Security of Energy Infrastructure

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Michail Chalaris

Energy Security has long focused on issues such as the reliability of energy supply, the high concentration of energy sources in specific areas, and whether or not, this is a factor in destabilization and the implementation of political energy management tools. Energy is an integral part of any form of economic activity.

The increase in energy consumption has been directly linked to industrialization and economic growth for over a century. With the escalation of energy supply disruptions, discussions on energy security have expanded to include the general reliability of electricity, gas, and petroleum products, as well as the overall energy supply chain, including relapses. A few different events and phenomena have disrupted supplies, such as political instability in the Middle East and Eastern Europe, natural disasters (the earthquake and tsunami that hit the Fukushima plant in 2011), gas disputes with Russia-which destabilized Europe's energy markets, and blackouts similar to the one that occurred in the United States in 2003. Also, Hurricanes Katrina and Rita in 2005 caused, among other things, disasters and affected the energy supply network coming from all sources (oil, gas, electricity) (Diaconu & Rusu, 2013).

Recently, other aspects of energy security have begun to emerge. With the steady rise in energy costs, affordable prices and the competitiveness of economies have begun to be largely considered and play a role in the security of energy supply. Energy price volatility and growing uncertainty about available oil and gas imports have highlighted the importance of the role that policies can play in improving energy efficiency. With climate change and air pollution high on the international agenda, the viability of energy systems has become part of energy security. In case that the environmental conditions worsen to the extent that they affect the smooth running of societies and threaten states, this will have a wider impact on international security.

While energy supply remains a key issue, other issues such as global warming, economic

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growth, air pollution, economically affordable energy prices, and international energy relations are also expected to become a priority, as they will largely determine the degree of a smooth transition to a secure future without energy conflicts and concerns. However, another subject that should be taken under consideration, in the long run, is whether broader international coordination of states in the above cases would be preferable to the adoption of individual security policies (Takao & Setoguchi, 2012).

Energy infrastructure security requires a holistic approach that examines the boundaries, ways, and means of locating and exploring energy resources and improving the capabilities of those who store, transport, and distribute energy products in the union. In this way, the security of energy infrastructure must cover the entire supply chain from the countries of production and transit in the markets of the union, where there is a need for energy resources. In addition, several risks that may jeopardize the proper functioning of the energy infrastructure must be taken into consideration. As key risk factors we would describe natural hazards (i.e. physical safety), security of information and communication technology (ICT), human factors (e.g. negligence, intentional attacks against infrastructure), and some organizational aspects, like the interaction between public and private bodies for emergency response or the negative impact of external assignment to energy infrastructure maintenance. (Borchert & Forster, 2007)

Thus, energy security is a perfect example of modern security challenges that defy easy solutions. Energy infrastructure security not only crosses the boundaries of a single nation or region but also exceeds the responsibilities of national ministries and international organizations and requires close interaction with non-state actors such as national and international oil and gas companies. In short, the security of energy infrastructure requires a networked government approach. A report on the network describes the need for close cooperation between public and private entities at the national and international level in all countries in the supply chain. Governance depends on the ability of these actors to implement and take care of the implementation of their energy infrastructure security policy. This, in turn, requires a common understanding of the challenges and rules, and procedures for tackling energy security.

NATO governments (though not NATO as a whole) have already been involved in military efforts to secure energy resources. The first Gulf War, while not a NATO operation, involved key member states such as the United States, France, Britain, and Italy, which sought not only to liberate Kuwait but also to ensure that Iraq wouldn't control Kuwait's oil and threaten Saudi Arabia and other Gulf producers. NATO governments also took part in a military operation in the 1980s that was explicitly designed to secure oil supplies (Gallis, 2006).

Operation Earnest Will was an attempt, mainly by NATO members, to protect the movement of tankers in the Gulf during the Iran-Iraq War (1980-1988). Beginning in 1984, Iran

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first, and then Iraq, attacked neutral oil tankers to cut off financial support from the other ruts. Iran attacked Kuwait and Saudi tankers in their own territorial waters to ensure that all Gulf states understand that no one was safe.

The Soviet Union, and immediately after the United States, made offers to Kuwait, which lost most of its tankers, to transfer its ships under the US flags. An offer that was accepted. Iraqi planes attack USS Stark in 1987, killing 37 sailors, since then the Reagan government has formed a coalition of like-minded states, first and foremost from NATO, to protect the flow of tankers in the Gulf. Britain, France and the Netherlands were important participants in Operation Earnest Will. The Allies seized Iranian boats that were mooring shipping lanes in the Gulf and were exchanging fire with Iranian troops using oil rigs to open fire on ships. The operation was not a NATO operation but was an early example of a "willing alliance" working to bring security to a strategic area.

In February 2006, NATO governments discussed a range of possible actions in the event of a future cessation of oil supplies caused by military action. Some Member States have reportedly raised the possibility of protecting oil platforms and the movement of tankers in times of conflict and using satellites to monitor developments in areas where energy resources and infrastructure are threatened. Attacks on energy infrastructure have multiplied relatively recently, mainly in Libya, Algeria, Syria, and Iraq. Terrorist sabotage of energy infrastructure (EIS) poses a potential political threat to energy security (Weiss et al., 2012).

While a steady, uninterrupted supply of energy is vital to the proper functioning of modern societies, energy transmission infrastructures (ETIs) such as natural gas and oil pipelines, marine tankers or pylons, and power plants are always almost impossible to be protected. Given their obvious physical vulnerability and importance, EIS could be expected to be strategically attractive targets for potential attackers. In Europe, governments have implemented Community EIS protection legislation with the issuance of Council Directive 2008/114 / EC. An effective allocation of public resources requires, in addition to recognizing critical infrastructure departments, a better understanding of the type of targets attracted by terrorists, ie incentives to attack target categories, including a variety of options.

Analyzing the patterns and characteristics of global terrorism according to ETIs in the period 1998-2008, Toft, Duero, and Bieliauskas showed that these attacks were relatively rare. Geographically, the attacks were extremely uneven, with only three countries, Colombia, Iraq, and Pakistan - accounting for nearly two-thirds of the world's attacks. There is also no strong correlation between the ideology of the various terrorist groups and the number of attacks on ETIs. Given the basic political ideology of the groups combined with the particular combination of the effects of bullying, the symbolic value and expediency of the attack, and the assessments of outsiders in general, it appears that terrorists have limited incentives to

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crack down on ETIs.

If the goal is to disrupt the energy supply, threatening this type of target is not particularly intimidating, it is rarely a strong message of ideological symbolism and, although power transmission networks seem to be soft targets, it requires some skill and knowledge to destroy. In addition, externally interested parties can in many cases be an obstacle to terrorist attacks on energy transfer targets. The incentive framework is not responsible for the unequal geographical distribution of attacks. However, the fact that most of the targets for energy infrastructure attacks were in Colombia, Iraq, and Pakistan - countries with high levels of domestic instability and violence - shows that under conditions of violent internal conflict, where groups are conducting military attacks, motives are replaced by tactics of war, where the neutralization of enemy forces through the destruction of power lines (such as energy) becomes a key strategic goal.

In assessing energy security, the low rate of ETIs attacks compared to other types of targets suggests that ETIs are not the main target of terrorist groups. This should be considered in the financing of the respective security measures, in order to ensure the energy infrastructure without exaggeration in the security expenses. Also, when designing a new transport infrastructure, it is important to consider whether the supplier or transit country has an increased risk of internal instability and/or internal violence. In such cases, if there are problems and there are no alternative routes, or they are not viable, political/diplomatic efforts to stabilize the situation may be prudent. The driving forces behind terrorism and goal selection are undoubtedly extremely complex (Klare, 2006).

In the ever-changing and unpredictable world of politics, presenting current trends in the future may be unwise. Similarly, depending on the type of technological advancement, the resilience of ETIs could either be improved or become more vulnerable to attack. This may prove to have significant implications for the future of terrorism and the tendency to attack ETIs, as it will change the feasibility of attacks on such targets. In the field of energy infrastructure security, the EU has much to gain from its cooperation with the United States, both in terms of know-how, experience, education, and information, and in the provision of logistical infrastructure that the United States willingly provides to allies. states.

However, the example of Iraq and Nigeria must never be forgotten that no force, no matter how much it has at its disposal, will be able to achieve 100% energy security. In the aforementioned cases, terrorist and guerrilla groups have managed to carry out attacks on energy infrastructure, despite security measures by giant military forces and the huge mismatch of forces that separated the attackers from the security forces (Klare, 2006).

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