

The IS and Attacks on the Oil and Gas Sector in Iraq¹

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Attacks on energy sectors are an important part of the strategy of Islamist militant and terrorist organisations such as Al Qaeda and its offshoots or the Taliban. In connection with this, this article focuses on the attitude of the global Islamist terrorist group the Islamic State (IS) with regard to terrorism, specifically targeting oil and gas sectors as a political instrument of its strategy in the Middle East and North Africa. The main aim of this paper is to describe and analyse the forms, goals and motives of the IS terrorist attacks on the oil and gas industry and the accompanying criminal activities conducted by the IS in Iraq, some examples of these attacks, and their possible impact on energy security. At the theoretical level, the article is based on the concept of terrorist attacks on energy sectors. On the methodological level, the paper is based on the case study method.

Keywords: Islamic State, oil, gas, Iraq, attack on the energy sector, energy security

Introduction

The Islamic State (IS) or Daesh is a Salafi jihadist militant group originating in Iraq that follows the Wahhabi doctrine. Initially (1999–2004) the group that eventually became the IS functioned under the name Jama'at al-Tawhid wal-Jihad (Organization for Monotheism and Jihad). This group was founded in Jordan in 1999 and was led by Abu Musab al-Zarqawi. Following the 2003 invasion of Iraq by the U.S. forces and their Western allies, al-Zarqawi's strategy² 'was to draw the US into an exhaustive and long-lasting conflict which would damage its image



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as a superpower. To that end, he planned to instigate a spiral of sectarian violence between the Sunni and the Shias. Zarqawi hated the Shias and perceived them as traitors and infidels.³ In October 2004, when al-Zarqawi swore loyalty to Osama bin Laden and al-Qaeda, he renamed the group, and it was then commonly known as al-Qaeda in Iraq (AQI, 2004–06).⁴ ‘The group targeted Coalition and Iraqi forces and civilians in order to pressure foreigners to leave Iraq, reduce the Iraqi popular support for the US and the Iraqi Government, and attract new recruits’⁵

After the death of al-Zarqawi in 2006, when his house was the target of American air raids, command of the group was taken over by Abu Omar al-Qurashi al-Baghdadi. With the unification of AQI with six other Sunni groups in Iraq, he made major contributions to the formation of the Islamic State of Iraq (ISI, 2006–13).⁶ In 2010, Abu Omar al-Qurashi al-Baghdadi died in a US-Iraqi operation, and Abu Bakr al-Baghdadi took power in his place. When the civil war in Syria started in 2011, the ISI fought against Syrian forces and gained ground throughout the region. In 2013, al-Baghdadi renamed the organization the Islamic State in Iraq and the Levant (ISIL) or, alternatively, the Islamic State in Iraq and Syria (ISIS), thus starting its incursions into Syria. Since early 2014, ISIS has been conducting operations in Iraq as well.⁷ At first the IS took a part of Anbar with the cities of Ramadi and Fallujah, and in mid-June 2014, Mosul and Tikrit and other towns in the north of Iraq were also captured by the IS after its fighting with the demoralized and poorly trained Iraqi army. On 29 June 2014, ISIS declared its conquered territories in Iraq and Syria to be a caliphate, and it changed its name to the Islamic State.⁸

The aggressive behaviour of the IS has been the subject of many articles and monographs⁹, and it is hard to find an aspect of this security threat which has not been sufficiently studied. Nevertheless, it is still possible to make further contributions to this field of research. This article offers a profound analysis of IS terrorist attacks specifically targeting energy sectors¹⁰ in the Middle East as a strategic and political instrument in 2014–17. The main focus will be on IS energy-related terrorist attacks in Iraq. Although the IS suffered a number of territorial losses in both Iraq and Syria in 2016–17 – especially Mosul, its largest city in Iraq, and the Syrian town of Raqqa as the “capital” of the IS – and has been severely weakened, the IS fighters retained their military strength and

are ready to conduct further terrorist attacks on the energy sectors of Iraq¹¹, which can cause serious damage and jeopardize energy security.¹²

In connection with this, the main goal of the article is to describe and analyse the forms, goals, and motives of the terrorist attacks on the oil and gas industry and infrastructure conducted by the IS in Iraq, some examples of these attacks, and their possible impact on energy security. This article should contribute to the general understanding of the issue of energy-related terrorist attacks and show in detail the energy strategy and the related fighting methods of the IS in Iraq, which the IS will eventually try to transfer to Europe and the USA.

The first part of the article defines terrorism and the problem of terrorist attacks targeting the energy industry. These definitions provide the main theoretical framework of the article. The second part analyses the importance of the energy issue and terrorist activities targeting the energy industry and infrastructure in the strategy of the IS. The third part describes the methodology, or more specifically, the main method of the attacks, and some select examples of IS energy-related terrorist attacks in Iraq. The fourth part then provides specific examples of IS terrorist attacks aimed at oil and gas sectors and other illegal activities of the IS in Iraq.

Terrorism and terrorist attacks targeting energy sectors

There is currently no generally accepted definition of terrorism. On the contrary, there are endless debates about the types of behaviour that may be included under the term of terrorism and those that do not belong in the concept.¹³

The Definition of Terrorism

To give an example of a definition of terrorism, the Department of Defence of the United States of America defines terrorism as the 'unlawful use of violence or threat of violence, often motivated by religious, political, or other ideological beliefs, to instil fear and coerce governments or societies in pursuit of goals that are usually political'.¹⁴ Paul Pillar, a former deputy director at the CIA's Counterterrorist Centre, lists four basic features of terrorism: (1) premeditation and long-term, deliberate preparation; (2) motives which are always political in character (to change the status quo) and never criminal; (3) attacks on civilian targets; and (4) terrorist operations that are not conducted by regular armies but by subnational groups or organizations.¹⁵

In November 2001 the European Parliament defined terrorism to include acts that 'are intentionally committed by an individual or a group against one or more countries, their institutions or people with the aim of intimidating them and seriously altering or destroying the fundamental freedoms, democracy, respect for human rights, civil liberties and rule of law on which our societies are based [...]'¹⁶ Pascal Boniface, the director of the Institute of International and Strategic Relations in Paris, states that 'terrorism is an indirect strategy focused on intimidating Western countries while avoiding the threat of war and attempting to reduce the chance of discovery [of the proponents of terrorist acts – author's note] as much as possible'.¹⁷

Another interesting definition is provided by the UN in Resolution number 1373 (2001), which denounced the terrorist attacks of 11 September 2001 in the harshest of terms and described them as a threat to international peace and security. Three years later, the UN Security Council (UNSC) issued Resolution number 1566 (2004), which characterized terrorism as an especially dangerous phenomenon conducted 'with the purpose to provoke a state of terror in the general public [...], intimidate a population or compel a government or an international organization to do or to abstain from doing any act [...]'.¹⁸

Looking at all the various definitions of terrorism and what they have in common, it could be said that terrorism is the blind, undifferentiated, politically motivated killing of a defenceless civilian population. Terrorists commit mass murder of civilians who are unfortunate enough to be in the wrong place at the wrong time. The high fatality counts are a tool through which the terrorists influence the afflicted society and its top political representatives. This article, in full accordance with UN SC Resolution 1566 (2004), thus defines terrorism as premeditated, politically motivated violence which is perpetrated specifically against non-combatant targets with the aim to influence a local or international audience.¹⁹

In this context, terrorism can be conceptualized as a violent language of communication. 'Violence always demands attention – owing its life-threatening character – and impresses those at the receiving end as well as immediate and secondary witnesses. Communicative theories of terrorism focus on the persuasive and dissuasive effects of terminal violence or conditional violent intimidation of one group on various other witnessing audiences as well as the role of mass media in this signalling process'.²⁰ Similarly, according to Jan Eichler terrorism

as a security relations phenomenon is an extreme form of communication with the public which has four main elements: (1) the transmitter of the message, which is always the individual terrorist or terrorist group; (2) the target, which is the dead and wounded people who had the bad fortune to be in the wrong place at the wrong time; (3) the message, which is always addressed to the policy makers of the afflicted states; and (4) the feedback of the terror target, which is the result of political evaluation.²¹ The relations between these four elements are guided by one basic principle: the addressee of the message, that is, the object of the extortion and terror, is not the victim of the terrorist attack. The damage caused deliberately by the terrorists is never self-serving but always instrumental. Every dead or crippled person, and every financial loss that is a result of the attack is a message and an instrument of indirect pressure on leading political representatives, who are expected to either do what the terrorists want or stop doing what the terrorists do not like.²²

The communicational aspect of terror represents a major tool for analysing the goals and motives of an individual attack or the threat thereof by the IS, which targets energy sectors and engages in related criminal activity. Every terrorist attack on an energy sector has a goal and a motive, and its implementation and realization send a clear message from the given terrorist organisation both to the political functionaries of the afflicted state and to the political representatives of Western countries in general.

Terrorist attacks on energy sectors

According to Ali Koknar, the concept of terrorism targeting energy sectors is not strictly limited to armed attacks on power plants, oil and gas infrastructure, or refineries.²³ This concept also includes other illegal activities aimed at such facilities, such as the theft of oil or gas from pipelines, extortion, or the funding and support of groups that conduct the aforementioned attacks. In general, it may be said that energy-related terrorism is a criminal activity that causes significant losses aimed at energy facilities. In connection with this, Tamara Makarenko divides energy-related terrorist attacks into seven categories of different degrees of threat to various parties in the industry.²⁴

The first, most common form of attack by virtue of its immediate effect and the instability it causes, is bomb attacks on fuel pipelines,

which can also cause major damage to the national economy and threaten to cause a loss of lives. This type of attack is part of the tactics used by various guerrilla groups in civil wars, especially in Latin America, but also by terrorist organisations in the area of the Middle East and North Africa (MENA). The second form, which is an inseparable part of these pipeline attacks, consists of the sabotage of oil and gas lines. These attacks' primary purpose is to cause losses to the national economy. Although sabotages are not very common from a historical perspective, there is reason to presume that this type of operation is becoming more popular with terrorist groups. Energy-related sabotages are conducted for three main reasons: (1) to steal oil and subsequently sell it on the black market; (2) to distract attention without loss of life; and (3) to exert subliminal political pressure or provoke corporate concessions.²⁵

The third form is attacks on the offices of oil companies. Yet until recently such attacks were rather limited both in scope and in the number of human casualties caused by them. Such attacks were mostly symbolic and committed for reasons of propaganda. The fourth form – attacks on oil depots, petrol pumps, or refineries – is even less frequent than bomb attacks on offices and management. Considering the security level of such facilities (apart from petrol pumps), such targets are extremely difficult to penetrate and offer only a minimal chance of success. Nonetheless, it would be naive to think that such attacks do not take place at all, as in extreme cases, such assaults have been conducted by both various separatist groups and frustrated national armies (for the latter, they were usually last-ditch solutions).²⁶

The fifth form consists of raiding or hijacking energy facilities and taking hostages. Such operations are not a common tactic of terrorist groups due to the relatively high level of security present at the facilities. Although such attacks tend to be connected to local groups, these operations are conducted by both left-wing and right-wing terrorist organisations, which are usually motivated by the promise of both ransom money and publicity. The sixth and most lethal form of attack on an energy sector, as far as potential civilian casualties are concerned, is a direct military assault on the staff of oil facilities or gas processing plants. The last, increasingly frequent form of energy terrorism consists of kidnapping the employees of oil and gas companies. Considering the ease of execution of such operations, kidnapping for ransom money is a frequent tactic for three main reasons. First, it is a source of

funds; second, it serves as a protest against the corporate tactics of energy companies; and third, it serves to hamper and prevent the surveying and development of oil fields – thus causing considerable damage to the given country's finances.²⁷

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Terrorist attacks targeting energy sectors present a great threat to energy security in any location that is or could be subject to such attacks, while the possible economic consequences are potentially devastating with regard to the targets of these attacks, such as pipelines, depots, tankers, staff, refineries, LNG and oil terminals, etc. The vulnerability of this transport infrastructure means that any stoppage of supply or production can have a severe impact on economies that are dependent on energy resources.

The basis of terrorism targeting energy sectors consists of attacks on the energy infrastructure and industry, including power plants, power grids, refineries, and oil and gas fields, but it also includes other illegal activities connected to these attacks which aim to destabilize the government or the region.²⁸ Apart from actually contributing to political and economic instability, energy-related attacks may be intended as a show of resistance to national governments and also as a means of putting pressure on foreign powers and international corporations that have a strategic interest in countries producing oil and gas. That is, terrorist attacks on energy sectors may in some cases be an important part of a terrorist organization's strategy for fighting foreign powers.²⁹ Furthermore, it is becoming increasingly frequent for terrorists to target pipelines as a means of obtaining economic resources to finance further terrorist operations, or as a means of increasing their influence among other groups vying for control of the given area.³⁰

The importance of energy and attacks on energy sectors for the IS

Energy and energy-related attacks have a special place in the IS strategy, as the energy interests of the IS are, first, the effective use of currently existing oil and gas fields within Syria and Iraq and their expansion (for example, into Libya); second, increasing oil and gas production to provide funding for the organisation through sales of these resources; and third, taking control of new oil and gas fields and attacking the fuel transport infrastructure to punish and economically damage the West and other enemies of the IS. The IS's energy strategy sees oil and, to a limited degree, also gas as the main pillars for its vision. At the same

time, the IS's shura (council) identified oil (and gas) as a key instrument for the survival of the uprising and, more importantly, as a tool for financing its ambitions of creating and expanding the caliphate.³¹

The central role of energy, mainly oil and gas, is reflected in the power structure of the IS. Although the leader of the IS, al-Baghdadi, showed a willingness to delegate certain responsibilities to his subordinates and thus relied largely on his regional governors (walis), who administer their territories according to rulings decided by the central shura – an approach that makes the IS strongly decentralised with regard to the territories it controls – quite the opposite is true in the case of mineral resources. Oil and gas, together with military and religious operations and the organisation's sophisticated media presence, are controlled directly by the high command, which is the only IS authority in this matter.³²

The main interest of the energy strategy of the IS, which is trying to launch its own oil industry that would be similar to national and international oil corporations, is the endeavour to make the greatest possible use of the wealth of energy resources in its territories, which represent a stable and reliable source of income. This strategic vision was clear from the very start, when (initially) ISIS and later the IS took control of parts of Iraq and Syria and consequently gained access to a number of Syrian and Iraqi oil deposits and gas fields. Over the course of 2014 the IS took control of more than 60 percent of the Syrian oil production and slightly less than 10 percent of the Iraqi oil production.³³ American government estimates claim that the oil transactions in that period generated about \$2m–\$4m per day for the IS.³⁴

Nonetheless, in 2015, air strikes by the U.S., Russia, and their allies on the infrastructure, smuggling routes, and oil and gas facilities of the captured territories resulted in the recapturing of some of the oil and gas fields held by the IS and a reduction in the oil and gas production.³⁵ However, the IS still retained a number of gas and oil fields in both Iraq and Syria in 2015-2016, chiefly in eastern Syria and north-eastern Iraq.³⁶ In 2016, the IS controlled less than 10 oil fields with a total production capacity of about 16,000 - 20,000 barrels of oil per day (bpd), and the financial revenues from their oil sales decreased to \$0.5m per day.³⁷ The IS oil production also fell sharply in the first half of 2017 and according to the IHS Conflict Monitor, the IS's average monthly oil revenue in Iraq and Syria at the time was down some 88 percent from the 2015

figure in the first half of 2017³⁸, which meant that it was approximately \$0.13m per day.³⁹ Table No. 1 lists the numbers of IS oil fields, their production capacities, and the revenues from the oil sales for each year between 2014 and 2017.

Table 1: A year-by-year comparison of the figures for IS oil fields, oil production, and revenues from oil sales for the period 2014-2017

Criteria	Years			
	2014	2015	2016	2017
The number of IS oil fields	20 - 25 oil fields	10-11 oil fields	less than 10 oil fields	initially approx. 8 oil fields / several smaller oil fields with dozens of oil wells at the end of the year
The IS oil production capacity in barrels per day (bpd)	56,000 - 80,000 (120,000) bpd	30,000 - 35,000 (40,000) bpd	16,000 - 20,000 (25,000) bpd	Initially 5,000 – 10,000 bpd / only hundreds of bpd at the end of the year
The IS oil revenues per year in US dollars	\$730–1,460m per year	\$400 – 500m per year	\$150 – 250m per year	\$48m per year

Source: compiled by the author⁴⁰

The energy strategy of the IS, which focuses on attacks on energy sectors, has three directions. First, IS fighters assault oil and gas fields, pipelines, and energy facilities in order to try to take control of them, with the main purpose of acquiring these resources being to help fund the terrorist organization. Second, jihadists of the IS attack energy targets with the aim of damaging the energy industry of the given country, and their main motives for these activities can be (1) to stop the supply of oil and gas to Western countries, thereby damaging their economies; (2) to limit the supply of these resources, thereby increasing the price of oil; and even (3) to use their burning of some oil and/or gas fields as a delay tactic to cover their retreat. Third, IS fighters attack energy sectors, take hostages and/or kidnap employees of Western companies with the aim of destabilising and weakening their enemies' economy and punishing them, obtaining ransom money or bringing attention to themselves or their organisation. However, the main motive is usually to damage the credibility of a specific state, as such attacks might show that it is not able to ensure its internal security.⁴¹

Methodology and select examples of IS terrorist attacks on oil and gas sectors

On the methodological level, the article is based on the case study method, which is understood to mean a detailed analysis of the case that was chosen as the subject of the research. Its aim is to provide a profound comprehension or causal explanation of the case.⁴² Its advantages are the depth of analysis it offers to every researcher and that it encompasses a relatively large amount of facts and endeavours to facilitate their complete evaluation. This treatise understands a “case” of a terrorist attack to mean a specific type and form of terrorist activity or an attack on an energy sector with the condition that the case study then frames the overall terrorist activities, i.e. energy-related attacks, together with the related criminal activities of the IS in Iraq in 2014-17.

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The oil and gas-related terrorism that is conducted by the IS in Iraq is influenced by several factors. Firstly, Iraq is a very rich country in terms of oil and gas. Iraq holds nine percent of the world oil reserves and two percent of the global gas reserves, and is the second-largest petroleum producer and member of the Organization of Petroleum Exporting Countries (OPEC) after Saudi Arabia. Secondly, the economy of Iraq is highly dependent on exports and sales of minerals. Crude oil export revenue accounts for 93 percent of its total government revenues.⁴³ Thirdly, Iraq has long been dealing with the consequences of a military intervention, which creates a situation in which the IS can realise terrorist attacks targeting the energy sector more easily. In other words, the energy potential of Iraq, as well as its economic dependence and hence its strong vulnerability to various shocks affecting oil production and exports, are well understood by the IS, for which the energy issue is an important part of its strategy. These are major reasons for the IS operating in Iraq.

The main sources for our analysis of the IS terrorist attacks on the Iraqi energy sector are the Global Terrorism Database (GTD), the Global Incident Map (GIM), and the set of research literature prepared by the Institute of International Relations Prague on the given topic, which contains approximately 120 pages and includes descriptions of energy-related terrorists attacks by the IS in Iraq in the period from 2014 to 2017. The various forms of IS terrorist attacks targeting the energy industry and the related illegal activities perpetrated by the IS which are described in the following text only represent a sample of such cases, but the aim of the sample is to help us to understand the

goals and motives of the terrorist activities of the IS in Iraq. At the same time, the individual forms and shapes of the terrorist attacks and their goals and motives that are presented here are derived from specific examples of IS attacks targeted at the energy sector. The next sections will provide specific examples of such IS terrorist attacks and their accompanying criminal activities, and also discuss the main goals and motives of the IS in carrying out such attacks in Iraq.

Iraq

Since the IS made international headlines by invading Iraq from Syria in June of 2014, its territory has shrunk considerably. The IS's caliphate spanned an estimated 36,200 km² in June 2017. This marks a 40 percent reduction in its territory since the start of 2017, and a 60 percent reduction overall since our first estimate of its size in January 2015, when the jihadist group controlled 90,800 km² in Iraq and Syria. At the same time, the IS has lost all of its major urban strongholds in Iraq.⁴⁴ In 2017, the IS was present in the Hamrin Mountain region, which stretches from Kirkuk and Saladin - in which Tuz Khurmatu is located - to the Diyala province and the Iranian border.

In 2014-2017, the IS attacked oil and gas fields, oil refineries, and gas processing plants in Iraq for at least two reasons. Firstly, the IS attempted to control Iraq's energy sector. Secondly, it attempted to damage the energy sector and destabilise the enemy. In addition, IS fighters ignited Iraqi oil wells as a cover manoeuvre when they were in retreat before the advancing Iraqi army.

Terrorist attacks with the aim of taking control of the energy sector

Whereas in 2014 the IS succeeded in gaining control of approximately thirty oil fields in the vicinity of Nineveh, Anbar, Saladin, and Kirkuk with an overall capacity of about 60,000 bpd, in the first half of 2016 the IS only controlled a few oil fields, mainly the Qayyara oil field in northern Iraq with a total capacity of 8,000-10,000 bpd and Najma with a total capacity of 5,000 bpd.⁴⁵ In an attempt to regain control of some of the other Iraqi oil fields, IS fighters staged an unsuccessful assault on the Alas and Ogail fields in the Saladin Governorate in early February 2016. In mid-March 2016 a group of 150 IS jihadists attacked the Ajil and Alas oil fields but were repelled. Later in the same month the IS attacked Kurdish and Iraqi forces in the town of Makhmur, which lies just 120 km from oil-rich Kirkuk. However, with the help

of US Marines stationed in Iraq, the Iraqi army managed to resist such assaults and successfully protect the country's energy infrastructure.⁴⁶

The Iraqi army also fought heated battles with the IS throughout the 2014–15 period for the oil refinery in Baiji with a production of approximately 300,000 barrels of refined oil products per day, which satisfies 50 percent of the country's oil consumption. The IS assaulted the Baiji refinery on 18 June 2014 and gained control of most of it some two days later. The Iraqi army then retook Baiji and its oil refinery in a series of battles that culminated on 16 October 2015.⁴⁷

Additionally, in late March 2016, the Iraqi army's Operation Fatah was launched against the IS in order to oust the remainder of the radicals from the two-million city of Mosul and recapture the northern Iraqi town of Qayyara along with the two surrounding oilfields – Qayyara and Najma. This operation reached its desired goals at the end of July 2016. The loss of Qayyara certainly dealt a blow to the IS, which had extracted oil from some 60 wells and sold it to help finance its activities. The IS had previously shipped at least 50 truckloads of oil a day from Qayyara and the nearby Najma oilfields to neighbouring Syria.⁴⁸ At the same time, oil from the Qayyara field near Mosul often made its way to Turkey. From Turkey, according to many accounts, it made its way to Western markets in both Europe and the U.S.

In early 2017, the IS controlled several smaller oil fields with dozens of oil wells, mainly **east of Salahuddin Province**.⁴⁹ Individual IS attempts to capture Iraqi oil fields then continued during the year. For example, at the end of February 2017, IS fighters launched two synchronous attacks on areas near Tikrit; one of the attacks was on the Ajil oil field (50 km northeast of Tikrit) and the other was on al-Mobaded, which is located east of Tikrit.⁵⁰ Conversely, in September 2017, **warplanes from the United States-led military coalition destroyed a fuel storage area belonging to IS in southwest Kirkuk**.⁵¹ Similarly, in December 2017 Iraqi security forces cleared booby-traps placed by IS militants along a section of the Iraq-Turkey oil pipeline which stretches from the Kirkuk Governorate to Turkey while passing by al-Riyad, Baiji and Mosul. According to the Iraqi Ministry of Interior, after several months of work, the energy security directorate managed to clear the section from Kirkuk to Baiji and lift and dismantle more than 900 explosive devices along the line.⁵² However, at the end of 2017, the IS still controlled some oil infrastructure and two Iraqi oil fields containing four wells in the northern Tuz Khurmatu district⁵³ and continued to steal, spill and

smuggle crude oil from Iraqi oil fields as a means to wreak havoc and fund their sputtering but surviving campaign of terror.⁵⁴

Terrorist attacks that aim to damage the energy sector and destabilize the enemy

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3/2018 In early March 2015, just before the start of Operation Fatah, IS fighters set fire to the Ajil oil field. Their intention was to create a smoke wall that would block Iraqi helicopter forces attacks against IS positions around Tikrit. In the end, however, Ajil was destroyed by allied air strikes, and Tikrit was later re-taken by Iraqi forces. The IS's decision to burn the field had almost no strategic impact.⁵⁵

Similarly, first in April and then in early May 2016, IS militants used improvised explosive devices (IED) to blow up three oil wells and damage one other well in the Khabaz oil field, which lies about 20 km south-west of Kirkuk in northern Iraq and comprises approximately 41 oil wells with a total capacity of around 10,000–15,000 bpd.⁵⁶ On 12 May 2016, IS fighters conducted another attack on the Khabaz oil field and destroyed two oil wells, causing a drop in production of 4,000 bpd.⁵⁷ A month later, in an effort to stop the Iraqi army in its advance on Mosul, IS radicals set fire to five oil wells near Qayyara in the province of Ninive.⁵⁸

Last but not least, 'at the end of July 2016, the IS militants marched into two energy facilities in northern Iraq and killed at least five people. The first attack took place at an AB₂ gas compressor station, located about 15 km northwest of Kirkuk in the Bajwan area. Four gunmen with hand grenades attacked the station leaving two guards in a serious condition. The militants then shot dead four workers in a control room'.⁵⁹ The militants then allegedly went to the Bai Hassan oil station, located some 25 km further north-west, where they mounted a similar attack. One of them detonated his explosive vest at an outside gate so that the others could enter the facility. Once inside, two more men detonated their explosive-laden vests, thus destroying an oil storage tank. The Bai Hassan oil station, which had been producing 55,000 bpd, was forced to suspend all activity following the attack.⁶⁰

Also, in an attempt to prevent Iraqi fighter jets from reaching their targets, **the IS militants set fire to the oil wells** in Tal Afar on 21 August 2017.⁶¹ Similarly, for a month and a half, IS fighters set fire to three oil wells near Hawija, which is located west of the oil city of Kirkuk. The

IS fighters were trying to use the rising smoke to avert air strikes while they retreated from the area to Hawija. Iraq launched an offensive on 21 September 2017 to dislodge the IS from Hawija.⁶²

IS tactics aimed at ignition of oilfields and the Iraqi offensive to capture Mosul

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As the IS lost their last two oil fields in Iraq in July 2016 and with the Iraqi offensive on Mosul in October of that year, IS fighters resorted to drastic measures as they set fire to oil fields to a greater extent than ever before. The same tactic had already been used by Saddam Hussein during the Persian Gulf War. The fires would destroy several oil wells, and the resulting clouds of smoke would make it difficult to bomb the retreating Islamists with precision. To give some examples of such attacks, retreating IS fighters torched several oil fields and oil wells near Mosul on 26 October 2016, and in early November, IS militants torched another 19 wells to stop the progress of the Iraqi army.⁶³ At the beginning of 2017, the IS fighters set another 25 oil wells on fire in Qayyara, which is located south of Mosul.⁶⁴

On 26 February 2017, the Iraqi security forces took control of the largest area of IS oil smuggling, which was located at the entrance of the fourth bridge in Mosul.⁶⁵ Four months later, by mid-June 2017, the Iraqi army took control of all parts of the city and almost reached the An-Nuri Mosque, from which the IS leader al-Baghdadi had proclaimed a caliphate in the conquered territories of Iraq and Syria in 2014. IS radicals then demolished the ancient mosque with explosives on 21 June 2017. Iraqi anti-terrorist forces conquered the ruins of the An-Nuri Mosque a week later, on 29 June, and the Iraqi Prime Minister Haider al-Abadi announced the overthrow of Mosul as the seat of the IS's power in July 2017.

Consequences of the terrorist attacks in Iraq for energy security

Attacks carried out in order to either dominate or damage the energy sector in Iraq have had a negative impact on the Iraqi economy, which loses revenue from gas production and oil exports. They also necessitate an allocation of funds to provide security to the energy industry and repair infrastructure damaged by both the allies' air raids and the IS. In the case of Iraq, crude oil export accounts for 93 percent of the total revenue of its government. However, it should be noted that while the IS dominated northern Iraq (excluding the Kurdistan Region

of Iraq), impacting the oil production and refinery operations there, this did not affect the southern Iraqi oil production and exports. The IS also did not significantly affect the production in the Kurdistan Region, although the fighting between it and the Iraqi army came very close to the fields operated by the Kurdistan Regional Government (KRG) – Khurmala Dome and Shaikan. However, some oil companies were forced to abandon their exploration projects in Iraq, which could delay future developments in oil exploration.⁶⁶

Accordingly, OPEC's Annual Statistical Bulletin 2016 mentions that Iraq's output of petroleum products dropped from around 613,000 bpd in 2011 to around 444,000 bpd in 2015. This slashed the government's total revenues, which are generated mainly from crude exports. 'Net oil export revenues stood at \$89 billion in 2014 and plummeted to \$18 billion in early 2016, according to the US Energy Information Administration (EIA), [and this finding was] derived from EIA's June 2016' [sic] Short-Term Energy Outlook. The decreasing trends show that the seizure of key oil fields by ISIS has had a significant negative effect on Iraq's petroleum industry value in the international market compared to other countries.'⁶⁷

The partial interruptions in the production and supply of crude oil and natural gas in the country therefore had a negative impact on the energy security of Iraq itself. Meanwhile the unstable domestic political, ethnic, and religious situation inside Iraq led the IS to focus far more on terrorist attacks in recent times, with the main aim being to deepen the country's continuing instability, and these terrorist attacks will likely dominate the larger part of the IS's activities in the foreseeable future. These events could cause a panic in world markets, bringing about an increase in oil prices, which is what the IS needs.

By contrast, for the EU, the energy security impacts of IS attacks targeting Iraq's energy sector are rather minimal since Iraqi oil exports account for only 4.6 percent of EU oil imports, and the EU does not import LNG from Iraq. Even if the situation in Iraq deteriorated and its oil exports ceased, the consequences for EU energy security would be limited as EU member states have diversified oil imports.

Conclusion

For the IS, energy represents a key area of its strategy. It focuses on the utilisation and expansion of its existing oil and natural gas production capacity as an important source of funding for its operations. The IS

also uses energy to punish Western countries and their allies. In its energy strategy the IS relies on the method of ‘use or threat of violence’, which is also a fundamental pillar of energy-focused terrorism. Firstly, this method is used in specific IS attacks on oil and gas fields, energy infrastructure, and energy facilities with the aim to either take control of the energy sector, or destroy the energy sector in an attempt to disrupt exports, raise oil prices, and/or politically and economically weaken, destabilize and discredit the enemy. The attacks could even be carried out as military manoeuvres. Secondly, the method is also used when IS fighters kidnap workers and employees of Western companies or take them hostage in order to obtain a ransom, draw attention to themselves, or damage the credibility of the state, as a successful kidnapping or hostage-taking could be seen as proof that the state is incapable of ensuring the safety of its people. It should also be mentioned that the IS does not limit its operations to attacks on energy sectors, but it also takes part in other illegal criminal activities, for example, in Iraq.

IS Attacks on the Oil and Gas Sector in Iraq

According to the GTD, in Iraq the ISIS/IS carried out a total of 259 attacks on the business and utilities sector,⁶⁸ and this figure includes more than a third of the country’s terrorist attacks on energy infrastructure, oil and gas fields, refineries, security guards protecting pipelines and gas plants in the period from 1 January 2014 to 31 December 2017.⁶⁹ The numbers of attacks by the IS on the energy sector in Iraq for the examined years are listed in Table No. 2.

Table 2: The numbers of the IS energy-related attacks in Iraq in 2014-2017

Country	Year				Total
	2014	2015	2016	2017	
Iraq	32	24	23	17	96

Source: compiled by the author⁷⁰

Table No. 2 also leads to several conclusions. Firstly, in 2014-2017, the IS carried out 96 attacks on the energy sector in Iraq. This can be explained by the growing importance of the energy sector for the IS, which uses mineral resources to implement its terrorist and military activities. Secondly, the number of attacks per year in Iraq has been decreasing continuously from 2014 to 2017 due to the IS’s gradual loss of oil and gas fields, refineries, power equipment and parts of the territory controlled by it.

The aim of these IS terrorist attacks on the energy sector of Iraq is to conquer and dominate Iraq's oil and gas fields, as well as its oil refineries and other energy facilities. The main motive is to achieve the maximum possible oil production from the Iraqi oil fields under IS control and use the subsequent sale of the oil to fund IS activities and the creation and expansion of the caliphate. At the same time, in Iraq the IS attacked oil and gas fields, gas plants, an oil station and a compressor station for transporting gas with the aim of harming the Iraqi energy sector. Likewise, IS fighters attack the energy sector in Iraq and take hostages in the process in order to destabilize the position of the enemy, i.e. Iraq, and attract attention to themselves and their organization. Finally, the IS radical fighters, as a part of their attacks on Iraq's oil industry, ignite oilfields as a cover manoeuvre when they retreat. These terrorist attacks are influenced by a variety of motives, but the main desired end result for the IS is that they would dominate the rest of the territory of Iraq. The first motive of these attacks is to discontinue the production of oil and its export to the West, and to raise the price of oil and thus damage the Western economy. The second, more frequent motive is to undermine the credibility of Iraq by showing that it is an unreliable supplier of oil which is unable to secure oil shipments to Western countries. The third motive of these terrorist attacks, which is also frequent, is to discredit the Iraqi government, as the attacks are intended to prove that it is unable to ensure security on its own territory, and that Iraq is an unstable country that is not suitable for foreign investments.

Attacks on the energy industry and infrastructure by the IS mainly have a negative impact on Iraq, namely on its economy and energy security. In the case of Iraq, terrorist attacks on its energy sector could also have a negative impact on global (Asian and, partly, Western) energy security as a result of the related disruptions of oil supplies from Iraq.

As the IS has been losing the territories it captured in Iraq, its capacity to generate revenue has declined drastically. In Iraq, the group has lost all the oil and gas fields it previously controlled, however it controls dozens of oil wells. While the IS's oil revenue could continue to decline in the near future, it is still likely benefiting from its taxing of fuel consumption on the local level and charging fees for tanker trucks transiting IS-controlled areas. It can therefore be expected that the IS terrorist attacks on the Iraqi energy sector will continue.



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Notes

- 1 The presented text is basically a new version or update of a previous article: Lukáš Tichý and Jan Eichler (2018), Terrorist Attacks on the Energy Sector: The Case of Al Qaeda and the Islamic State, *Studies in Conflict & Terrorism* 41 (6), pp. 450-473. The main differences are that the presented text modifies and extends the theoretical and methodological framework, changes the structure of the text and focuses only on the IS and its terrorist attacks on the energy sector in Iraq.
- 2 The strategy was later described in a book distributed online titled *The Management of Savagery*. For more on this, see Abu Bakr Naji (2006), *The Management of Savagery: The Most Critical Stage Through Which the Umma Will Pass* (Translated by William McCants), John M. Olin Institute for Strategic Studies at Harvard University, 26 May, available at: <https://azelin.files.wordpress.com/2010/08/abu-bakr-naji-the-management-of-savagery-the-most-critical-stage-through-which-the-umma-will-pass.pdf> (accessed 16 August 2018).
- 3 See Katarzyna Jasko, et al. (2018), 'ISIS: Its History, Ideology, and Psychology,' in Mark Woodward and Ronald Lukens-Bull (Eds.) *Handbook of Contemporary Islam and Muslim Lives*. Springer, Cham, p. 7.
- 4 Although the group never called itself this name, this remained its informal name for many years. For more on this, see Jacob N. Shapiro (2013), *The Terrorist's Dilemma: Managing Violent Covert Organizations*, Princeton: Princeton University Press, pp. 82-100.
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 - 11 An example of former IS fighters continuing in their terrorist activities might be a terrorist and militant organization called the "White Flags" or the "White Banners", which originated in November 2017. The White Flags group is an alliance of former Islamic State militants, disgruntled Kurdish mafia members and independent local Kurdish militias. They are not from the Peshmerga or any official Kurdish security forces. The White Flags militants are currently occupying the mountains behind Tuz Khurmatu in Iraq's Salah-al-Din province. The main aim of the White Flags is to regain control of the oil facilities in Kirkuk, which would enable them to continue in what they claimed had been lucrative oil thefts. See, for example: Mamoon Alabbasi (2018), 'After ISIS Black Flags, Iraq Faces "White Banners" Threat,' *The Arab Weekly*, 11 February, available at: <https://theArabweekly.com/after-isis-black-flags-iraq-faces-white-banners-threat> (accessed 27 March 2018).
 - 12 In this article, energy security is understood as the ensuring of a stable and uninterrupted supply of energy for acceptable prices on the side of the consumer, and the ensuring of a stable and predictable demand for energy sold at acceptable prices on the side of the producer. See, for example: Anas F. Alhajji (2014), 'Dimensions of Energy Security: Competition, Interaction and Maximization,' in Benjamin K. Sovacool (ed.) *Energy Security: Definitions and Concepts*, London: Sage Publishing, pp. 113-136.
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