Russia-Ukraine war could derail a renewable energy future

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On February 24, 2022, Russia declared war on its neighboring country, Ukraine. For the first time since the end of World War II back in 1945, when one European nation is trying to redraw borders through hard power, after the annexation of Crimea in 2014. The war changed the geopolitics and economic structures both regionally, in Europe but also globally, reopening the East-West dispute or, by some people the Cold War, practically dividing the world in two.

Russia is a hydrocarbon giant accounting for \$ 5 million billion worth of crude oil and hydrocarbon exports in 2020. 42% of this exports (still) goes to European Union (EU), while 40% of the EU gas (and 65% of Germany's gas) is sourced in the Russian hydrocarbon reserves of Caspian-Volga basin and eastern Siberia. Before the start of the war in Ukraine, the natural gas was delivered through the Yamal-Europe pipeline through Belarus-Poland and Nord Stream 1 pipeline passing below the Baltic Sea. Despite the warning of a potential economic recession by 2030, Germany, as the main European beneficiary of these Russian exports and the largest European economy announced during the early days of the war, that it will stop its Russian oil imports by end of this year followed by gas supplies.

Currently the Russian oil market is untouched by sanctions. Reports by Centre for Research on Energy and Clean Air (CREA) indicates Russian oil export revenue soared to \$ 98 billion within first 100 days of the Russian invasion of Ukraine. And as per some estimates, the price of crude oil will remain above the \$ 100 per barrel mark as long as the war rages. So, Russian leader, Vladimir Putin, is manipulating the global oil market through the war, insecurities around oil supply is at its peak and global demand is also rising.

Russia is using the EU's dependency on its natural gas as a leverage in this war. Russia's demand to trade oil and natural gas in rubles is to bypass the banking issues imposed due to the sanctions, and weaponising oil and natural gas--not a new strategy for Russia. Its predecessor, the Union of the Soviet Socialist Republics (USSR) attacked Afghanistan after the oil price boom of 1970's. In 2008, Russia attacked Georgia in the pretext of liberating South Ossetia and Abkhazia when oil prices soared to \$ 140/barrel. In 2014, Russian annexation of Crimea was also followed by an increasing trend in oil prices in the global markets. The only way to stop this economic advantage Russia is holding by dictating the hydrocarbon prices in Europe depending on the outcomes of a conflict Russia unilaterally initiated, is to move towards sustainable energy infrastructures. This is not swift or cheap.

As an immediate solution, importing Azerbaijani gas via the Trans-Adriatic Pipeline and the Trans-Anatolian Natural Gas Pipeline (TANAP) through Turkey could be a viable option. Other options are exploring the North Sea gas reserves, supply of gas from Norway and re-opening the vast Groningen gas field despite the land subsidence risks. Or the current US offer to supply 5 billion cubic meters of liquefied natural gas (LNG) to the EU to offset Russian hydrocarbons.

In the long-term, the picture simplifies looking at the renewable energy as the only solution. As one of the world's largest greenhouse gas (GHG) emitters, with a total emission of approximately 2.5 billon metric tonnes of CO2 equivalent, in 2020, Europe must accelerate its transition to renewable energy, as the energy market fluctuations due to the war are increasing and this is the only path to liberate the EU from Russia's energy shackles of Russia. In 2020, EU members consented to a binding agreement to reduce their emission by 55% of 1990 estimates by the deadline of 2030. A long-term recovery package named 'NextGenerationEU' was also introduced. The rapid development of solar, wind and hydrogen-based fuel technology can pave the way towards a renewable transition and research grants have been opened to develop the hydrogen technology (economically viable), which is the closest alternative to the traditional natural gas. This is part of 'Fit for 55' plan to make the EU go green set in 2021. The Russia-Ukraine war has altered hydrocarbon geopolitics and it may impact this energy transition. As Gazprom is reducing the natural gas supply through the Nord-1 pipeline, Germany's only option is to fill its stores for winter and re-open the coal fired thermal power plants that have been closed earlier due to CO2 emission concerns. Hence, the war can significantly slow the renewable energy transition of the EU. As winter descends upon the States of the EU this

year, the paucity of Russian supply can start a chain reaction by increasing energy cost, decreasing the EU's expected economic growth and increasing the risk of unemployment and inflation.

As it is clear by now that, slowly, but surely, Russia will lose the European oil and gas market worth of \$ 108 billion as per estimates from last year, the Kremlin is trying to secure as much market as possible in the East, as business is shrinking fast in the West. The most convenient alternative for the energy giant is to pump in cheap hydrocarbon to China and India.

In 2022, China purchased \$ 7.47 billion worth of oil from Russia, which was more than double the purchase of last year.

India is the third largest consumer of oil, 80% of which is imported. Since February 2022, Russia has become second largest exporter of oil to India just after Iraq with a supply of 0.74 million barrels worth of oil per day. India's oil export from Russia sored from 1% to 18% after the start of the war. In 2021, Russia was 9th in the list of oil importers to India. With sanctions hitting the sales of Ural crude, India is benefitting.

For the moment, Russia is strengthening BRICS (Brazil, Russia, India, China, and South Africa) to foster closer economic ties with these nations and create a potential market for its Ural crude. After the recent BRICS summit, other nations namely Argentina and Iran applied for membership. Several Asian nations are impacted by the aftershocks of the war and the sanctions on Russia. Russian oil tankers are getting less ports to dock and it is facing a disruption of the supply chain to Asia, rising oil prices and cost of other commodities. Singapore imported 5.7% and Thailand-3.3% of oil from Russia in 2019. Russian energy firm Rosneft has 45% ownership in the domestic refinery to be set up by Indonesia's state oil and gas company (Pertamina) which currently has a market value of \$ 13.8 billion. The proposed Russia-China-India (RCI) oil/gas pipeline project can circumvent western sanctions and the Russian energy market can come out unscathed even if the EU limits its gas imports. Russia can also compensate through its military sales. After the invasion, Russia agreed to sell India the S-400 missile defence systems.

In the long-run, this influx of cheap Russian hydrocarbons may prove to be a poison apple, as it will keep on hold any renewable energy plans, as long as economies are performing well enough using fossil fuels. Abandoning the (already) hard transition to renewable energy will mean that the price will be paid by future generations.

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