Traditionally, militaries at war seek to meet their operational energy needs, gain access to energy supplies, and deny energy supplies to their adversaries. However, in the 2020 Armenia–Azerbaijan War, energy played additional central roles. More than any other single factor, threats to energy infrastructure served as the trigger to the reignition of hostilities. The 2020 Armenia–Azerbaijan War took place as the energy map of the South Caucasus, the greater Caspian region and Europe was undergoing significant change. The war broke out on the eve of the commencement of operations of the Southern Gas Corridor, bringing the first new natural gas volumes to Europe in decades. Moreover, energy infrastructure was also “weaponized” during the fighting, as has happened in warfare throughout history. This chapter will analyse the energy factor in the 2020 Armenia-Azerbaijan War and discuss the implications for future warfare. In addition, the chapter will examine post-war regional energy supply changes and potential opportunities for new energy flows and cooperation in the wider South Caucasus region.

Energy—the trigger for war

The first phase of the 2020 Armenia-Azerbaijan War began on July 12 in the Azerbaijani region of Tovuz along the northern section of the international border between Armenia and Azerbaijan. This region is located 300 kilometres north of what was the line of contact between Armenia and Azerbaijan’s forces in the occupied territories. Armenia launched a surprise attack several weeks before Azerbaijan planned to open the commercial operations of the Southern Gas Corridor. This $33 billion mega-natural gas export project was slated to bring the first
new volumes of natural gas to Europe in decades. It was poised to turn Azerbaijan into a major supplier of energy to Europe and provide a new revenue stream, improving Azerbaijan’s strategic position.

In the July 2020 attacks, Armenian troops attempted to gain control of the Qaraqaya Heights in Azerbaijan. The heights are perched above the energy and transit corridor that runs from the Caspian Sea to Europe and includes the Southern Gas Corridor. Armenian control of the heights would have enabled Yerevan to threaten the energy and transit corridor and thus the attacks posed a strategic threat to Azerbaijan. In the attacks, 12 Azerbaijani troops were killed, including an Azerbaijani general, Major General Polad Hashimov. Four Armenian troops were killed in the subsequent counterattack. In parallel with the attacks at Tovuz, Armenian troops shelled Nakhchivan, an Azerbaijani exclave.

Following the attacks, senior Armenian officials said that Armenia’s goal was to make it clear to the EU that “Armenia is the guarantor” of Europe’s energy security. In August 2020, Armenian representatives stated that in light of the July clashes, it had plans to coordinate with the EU’s Directorate General for Energy on the security of supplies to Europe, and that Yerevan planned to claim that the security of the corridor is now in Armenia’s hands. Armenia sought to raise its importance in Brussels through its ability to disrupt gas supplies to Europe, and also threatened Azerbaijan’s extensive investment in the Southern Gas Corridor through adding an element of security risk. Amid such threats to the energy corridor, new investment in its expansion were unlikely. Thus, the July 2020 Armenian attacks risked devaluing the corridor. Yerevan also sought to undermine Azerbaijan receiving strategic benefits as a gas supplier to Europe.

Yerevan chose the timing and location of the attacks in an attempt to create the impression that Armenia has the capacity to disrupt this strategic energy and transit corridor. At the time of these attacks, Elshad Nasirov, Vice-President of SOCAR for Marketing and Investments, stated that “it is not by chance that Armenia launched a military operation against
The Armenian attempt in July 2020 to open new fronts was in line with Armenia’s Defence Minister’s David Tonoyan’s doctrine of “New Wars for New Territories.” Per Tonoyan’s doctrine, Armenia sought to expand the arenas of fighting between Armenia and Azerbaijan in order to deter Azerbaijan from retaking control of occupied Nagorno-Karabakh and surrounding territories. In addition, Armenia’s attempt to gain control of the hills above the Southern Gas Corridor is consistent with its strategy that viewed Azerbaijan’s energy production and export infrastructure as prime military targets. Over the years of the three-decade old conflict, Armenian leaders had threatened to attack Azerbaijan’s oil and gas production and export pipelines and Armenian military exercises frequently simulated such attacks.

The fighting in Tovuz also aimed to expand the scope of the conflict in an effort to draw Russia into the fighting, given Yerevan’s defence pact with Moscow. Russian and CSTO defence obligations to Armenia only cover the territory of the Republic of Armenia and do not extend to the territories of Azerbaijan that Armenia had occupied. Accordingly, war in the occupied territories would not legally trigger Russia’s CSTO obligations, while fighting in Armenian territory could. As stated by Azerbaijan’s foreign policy advisor to President Aliyev, Hikmet Hajiyev:

*It was not coincidental why Tovuz was chosen as a venue to carry out military provocation against Azerbaijan in July 12-16, 2020. Tovuz is situated on the international border between Armenia and Azerbaijan, not along the Line of Contact, and hosts energy and infrastructure projects nearby. The Baku–Tbilisi–Supsa and BTC oil pipelines, and the Southern Caucasus pipeline, an important chain in the multimillion megaproject the Southern Gas Corridor (SGC), pass close by the Tovuz area. The intention of Armenia to engage third parties in the war against Azerbaijan and demolish the latter’s critical energy infrastructure was*
By opening a new front and attempting to neutralise Azerbaijan’s emerging role as an energy provider to Europe and deny new revenues to Baku, Armenia set the stage for the emergence of full-scale war in late September 2020. Through the attacks in Tovuz, Yerevan had created a *casus belli*, similar to Egypt’s closing of the Straits of Tiran to Israeli ships in 1967. The new strategic reality that emerged in July 2020 with the opening of two additional fronts with Armenia and a threat overhanging the strategically important energy and transport corridor to the West was untenable.

**Attacks on pipelines**

In retrospect, the July 2020 Tovuz attacks were the first phase of the Second Armenia-Azerbaijan War. In the second phase of the war beginning September 27, 2020, Armenian threats to energy pipelines continued. In October 2020, Armenia fired missiles that landed within 10 meters of the Baku-Tbilisi-Ceyhan (BTC) oil pipeline, near the Azerbaijani city of Yevlax. Despite the attempts, the missile attacks did not disrupt the operations of the BTC of other nearby pipelines. The 2020 Armenia-Azerbaijan War was not the first time that Armenia threatened or attempted to attack Azerbaijan’s energy production and export infrastructure. Similar threats were made, for instance, during the April 2016 clashes between Armenia and Azerbaijan. Former Armenian president Serzh Sargsyan criticized Prime Minister Nikol Pashinyan for not using the sophisticated Iskandar missiles in Armenia’s arsenal to attack the pipelines, saying “in the end, why did we buy these missiles? Not to use them at the right time? The Iskanders are ours, and we are the only ones to whom the ally [Russia] gave such weapons. And we didn’t use them.” While they were not used to attack the pipeline corridor, Armenia did fire the Iskandar missiles on Azerbaijani troops in Shusha toward the end of the fall 2020 war.
The weaponization of energy infrastructure

The Second Armenia-Azerbaijan War featured several elements of hybrid warfare, including the intentional targeting of civilian populations (such as the Armenian missile attacks on the Azerbaijani cities of Barda and Ganja), and extensive media and disinformation campaigns. As part of this hybrid warfare, Armenia and Azerbaijan both threatened to “weaponize” energy infrastructure in each other’s state and unleash mass civilian casualties. For its part, Armenia attempted to make good on its threat with its targeting of the Mingachevir hydropower station. In weaponizing energy infrastructure, the goal is not just to disrupt energy supplies but to create significant damage and potentially loss of life through attacks on pipelines, power plants, grids and other energy infrastructure elements. As part of this policy, Armenia threatened to attack the Mingachevir hydropower, which would have led to massive flooding in addition to crippling Azerbaijan’s electricity supplies. Baku, in turn, threatened that if the Mingachevir plant was attacked, it could respond by attacking Armenia’s Metsamor nuclear power plant, although a senior Azerbaijani official later walked back this threat.

Armenia’s threats to the Mingachevir hydropower station

Historically, there have been several instances of armies using intentional flooding as a military tactic, including both the Allied and Axis powers during World War II. Chinese forces intentionally flooded the Yellow River in their war with Japan in 1938, leading to hundreds of thousands of deaths and the displacement of millions more. In the Iran-Iraq War, each side used intentional flooding to deny access to battle zones. Concerns continue that ISIS and other terrorist groups could attack the Mosul Dam to flood areas in Iraq. For decades, Armenia has threatened to attack the Mingachevir hydropower station in Azerbaijan not only to disable Azerbaijan’s primary source of electricity, but also to cause massive flooding. A successful attack on the facility that released high volumes of water would result in significant casualties and make it impossible to live in vast areas of the country or cultivate large swathes
of farmland. It would also hinder operation of the east-west energy and transportation corridor that runs close to the Mingachevir region.

Following clashes between Armenia and Azerbaijan in 2014, Armenian Defence Minister Seyran Oganyan threatened an attack on the Mingachevir Dam. These threats were renewed in July 2020. Right after the beginning of the second phase of the war, a representative of Armenia’s Ministry of Defence threatened to use SU-30 fighter jets and Iskandar ballistic missiles to attack the dam. During the second stage of the 2020 war, Armenia made good on its threat and fired four “Tochka U” short-range missiles at Mingachevir according to Hikmet Hajiyev. The missiles missed the dam, but the shot made clear that Armenia was willing to attack the dam and potentially cause massive flooding in Azerbaijan. Accordingly, during the war the Azerbaijani government lowered the water level at Mingachevir and several other hydropower plants in Azerbaijan.

**Azerbaijan’s threat to the Metsamor nuclear power plant**

In July 2020, Azerbaijani Deputy Defence Ministry Spokesman Colonel Vagif Dargahli, said in response to the Armenian threat to attack the Mingachevir dam:

*This attack is impossible [on the Mingachevir Dam] due to the relief of the territory where this strategic facility is located, the fortifications, as well as the Azerbaijani Air Forces’ modern air defence systems[...] Armenia must not forget that the latest missile systems in the arsenal of the Azerbaijani army can target and launch an attack on its Metsamor nuclear power plant, which may lead to a major disaster for Armenia.*

Armenia’s nuclear power plant is located only 35 kilometres from Yerevan, and 16 kilometres from the Turkish city Iğdır. An attack on Metsamor would not only expose the people of Iğdır to danger, but also the wider region, including Turkey, Georgia and Azerbaijan itself. Thus, this was not a credible threat. Hikmet Hajiyev, later walked back the threat to Metsamor, stating that the defence ministry spokesman had
made an unauthorised statement and that Azerbaijan had no intention of attacking the Metsamor Nuclear Power Plant or any other civilian infrastructure in Armenia: “During the latest provocations different misinformation was spread [...] Azerbaijan does not have the policy to target any critical strategical facilities.”18 However, it was clear that in the 2020 Armenia-Azerbaijan War that energy infrastructure was viewed not only as a potential target but also effectively as potential weapons that could be leveraged to deter the adversary. Azerbaijan drew lessons and has undertaken steps to strengthen defence of the country’s energy infrastructure, including the Mingachevir dam.

Energy trade post-war

The war’s outcome has affected energy flows in the wider Caspian region. First, the results of the war strengthened the security of Azerbaijan’s energy export pipelines. Armenia’s defeat removed the threat to Azerbaijan’s oil and natural gas pipelines and full operation of the Southern Gas Corridor began on schedule in December 2020, when Azerbaijani gas reached Europe for the first time. Most of the major players are striving for a post-war regional architecture that will enable new regional cooperation, including common roads and rail transit, the opening of borders, and potentially new energy flows.19 Russia, Turkey and Azerbaijan all support the establishment of regional transportation routes and Armenia seems to be moving toward accepting them for the benefits it would provide for the country. Russia has been especially active in promoting the establishment of new regional transportation routes in the greater South Caucasus region. Russia and Armenia - its major ally in the region - do not share a land border. Thus, Russia has had to transport supplies to Armenia and Russian troops stationed there through Georgia and Iran. By opening new routes, Russia aims to form new road and rail connections to Armenia and Iran and to weaken Georgia’s regional transportation near monopoly.

Russia has shown that it is willing to use both carrots and sticks to convince Armenia to accept new regional transport links through
its territory. For example, Moscow appeared to threaten gas supply disruptions to Armenia in order to coerce Yerevan into joining the proposed regional transportation projects. Following the war, Prime Minister Pashinyan had not committed to joining the regional projects, especially in light of widespread domestic opposition to Armenia’s participation. However, on March 17, 2021, Gazprom announced that its gas supplies to Armenia would be halted for several weeks due to maintenance on a gas supply pipeline in Russia that supplies Armenia.20 In its place, Gazprom reached an agreement with Azerbaijan’s state oil company, SOCAR, for a gas swap, in which Gazprom supplied gas to Azerbaijan, which in turn increased gas supplies to Georgia and Tbilisi supplied additional gas to Armenia. The Russian official press, including TASS, went out of the way to portray the swap as being “supplies from Azerbaijan”, with the likely goal of putting pressure on Armenia.21 Two days after this announcement, Pashinyan suddenly announced a change of heart: he now saw the regional transport projects as being in Armenia’s interest and would support Armenian participation.22 The gas swap was conducted for a month until the resumption of Russian supplies to Armenia in late April.

In the past, Gazprom has halted gas supplies to Armenia for pipeline maintenance, however, most of these disruptions only lasted several days. Moreover, Moscow never previously announced that supplies from Azerbaijan would be substituted for Russian supplies. It thus seems likely that the moves were aimed at pressuring Armenia to accept Moscow’s regional transportation vision. It is unlikely that Armenia will want to import gas supplies from Azerbaijan or through Turkey in the initial post-war period, with emotions still running high. However, over time, Armenia may want to diversify its gas sources and join regional energy infrastructure projects. In the meantime, new road and rail interconnections would create new and diverse oil and coal supply options for Armenia, improving the country’s energy security. New regional road and rail transport links connecting Armenia to Azerbaijan and Turkey would enable Armenia to import more diverse
energy supplies, such as coal and oil, via Turkey. Coal and oil are easy to stockpile and thus can backup Armenia’s gas network. It is likely that Yerevan will seek to take advantage of these new transport options to diversify its oil imports. Yerevan could also use the new routes for importing coal if Armenia decides to establish coal fired power generation in place of its aging nuclear power plant. It could also use coal to back up natural gas generation in Armenia through dual-fuel power plants that can transfer from running on natural gas to oil or coal, if there is a supply disruption to natural gas flows.

**An end to the Metsamor nuclear plant threat?**

The emerging regional post-war transportation interconnection would enable Armenia’s access to new energy sources that could allow Yerevan to close the Metsamor nuclear power plant and therefore remove the danger it poses to Armenia, its neighbours and southern Europe. One of the most substantial threats to safety and security in the South Caucasus is Armenia’s nuclear power plant at Metsamor. Metsamor is a Soviet era nuclear power plant and is one of five of the last operating reactors without a containment vessel, a requirement of all modern reactors. The remaining reactors without a containment vessel are located in Russia. Metsamor is located in a major seismic zone. The plant’s operating license was planned to end in 2016, however, it was subsequently extended to 2021. In November 2020, Yerevan announced its intention to extend operations of the nuclear power plant even longer. Since the late 1990s, the EU has repeatedly called upon Armenia to close Metsamor and even granted it funds to find alternative energy sources. In all of Armenia’s cooperation agreements signed with the EU, Yerevan has committed to close the Metsamor plant, however, has yet to take any concrete steps in this direction. In November 2020, Armenia announced plans to close the plant for five months for repairs and upgrades that could extend its operation. However, Armenian officials have acknowledged that they have not identified a design concept for extension of the plant’s operation or funding for
the repairs. With new post-war options for additional trade routes to Armenia, conditions may have emerged that will enable Metsamor’s closure, a common interest of Europe, neighbouring states, such as Turkey, Azerbaijan and Georgia, and ultimately Armenians themselves.

**Energy in the liberated territories**

Following demining and identification and removal of hazardous materials, Azerbaijan plans to establish regular energy supplies to the liberated territories. Conventional electricity and gas supply lines will be strengthened and re-established in the liberated territories. At the same time, President Ilham Aliyev has expressed his determination that green and renewable energy should play a prominent role in the new infrastructure of the region and has invited foreign governments to invest in green energy projects. Several hydroelectric power plants are operating in the liberated territories and some will be integrated into the new energy infrastructure systems. One of the most controversial hydropower projects operating in the liberated territories is the Khudafarin and Qiz Qalasi power plant complex near the Iran-Azerbaijan border on the Araz River in close proximity to the Khudafarin Bridge in the region of Jebrayil. These were established and run jointly run by Iranian authorities and the Armenian occupation forces. Following the war and Azerbaijan’s regaining of control of the Jebrayil region, the project was transferred to joint management by Iran and Azerbaijan.

**Lessons Learned**

Policy makers in the US and Europe often envision energy trade as a tool to build peace and cooperation between states, as was suggested following the natural gas discoveries in the Eastern Mediterranean from 2009 to 2011. However, in reality, energy trade does not lead to peace. In fact, the causal arrow points in the opposite direction: peace can create conditions for energy trade. Pipelines do not lead to peace, but peace can create the opportunity for pipelines. In fact, data shows that in places where there are significant volumes of oil and natural gas, there is a higher propensity for war. Thus, a strong argument can be made
that the trigger for war was the planned opening of the Southern Gas Corridor and Armenia’s desire to deprive Azerbaijan of the subsequent strategic benefits of natural gas exports to Europe.

The Second Armenia-Azerbaijan War also provided valuable lessons to military planners and strategists. The war marked the first full-scale interstate war of the twenty-first century and demonstrated the use of new weapons, strategies, and tactics. Western (Turkey/NATO and Israeli) weapons systems squared off against Russian and the Western systems unquestionably prevailed.

The conflict also witnessed the extensive use of hybrid warfare. The hybrid elements included: Armenia’s intentional targeting of civilian populations outside the war zone, and the active media campaigns of both sides, including Azerbaijan limiting domestic use of the internet in order to prevent Armenia’s disinformation campaigns from affecting the population and prevent leakage of classified information.

The hybrid warfare also included several elements connected to energy. These include Armenia’s attempts to threaten Azerbaijan’s oil and natural gas export pipelines. Both sides also threatened to turn parts of their respective power generation systems against the other. While targeting power generation and intentional flooding are not new to warfare, threats and attacks on major energy infrastructure pieces – such as dams and nuclear power plants—are an indication that, from now on, the weaponization of energy infrastructure is likely to play a major role in contemporary hybrid warfare and should be studied further. Moreover, the threats and attacks on the Mingachevir Dam are a reminder to military planners and strategists that intentional flooding is still a threat and that, consequently, they need to continue to devise mechanisms to neutralise these threats. The case of the threats to Mingachevir Dam is thus likely to generate strong interest in development and deployment of air defence systems for dams and other critical energy infrastructure. Military planners need to continue to develop doctrine and means to protect major energy infrastructure,
which will serve as a target in future wars. Azerbaijan seems likely to acquire Iron-dome or comparable air defence systems for the protection of elements of its energy infrastructure. Deployment of systems of this type to protect energy infrastructure is likely to become more prevalent in combat zones around the globe. While Armenia launched physical attacks aimed at gaining control of or weaponizing energy infrastructure in Azerbaijan, in future warfare, this is just as likely to be done through cyber-attacks, as modern energy infrastructure is all managed by cyber systems. Thus, increased cyber-attacks on energy infrastructure is anticipated.

While energy trade does not bring peace to belligerent neighbours, peace can facilitate energy trade. As the South Caucasus transitions in the post-war period, new energy flows are likely to emerge, at least with regards to the transportation of oil and coal. Additional access to energy supplies could help Armenia find the confidence to close the Metsamor nuclear power plant. Closing this dangerous plant would not only contribute to regional trust and security with Armenia’s neighbours, but to the security of the people of Armenia as well.
Notes


bp-works-on-reinforcing-security-at-azerbaijan-facilities-idUSKBN26S27U


15 Ibid.


19 Ibid.

20 Gazprom’s temporary suspension of natural gas supplies to Armenia took place parallel to the closing in early 2021 of Armenia’s nuclear power plant for extensive maintenance and upgrades.
21 “Газпром” во время ремонта газопровода будет поставлять газ в Армению через Азербайджан,” TASS (Russia), March 17, 2021. (https://tass.ru/ekonomika/10923315/)


24 The Armenian nuclear power plant at Metsamor was closed in 1989 following the massive Spitak 1988 earthquake. In 1995, following the independence of Armenia, Yerevan restarted Metsamor Unit 2, with Russian funding and technicians.


