



NSD-S HUB

January 2020

**ACT and NSD-S Hub STUDY DAY
Energy Security in MENA:
Challenges and Opportunities**



The NSD-S HUB was established at Allied Joint Force Command Naples in order to improve NATO awareness and understanding of the opportunities and challenges from the South, while contributing to the overall coordination of NATO activities and efforts. NSD-S HUB products are developed with open-source information from governmental organizations, non-governmental organizations, international organizations, academic institutions, media sources and military organizations. By design, NSD-S HUB products or links to open-sourced and independently produced articles do not necessarily represent the opinions, views or official positions of any other organization.

THE STUDY DAY – PURPOSE

Security problems cannot be understood from a purely military perspective. A broader approach is needed which encompasses the issue of human security. For this reason, understanding local and regional perspectives is critical for NATO.

Through a holistic and collaborative approach the NATO Strategic Direction-South HUB (the Hub) connects allies, partners and non-military entities by building networks and relationships with Academia, Think Tanks, Non-Governmental Organizations and International Organizations, with particular emphasis on North Africa and the Middle East.

With this in mind, it was decided that the Allied Command for Transformation would collaborate with the Hub to organize a Study Day on Energy Security in the Middle East and North Africa, in order to enhance NATO understanding of energy security in the region, to be followed up the next day with a more in-depth Workshop involving Hub staff and subject matter experts from those regions, providing the opportunity to examine and discuss the topic in greater detail.

Through in-depth, transparent discussion and innovative thinking, the purpose was to achieve a broader understanding of the challenges and, more importantly, to identify potential opportunities from African and Middle Eastern stakeholders' perspectives.

The study day was divided into three panels dealing with the topics of: The Impacts of Global Energy Demand and the Evolution of Regional Demand; Energy Transition and the MENA Region; and Energy Security: Challenges and Opportunities. The event was attended by participants from The Policy Center for the New South, The AU Conflict Prevention and Early Warning Division (CPEWD), FAO, The Parliamentary Assembly of the Mediterranean, The UN Department of Safety and Security, The Royal institute Elcano, Bilkent University, Jordan Armed Forces, INEGMA (Institute for Near East and Gulf Military Analysis), Crystal Energy, African Energy Consultancy, Center for Security Studies, Georgetown University and NATO staff.

TABLE OF CONTENTS

TABLE OF CONTENTS.....	4
INTRODUCTION TO ENERGY SECURITY.....	5
PANEL 1. IMPACTS OF GLOBAL ENERGY DEMAND AND THE EVOLUTION OF REGIONAL DEMAND	6
PANEL 2. ENERGY TRANSITION AND THE MENA REGION.....	7
PANEL 3. ENERGY SECURITY: CHALLENGES AND OPPORTUNITIES	8
POSSIBLE POINTS OF ACTION IDENTIFIED BY THE MODERATOR	9
CONCLUSIONS	10
ANNEX A – BACKGROUND READING	11
ANNEX B – STUDY DAY AGENDA.....	15

INTRODUCTION TO ENERGY SECURITY

There has been an increase in the importance of energy security in recent years, primarily due to fluctuating oil prices, the difficulties and challenges relating to the supply chain, market volatility including new markets and the emergence of alternative energy sources.

Until very recently, energy security had been considered a purely economic issue, whereas it is now understood to be a multi-dimensional concept made up of technical, economic, social, environmental and geo-political aspects. 'The absence of protection from or adaptability to threats caused by or having an effect on the energy supply chain' is a commonly accepted definition. Security of supply, which the International Energy Agency defines as the 'steady availability of an adequate supply of energy in the market at affordable prices', is what concerns the major oil-consuming countries the most.

The contemporary approach to energy security studies focuses on the four 'A's, namely *availability, affordability, accessibility and acceptability*. Uncertainty is created by variations in any of these and the consequent effects on energy security and the security of supply are becoming ever more relevant.

With the growing importance of environmental protection, the energy security dimensions have broadened even further, creating the need for greater care. In short, reevaluating the priorities of energy security and rethinking new and alternative energy paradigms is a challenge which necessarily includes considering sustainability and the promotion of a healthier, more robust energy security model.



Mr. Sergio Altuna acted as moderator. He is an Associate Analyst in the Program on Violent Radicalization and Global Terrorism at the Elcano Royal Institute. His most recent research works focus on violent non-state actors in the Maghreb and the Sahel, the analysis of the Salafist discourse and rhetoric and the development of alternative narratives and counter narratives.

PANEL 1. IMPACTS OF GLOBAL ENERGY DEMAND AND THE EVOLUTION OF REGIONAL DEMAND



Mr. Jalel Harchaoui joined the Conflict Research Unit of the Clingendael Institute in February, 2019 as a Research Fellow. His work focuses on Libya, covering aspects such as the country's landscape and political economy.



Mr. Riad Kahwaji founded INEGMA in Dubai in October, 2001. INEGMA is a research house that provides consultancy on areas related to Middle East geo-political security, defense and energy.

Mr. Harchaoui's speech concentrated on the current situation in Libya and the relationship between the legitimate government, in the main supported by the West, and an insurgent group based in the East. Libyan oil is important to the West, especially countries in Southern Europe (Spain, Italy and France). The government in Tripoli is generally recognized internationally and does not wish to jeopardize its Western relations. The insurgents are wary of using blockades, their only real leverage tool, because they feel close to obtaining international recognition. Thus, the peace in Libya remains fragile, but should hostilities reignite, it is possible that oil flow from Libya could be disrupted, causing hardship for countries dependent on it. [Editor's note – as of mid-January 2020, although hostilities have indeed reignited, there has been no disruption to the oil flow].

Mr Kahwaji's presentation concentrated on the rising energy demand of Far-Eastern countries and its possible effect on energy security in the Gulf Region. Emerging economic powers, China and India for example, import 80% of their oil from the Arabian Gulf. In fact, the energetic stability of the East will be at stake if tensions rise and/or the region descend into turmoil. Millions of barrels of Iranian oil are stored in depots at Chinese ports, serving as vital reserves for Tehran. These reserves enable both China and Iran to manipulate oil prices which could have detrimental effects on other economic power houses around the world. However, shale oil discoveries in North America have largely reduced its dependency on the region. All of this has had an impact on the Gulf's oil exports. At the same time, this increased participation of Asian powers is driving most of the current Western allies in the Arab world to the East, gradually ending an era of dominant influence for Europe and the United States on large parts of the Arab World. This could increase military competition between the U.S. and China in the region, and possibly undermine energy security in the area. However, Gulf-US relations are not likely to be significantly affected in the mid-term.

PANEL 2. ENERGY TRANSITION AND THE MENA REGION



Dr. Carole Nakhle is the founder and CEO of Crystal Energy, an advisory, research and training firm. She has worked with oil and gas companies at the executive level, governments and policy makers, international organizations, academic institutions and specialized think tanks on a global scale.



Mr. Francis Ghiles is one of the leading European experts on the Maghreb. He specializes in security, energy and political trends in North Africa and the Western Mediterranean. During his distinguished career as a journalist he spent 18 years writing for the Financial Times.

Dr. Nakhle spoke about the energy trends in the Middle East and the structural challenges facing the region, which is the least diversified region both from economic and energy perspectives. The Middle Eastern net oil exporters remain single commodity economies, while their primary energy mix is largely dependent on hydrocarbons. Though they have the resources to meet their rapidly growing domestic demand, under existing trends and policies their local needs will erode their export base with drastic economic consequences. Alternative energy sources are being looked at by Gulf States including renewable sources and nuclear power. However, in such poorly diversified economies, the energy transition to a greener future and the ambitious targets the region has set will simply mean more, not less reliance on oil and gas in the region. From a global perspective, the more aggressive governments are in their pursuit of climate change policies in an age when oil is still needed, the more vulnerable their energy security will be, as their dependence on the Middle East will increase.

Mr. Ghiles covered the topic of the supply of natural gas from North Africa to southern Europe, primarily from Algeria and Libya. Perceptions regarding energy trends in North Africa are not as easy to decode as one might think. Through technological advancement allowing gas to be burned more efficiently, it is unlikely that the demand for gas will increase in the short term. At current prices, developing new fields in North Africa would not be advisable, even if the political environment were friendlier. As US liquid natural gas is due to arrive in greater quantities, and Algeria and Libya continue exporting at their current levels, there is little room for gas from the Eastern Mediterranean (Cyprus and Israel/Lebanon), especially considering the boundary disputes ongoing there. Therefore, Algeria and Libya can count on being able to continue selling gas to Southern Europe in the near future, but they also ought to be looking into diversifying their economies because prices are not likely to rise. Perhaps they can look to Morocco, which is at the forefront of the solar power industry in the region, as an example in how to pursue diversification.

PANEL 3. ENERGY SECURITY: CHALLENGES AND OPPORTUNITIES



Ms. Rim Berahab is an economist at the Policy Center for the New South, a think tank based in Rabat which she joined in 2014. She is currently working on themes related to energy issues and their impact on economic growth and long-term development.



Dr. Paul Sullivan is a world recognized expert on the politics and economics of the Middle East, energy security, water security, environmental security and economic security. He has been a professor at the National Defense University in Washington, DC since July 1999.

Ms. Berahab's presentation focused on the challenges facing North African countries, which she divided into two groups: The Energy Importers, Morocco and Tunisia, whose heavy reliance on fossil fuels puts a strain on their trade balance and balance of payments, leaving their economies vulnerable to price fluctuations; and The Energy Exporters, Algeria and Libya, whose dependence accounts for a dominant share of their revenues. This reliance on a single sector causes structural, social, economic and financial consequences which are often detrimental to economic growth. Egypt, though not technically an exporter, is also affected by the markets since the Suez Canal and the Suez-Mediterranean Pipeline generate fees which are a significant source of revenue. Therefore, any alteration in the energy supply could potentially have serious detrimental effects on the socio-economic fabric, thereby destabilizing the region. A crucial first step is to review traditional energy practices, while adopting effective energy policies that promote energy transition. Diversification of both energy mix and energy sources is crucial to achieve energy security and with the reform of fossil fuel subsidies it becomes important to ensure sustainable energy and economic development for the region.

Dr. Sullivan's presentation focused on the physical threats to the energy supply chain. There are a plethora of threats to shipping and infrastructure in the gulf; terrorism, missile strikes, lone wolves, revolutionaries etc., and are becoming more difficult to counter, ranging from drone swarms to cyber-attacks. Another risk in the region deals with water desalination, with over 50% of the world's desalination capacity being in the Middle East sustained by emerging nuclear power plants. Dr. Sullivan admitted that advancements in alternative sources are positive but limited thus far, pointing out, for example, that solar farms produce less energy in winter and wind farms produce very little if there is no wind. As the energy markets transition from hydrocarbons to electricity, the issue becomes guessing what the effects on resiliency will be. Should the protection fail then the disruption could be wide-ranging. The suggestion was to look at alternative methods of delivering energy such as smaller, independent power grids which would minimize the disruptive effects of any successful attacks.

POSSIBLE POINTS OF ACTION IDENTIFIED BY THE MODERATOR

Throughout the day, even if at times succinctly, several suggestions were made regarding possible actions NATO could undertake or adopt regarding its strategy on energy security:

- **Readiness and adaptation** are to be seen and therefore developed as key characteristics of NATO strategy regarding energy security in the region, this being principally due to the wide variety of threats and the difficulties linked to the close monitoring and evaluation of its evolution.
- **Improving situational awareness** and its broader implications through strategic intelligence is essential in order to gain an advantageous position from which to make better decisions.
- The study and research of the **future implications** of the East becoming not only the biggest consumer, but also its rising influence in the region is also of importance.
- **Investment in analysis** and the possibility to develop different in-depth strategies shouldn't be underestimated as changes in energy trends take time to become established. Although NATO is not an energy institution, events in this field affect international security on the whole and consequently the interests of the Allies.
- The role of Russia¹ and China in the field of energy should be **reassessed and reevaluated**, as both countries may play a more important, and/or at the same time different than expected role, compared to other fields. Furthermore, it would be interesting to analyze the different approaches they adopt depending on their target country.
- **There is no "one strategy fits all" solution.** The energy sector does not work in the same way in the Middle East as in North Africa, neither do the different countries have the same characteristics or shared automatisms. On the contrary, they even have competing interests at times.

¹ In November 2017, Russia and Iran signed an energy "strategic alliance" that includes an oil and gas agreement worth up to \$30 billion and that will involve energy groups such as Rosneft and Gazprom.

CONCLUSIONS

The importance of the issues which were discussed at the event is, without doubt, of growing relevance globally. Their intricate nature and multi-faceted challenges make any approach to them highly complex and worthy of great care and attention.

Western influence in the Arab World is being replaced by that of the emerging Eastern oil consuming countries, which, in the event of a conflict situation, could possibly undermine Energy Security in the area. Any volatility in the energy markets could cause a major disruption. To avoid instability in the region, the promotion of energy transition through diversifying both energy mix and energy sources must be a priority.

The relationship between energy production and consumption, and its affiliation with economic growth rates, combined with a greater focus on renewable energy sources, is bringing about a radically new approach to energy needs in the Gulf region. The need for certain countries to diversify their economies with or without the use of technology and alternative resources is ever more present.

Energy security, being an international issue, entails growing interdependence between producers and consumers, hence the importance of cooperation to further enhance energy security in the region. Decentralization and reduction in the size of elements of the supply chain could decrease the threat of highly effective attacks.

This event proved to be a wonderful opportunity for the Hub and NATO generally to improve its regional understanding thanks to the expertise of the participants whose local perspective will help refine how regional activities and stability may be better supported in the future. For this reason the Hub has included this as a primary issue to be followed in 2020 and beyond.

ANNEX A – BACKGROUND READING

(by Mr. Sergio Altuna)

Energy Security and the conceptualization of the idea

There's no doubt there has been a recent uptick regarding general interest in energy security. This has been stirred by several factors: the steady rise of oil prices that started in 2008 and continues up to now, the difficulties and challenges arising from the supply chain itself, market volatility, the emergence of alternative energy sources and new markets and, of course, the deterioration of the international geopolitical situation, especially in important regions and countries for the gas and oil market as producers or transit countries. Definitely a wide range of aspects whose close monitoring and evaluation is not always feasible.

But what do we mean by energy security? Or, to frame it differently, what do we understand? Over the last 20 years the concept of energy security has evolved from a simple idea based on an approach emanating from the field of political economy studies to a full-fledged field of study addressing a much wider range of complex issues and developing challenges. This rapid evolution has produced not only different interpretations of the concept, but also an almost unassailable amount of scholarly and policy-oriented literature. However, if we approach the issue from a broader perspective, we can establish the 70s as the timeframe where the last great debate over the issue of energy security prompted by the different crises that arose after the cut of oil supply by the OPEC countries in 1973. Let's not forget that during crisis the price of the oil skyrocketed and the vulnerabilities of the system were fully exposed.²

Although energy security is now studied as a multidimensional concept made up of technical, economic, social, environmental and geopolitical aspects closely interrelated, it was considered mostly an economic issue during the last part of the twentieth century. Now, a bit the same way it happens with of terrorism, the concept of energy security is not an easy one to find consensus around its definition, largely due to the aforementioned multidimensionality and the different layers and levels of analysis we need to delve into in order to define the idea. In that sense, even if far from being unanimously agreed upon, a more or less common approach behind the definition of energy security is the absence of, protection from or adaptability to threats that are caused by or have an impact on the energy supply chain.³ Nonetheless, the main dimension of energy security for consumer countries –what concerns them the most– is tightly linked with the security of the supply, which the International Energy Agency defines as the steady availability of an adequate supply of energy in the market at affordable prices.

² Cherp, A. & Jewell, J. (2011). The Three Perspectives on Energy Security: Intellectual History, Disciplinary Roots and the Potential for Integration. *Current Opinion in Environmental Sustainability*, 3: 202-212.

<http://dx.doi.org/10.1016/j.cosust.2011.07.001>

³ Winzer, C. (2011). Conceptualizing Energy Security. <https://doi.org/10.17863/CAM.5563>

Energy security can clearly be divided into two main ideas, two different concepts that have definitely evolved at a very fast pace in recent times. On the one hand, energy as we mean to understand it in this context, mostly but not only fossil fuels that have to be transported from one place to another. But letting aside what energy now means, if we focus on security, the fluidity of the concept itself –which has pushed to the redefinition of the policy agendas of numerous nation-states– is one the most important reasons behind the necessity to limit the concept of energy security along one or several of the following dimensions: the sources of risk, the scope of the impact measure, and different severity filters such as the speed, size, sustention, spread, singularity or sureness of impacts. Because, when we approach energy security and we try to conceptualize the idea... Security for whom? And security from what threats exactly? The challenges related to energy security are undoubtedly an issue that has generated a growing sense of urgency and uncertainty in the governments of consumer countries. Global security is an intricate and difficult to navigate field of study and it is not only complex geostrategic shifts or terrorism we should worry about, a plethora of yet understudied cyber threats is awaiting right around the corner.

Energy security is both a strategic issue and a public policy one, even if the two angles are based on different assumptions and foresee different approaches to provide security.⁴ But it is often the oversimplification in the analysis or an erroneous framing of the approach to a complex notion like energy security what prevents understanding the whole concept in a more adequate way, going through and dealing with all its layers and considering all its nuances and acceptations.

From the four 'A's to the four 'R's

A frequent starting point of contemporary approaches to energy security studies, and one we can take as agreed upon to a certain extent, revolves around the model of the *four 'A's*, namely *availability*, *affordability*, *accessibility* and *acceptability*.⁵ All of them being highly volatile while confronted to stress situations, uncertainty, and insecurity, the main sources of concern regarding these *four 'A's*. Uncertainty affecting the availability, a temporary or permanent, partial or total, interruption of the supply. Economic uncertainty or economic insecurity can easily lead to unaffordability arising from the price volatility resulting from physical disruptions or speculative movements in the markets. Physical insecurity or the inability to extract these reserves and transport them to world markets. And social insecurity, as price increases generate social demands, for example by the most energy-intensive sectors, eventual conflicts, social unrest, etc.

⁴ Goldthau, A. (2012). From the State to the Market and Back: Policy Implications of Changing Energy Paradigms. *Global Policy, London School of Economics and Political Science*, vol. 3 (2): 198-210. <https://doi.org/10.1111/j.1758-5899.2011.00145.x>

⁵ Cherp, A. & Jewell, J. (2014). The concept of energy security: Beyond the four As. *Energy Policy*, 75: 415-421. <https://doi.org/10.1016/j.enpol.2014.09.005>

During the last years, however, the increasing concerns regarding the environmental impact of human energy consumption have not only shown the limitations of energy security knowledge in prospective policy making, but have also put the focus on the fact that a conscious development is going to be essential to the economy of any given country. It seems therefore more than necessary to implement a strategy that allows facing the challenges that are already arising in the short, the medium and the long term.

A methodology looking to lay the groundwork regarding how energy security could be improved and at the same time fostering energy-related climate change policies is that of Dr. Larry Hughes. His paradigm, even if not a one-suits-all strategy to be followed by every single country, depicts a very interesting –and hopefully effective– methodology to raise awareness of the importance and great implications of energy security as well as to further engage both policy analysts, practitioners and politicians on how it could be improved.

This model consists of *four 'R's*: *review*, *reduce*, *replace* and *restrict*. Reviewing implies carrying a quantitative and qualitative evaluation of all aspects by energy sector, from the sources, to the potential future supplies, the suppliers, the supply chain, the infrastructure, etc. The *second R* stands for *reduce*, i.e. limiting the amount of energy we use which, to be accomplished, could be approached implementing two different strategies: assuring better levels of energy conservation and fostering an enhanced energy efficiency allowing where possible to provide and reach similar performance levels with less energy.⁶

On the other hand, the second *two 'R's* as outlined by Hughes imply adopting an even more proactive role: first *replacing* those sources judged inefficient or insecure during the *review* phase, or, if possible, introducing new alternative energy sources, a process that may well also involve the replacement or modification of old infrastructure. And finally, *restrict*, or limiting and reducing new demand only to secure energy sources by creating new legal precedents for those industries and business sectors experiencing an increased demand for energy supplies.

Adding the *fifth R*: rethinking the future of energy security

Security is to be seen as a treacherous and ambiguous concept if used without limitations. Even if difficult to put in practice, Hughes method of the *four 'R's* remains a very interesting approach to the evolution of energy security that seeks to raise awareness among policy makers and advocate for a new path, one that brings forth an alternative that aims to include clear limits to ensure a more responsible paradigm of energy consumption and incorporates social wellbeing at the center of the equation.

Much of the discourse on energy security until recently was substantiated on the assumption of infinite growth, focusing, as a result, on the economic and political facets of energy security and on assuring that energy markets can continue functioning at affordable

⁶ Hughes, L. (2009). The four "R"s of energy security. *Energy Policy*, 37 (6): 2459-2461.
<http://dx.doi.org/10.1016/j.enpol.2009.02.038>

prices, leaving climate change out of the main focus. And that even if a strong sustainability component was long ago introduced in the debate, for example by The World Bank in the early 90s. However, incorporating sustainability to the table hasn't succeeded in putting environmental and developmental challenges in the center of the debate. And these are unavoidable challenges of crucial importance both for this and for future generations. Are we then in the middle of yet another great debate over the issue of energy security?

Fostering security is a task that always involves costs and that implies giving up on several goals while prioritizing others. Resources, of course, are limited and adopting a particular strategy regarding energy security could mean a huge expense with little or no economic return in the medium to long term. It is of special importance to set this clear because it can mean the difference from becoming a pioneer or a very secondary player. While already facing global energy transition, it has become clear that the current trends will end up reshaping the energy landscape, and therefore, energy security with it.

And it is now when rethinking enters the scene: if we reassess the idea of energy security thoughtfully, we might end up concluding that the concept of security, when used by the proponents of prioritizing a greater economic and geostrategic component is not that far away from the way it is understood by those advocating of a greater importance of the environmental element. Reevaluating what the priorities of energy security are and rethinking new and alternative energy paradigms is a challenge that should encompass –or that should have a page specifically dedicated to– making it more sustainable, promoting a healthier energy security model in which sustainability, in every sense of the word, doesn't lag far behind other axes such as security and affordability of the supplies

ANNEX B – STUDY DAY AGENDA

Thursday, 5 Dec. 2019

0900-0920 Welcoming

09:20-09:35 Administrative Remarks and Welcome words

JFCNP COM

ACT ACOS SPP, Brigadier General BEL Air Force, Didier Polome

NSD-S Hub Director, Brigadier General ITA Air Force, Davide Re

Prof. Sergio Altuna (moderator)

09:35-10:00 Opening Plenary Session

Prof. Sergio Altuna (moderator)

10:00-11:20 Panel 1. Impacts of global energy demand and the Evolution of Regional Demand

Panelists: Mr. Riad Kahwaji and Mr. Jalel Harchaoui

Lecture by North Africa Panelist (30')

Lecture by Middle East Panelist (30')

Discussion (20')

11:45-13:05 Panel 2. Energy Transition and the MENA Region

Panelists: Dr. Carole Nakhle and Mr. Francis Ghiles

Lecture by North Africa Panelist (30')

Lecture by Middle East Panelist (30')

Discussion (20')

15:00-16:20 Panel 3. Energy Security: Challenges and Opportunities

Panelists: Dr. Paul Sullivan and Ms. Rim Berahab

Lecture by North Africa Panelist (30')

Lecture by Middle East Panelist (30')

Discussion (20')

16:50-17:50 Closing Plenary Session

