonesia and Australia to become major players in the global coal export market. Coal market concentration has risen as a result of this. Despite the increased diversity of gas and oil markets, the rising dominance of Australia, Qatar, and the US has still led to a decline in energy security as the dependence on these sources of energy has become more concentrated and is not diverse.

Historical trends and rising political instability

In the following paper (LINK) It was found that coal and oil productions have become more concentrated over the last two decades and concerningly indicators of political risks and democratic freedom have worsened in most fossil fuel producing economies during the last decade. The latter finding was determined through looking at the change in the democracy index, the International Country Risk Guide (ICRG) index of the Political Risk Services Group (PRSG) and the Ideal Point Distance (IDP) measure. These findings, including others not directly mentioned here, show that energy security risk has largely deteriorated in recent years in almost if not all nations, mostly driven by reduced diversification of supply.

The hope and risks of clean energy

Many experts believe that the transition towards more sustainable energy is the only long term solution to ensure energy security and can help drastically reduce dependence on politically unstable regions for energy. Decarbonizing the energy sector can have mixed effects on energy security. Firstly, the green transition could promote energy independence amid falling fossil-fuel import demand and increasing share of domestically produced renewable energy in the energy mix. The Ability for nations to be more self-sufficient will increase energy security and decrease dependence for those who can afford it. Nonetheless as fossil fuel demand falls, high marginal cost energy suppliers will exit the market, creating stronger market concentration and heightening energy security risk for economies still reliant on fossil fuels. Furthermore, energy insecurity will increase in developing countries without help from more developed countries due to the associated costs that come with investing in renewable energy sources. International cooperation will therefore be vital in preventing a volatile global south.

Another aspect of this potential shift in global energy supply is a high demand for critical minerals. Most countries currently consider cobalt, graphite, lithium, nickel, and other rare earth elements essential for their energy transitions. This demand could lead to further unwanted dependencies on countries which due to their geographical location have access to these. This is a form of pressure and dominance China has already started to show. Another concern related to this is that resource-rich countries include the Democratic Republic of Congo, Mozambique, Myanmar, and South Africa. Increased mining, transport, and trade of minerals can amplify disputes over land and fuel corruption and criminality which is already prevalent.

Major Parties Involved

The European Union

After years of heavy dependence on russian oil and gas the russian invasion of ukraine pushed the EU towards the diversification of its energy sources, specifically, aiming for more LNG and renewable energy investments in order to reach its ambitious REpowerEU Plan benchmark of the elimination of dependency on Russia by the year 2027.

Russia

Russia was and still is one of the largest global suppliers of oil and natural gas, using its energy exports as a geopolitical tool. The invasion of Ukraine and sanctions which followed it, have disrupted global energy markets, forcing many countries to reconsider their energy dependencies.

United States of america

The USA has achieved energy self-sufficiency thanks to shale gas and oil. It has become a crucial LNG exporter, particularly to Europe, and promotes renewable energy technologies and policies to reduce fossil fuel dependence.

Democratic Republic of Congo, Mozambique, Myanmar

These countries, and many others similar to them possess critical minerals needed for renewable energy technologies but face political instability, corruption, and conflict. These issues pose risks to the global supply chains of essential materials for the energy transition.

China

China is a major producer and consumer of energy. It now also leads in renewable energy production and controls significant supplies of critical minerals essential for clean energy technologies, impacting global energy security.

Australia

Australia is a stable and significant exporter of coal and LNG, crucial for countries seeking to diversify their energy imports. Its political stability makes it a reliable energy supplier, especially in the Asia-Pacific region.

All delegations

All countries are stakeholders in the global energy market. Each nation will and is facing unique energy security challenges. International cooperation is therefore essential to address energy security and shared geopolitical stability.

UN involvement, Relevant Resolutions, Treaties and Events

- Ensuring access to affordable, reliable, sustainable and modern energy for all, 19 December 2019 (A/74/381/Add.10)

Previous Attempts to solve the Issue

- Many countries seem to be showcasing signs of significant shifts in diversification and energy security largely stemming from a shift away from a single prominent supplier. For example, Lithuania's security of natural gas supply significantly improved when it transitioned from relying entirely on Russia in 2010 to having a diversified portfolio with Russia (51%), Norway (45.8%), and the US (25.3%).
- Various state policies, alongside federal incentives, have supported the development of shale gas and oil in the US allowing them to become self-sufficient within the past decade.
- The EU has committed to end dependency on Russian fossil fuel imports by 2027 through its REPowerEU Plan and, according to the European Commission, is on track to meet that target.
- Under the International Energy Programme (I.E.P.) Agreement, every IEA (International Energy Agency) country must maintain oil reserves equal to 90 days of net oil imports and be prepared to collaboratively address significant supply disruptions in the global oil market. During an actual or potential oil supply disruption, the IEA Secretariat will evaluate the market impact and the necessity for a unified reaction. This is a method that helps reduce the possible harmful impacts of an energy dependency-caused disruption.

Possible Solutions

Sources of Energy Diversification through sustainable sources:

- Invest in renewable energy sources including geothermal hydro wind and solar energy. Local development is possible for these sustainable sources.
- Nuclear Energy: Take into consideration developing nuclear energy capabilities as they can offer a dependable substantial energy source with minimal carbon emissions.
- Encourage the use of bioenergy as a substitute for conventional energy sources such as biomass biofuels and biogas.

Supply Chain Diversification:

- Geographical Diversification: To reduce the risk associated with any one region source energy from a greater number of nations.
- International Partnerships: Invest in cooperative energy projects and fortify relationships with stable areas.

Promote technological innovation to progress in areas including but not limited to:

- Energy Storage: To store excess energy from sporadic renewable sources invest in storage technologies like batteries and pumped hydro storage.

Planning for Resilience and Adaptation:

- Risk management: Create emergency response plans and backup plans as well as risk management strategies to handle possible supply disruptions.
- Climate Resilience: Make sure that the energy infrastructure can withstand the effects of climate change as they may have an impact on the distribution and production of energy.

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