

 **1st lesson: Introduction to energy geopolitics****1. Geopolitics defining:**

Throughout history, geopolitics has always played an essential role in national strategy. Presently, geopolitics earns a variety of definitions depending on the factors under analysis and the author's perspective. However, the geopolitical analysis usually focuses on the use of natural resources and the impact of geographic characteristics in national and foreign policy. The importance of geographic conditions cannot be ignored – actors who are able to make use of that may gain a decisive advantage in the international arena.

Geopolitics is the study of how geography affects international relations, power and vulnerabilities. Rudolf Kjellén (1905) first coined the term, and defined it as the studies of the way geographical (and often also historical and social) factors help explain the power and role in international affairs of nation states. In classical formulations, the links and causal relationships between political and physical power over geographic space were emphasized. Halford Mackinder (1904) described much of the 20th century's geopolitical thought, great power strategies, alliances and military events based on geographic and historic factors. Geopolitics was often considered a competitive zero-sum game played by nation states in their pursuit of power and security, and gains from trade and investment relative to other national competitors

2. Evolution of the term “geopolitics”:

Because geopolitical thinking was used to defend Lebensraum for Nazi-Germany, social scientists and politicians more or less abandoned the concept after WWII, claiming there was no geopolitical science anymore, only geoideologies, such as Nazism and fascism. For more decades, borders and the established geopolitical structures were considered permanent sacrosanct. After the break-up of the Soviet Union, the market became more or less the sole mechanism for allocation of economic resources. Francis Fukuyama (1993) even declared the “End of History”. Nevertheless, a rebirth of geopolitical studies emerged in the economically and politically interdependent world of the 1990s, and beyond. Now the concept was adjusted to the international economic and political integration that had taken place, and included how political control over a territory influences power and political and economic outcomes through factors, mechanisms and institutions in the international economic and political system. Modern geopolitics became concerned with the political discourse among international actors resulting from all factors that determine the political and economic importance of a country's geographic location. “Relative gains matter, but so (also) joint gains from possible cooperation”.

3. Geoeconomics and geostrategy:

As part of geopolitics is geoeconomics and geostrategy. Geoeconomics describes and analyzes the distribution of resources in and between states, focusing on industrial capacity, technologic, scientific and administrative competence and capacity, finance and the flows of trade in space. Geopolitics is very much a geoeconomic phenomenon and vice versa. Any state's control of a given territory is in the end a question of “economic gain” – how to finance the costs and

how to gain an optimal share of the values created or transmitted in/on that territory. Geostrategy has mostly been used as a military concept and describes plans for obtaining physical control of certain areas, or the capability to deny others to control them, irrespective of prevailing geopolitical and geoeconomic structures.

4. Energy geopolitics defining:

The energy geopolitics of any region must be understood by both the size and location of own and other natural resources, how available they are, who controls them, their cost, alternative transportation routes, how regional and global markets balance, market mechanisms and regulations, political decisions, and prices in general. Furthermore, as national and international policy-making and business is intertwined, the state is not anymore the only actor that shapes political outcomes. The geopolitical role of a country is influenced by the scale and scope of the dependence it represents for other actors (businesses, countries). Resources affect national policy making by acting upon domestic actors, which in turn affect the domestic political system through associations, state structure and ideology and, hence, business-to-business and business-to-government relations, must be included in the analysis.

5. History of global Energy geopolitics:

Energy has long shaped global geopolitics, determining great powers, alliances and outcomes of wars. Every international order in modern history has been based on an energy resource: coal was the backdrop for the British Empire in the nineteenth century, oil has been at the core of the subsequent 'American Century', and today many expect China to become the twenty-first century's world renewable energy superpower.

Since World War I, oil has undoubtedly represented the cornerstone of global energy geopolitics. The decision of then-First Lord of the Admiralty Winston Churchill to shift the power source of the Royal Navy's ships from coal to oil in order to make the fleet faster than its German counterpart truly signed the opening of a new era. The switch from the reliable coal supplies from Wales to the insecure oil supplies from what was then Persia, not only made the oil-rich Middle East a key epicentre of global geopolitics, but also turned oil into a key national security issue.

Since the early twentieth century, control of oil resources played a central role in several wars. This was, for instance, the case of the 1967–1970 Biafran War, the 1980–1988 Iran–Iraq War, the 1990–1991 Gulf War, the 2003–2011 Iraq War and of the conflict in the Niger Delta ongoing since 2004.

The second half of the twentieth century also saw increasing tensions between oil-producing and oil-consuming countries, which in two cases erupted in major oil crises. In September 1960, the Organization of Petroleum Exporting Countries (OPEC) was established in Baghdad, with the participation of five member countries: Saudi Arabia, Iraq, Iran, Kuwait and Venezuela. The original aim of OPEC was to prevent its members from lowering the price of oil, by coordinating their production and export policies. During the 1970s, some of OPEC members also had the aim of nationalizing their petroleum resources to preserve sovereignty.

The geopolitical role of OPEC became clear as the Arab–Israeli War -also known as Yom Kippur War- erupted in October 1973. Arab members of OPEC imposed an embargo against the United States, the Netherlands, Portugal and South Africa in retaliation of their support to Israel. A ban of oil exports to the targeted countries as well as oil production cuts was introduced by OPEC. This resulted in a sharp rise in oil prices, and in severe oil shortages and spiralling inflation across the West. As OPEC kept raising prices in the following years, its geopolitical and economic power grew.

In the aftermath of the 1973 oil crisis, and upon proposal of then-US Secretary of State Henry Kissinger, the IEA was established in November 1974 as a platform for oil-importing countries in the West to coordinate a shared response to major disruptions in the supply of oil. This was also allowed by the introduction of a requirement for all IEA member countries to maintain strategic petroleum reserves equal to at least 90 days of their previous year's net oil imports.

A second oil crisis erupted in 1979, as a result of the Iranian revolution and the following 1980–88 war with Iraq, which brought the region into turmoil. By 1981 the price of oil stabilized at USD 32 per barrel, a level ten times higher than before the 1973 oil crisis.

In the following decades, other oil price shocks occurred, notably in relation to major geopolitical developments in the Middle East. For instance, in 1990, an oil price shock took place in the aftermath of the Iraqi invasion of Kuwait, with a doubling of oil price in a matter of few months that contributed to the early 1990s recession in the United States.

However, energy geopolitics is not limited to oil. Natural gas, nuclear energy and even renewable energy sources such as wind and solar do have -more or less critical- geopolitical aspects.

In certain areas of the world, natural gas is even considered to be more geopolitical than oil. This certainly is the case of Europe, where natural gas markets have been developed since the 1960s on the basis of large pipeline infrastructures connecting key suppliers such as Russia and Norway to European consumers. This situation has led to an over-reliance of Europe on few major suppliers. Natural gas imports from Russia indeed continue to provide a third Europe's total natural gas supply mix.

For decades, this situation has not raised energy security concerns in Europe. During the 1970s and the 1980s, in the midst of the Cold War, Europe decisively pursued the construction of the long pipelines connecting the large Siberian natural gas fields and Europe, which still today represent the main avenues of Russian natural gas export. Europe pursued these projects notwithstanding the strong opposition of the Reagan Administration, which even sanctioned German and French companies engaged in the construction of the 'Brotherhood' pipeline, which still today represents the major natural gas supply route to Europe.

The (over-)reliance on Russian natural gas supplies started to be considered as a major geopolitical threat in Europe when, first in January 2006 and then in January 2009, natural gas pricing dispute between Russia and Ukraine led to the halt of Russian natural gas supplies to Europe via Ukraine—its primary transit route. This generated economic damages for

Europe, notably in South-Eastern European countries heavily dependent on Russian natural gas for both electricity generation and residential heating. Europe responded to these natural gas crises by adopting an energy security strategy mainly focused on reducing its dependency on Russian natural gas supply. In the midst of the 2014 Ukraine crisis, concerns about a potential politically motivated disruption of all European natural gas supplies from Russia lifted again this issue to the top of the European agenda, leading to renewed efforts to lower the European dependency on Russian natural gas supply under the umbrella of the European Union (EU)'s 'Energy Union' initiative.

On its side, nuclear energy presents both security and geopolitical concerns. Issues like safety of nuclear facilities and nuclear waste management represent serious security concerns. The concerns for nuclear safety have particularly amplified after the Chernobyl accident in 1986 and the Fukushima disaster of 2011. These events sparked, particularly in Europe and in Japan, broad public debates on nuclear energy. In certain cases, these debates led to radical energy policy shifts. For instance, after the Chernobyl accident Italy holds a referendum on nuclear power, which resulted in the decision to close-down all operating nuclear power plants in the country. These concerns have been most recently accompanied by the emergence of new risks concerning potential terrorist attacks at nuclear power plants.

From a geopolitical perspective, proliferation is the main risk associated to nuclear energy. It was precisely the close link between the civil and military use of nuclear energy that led to the establishment in 1957 of the International Atomic Energy Agency (IAEA), a United Nations organization tasked of promoting the peaceful use of nuclear energy. In 1968 (i.e. in the midst of the Cold War), the General Assembly of the United Nations also approved the Nuclear Non-Proliferation Treaty, aimed at the disarmament of countries with nuclear weapons, as well as at the prevention of nuclear weapons adoption by countries still without them.

But if for more than half a century oil, natural gas and nuclear energy have been at the heart of the geopolitics of energy, it is sensible to investigate if and how this will change as a result of the global energy transition, a process driven by decarbonization policies and by quick developments in renewable energy technologies and electric cars.

The Paris Agreement marked an important step forward in global efforts to respond to the challenge of global warming. For the first time, developed and developing countries have committed themselves to act to limit the increase in the average global temperature to well below 2 °C compared to pre-industrial levels. This reinforces the decarbonization measures already in place in several parts of the world, primarily in Europe. Meanwhile, technological advances have increased the competitiveness of solar and wind energy technologies, batteries and electric cars. The convergence of these two elements has already begun to reshape the global energy system. By transforming the global energy architecture, international decarbonization policies and low-carbon technology advancements will also have profound geopolitical implications. The large-scale shift to low-carbon energy is disrupting the global energy system, affecting economies and changing the political dynamics within and between countries. However, what will be the consequences of these developments on the geopolitics of energy?