

Resource Guide for Educators



# EUROPE GOES GREEN?

## ENERGY, ENVIRONMENT, POLITICS, & SECURITY IN THE EU

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UNIVERSITY of WASHINGTON  
The Henry M. Jackson  
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MODULE 2

# Balancing Green Energy, Energy Security, & Geopolitical Security

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## Introduction to Session Speaker



**Dr. Sarah Lohmann** is an Acting Assistant Professor in the Henry M. Jackson School for International Studies and a Visiting Professor at the U.S. Army War College. Her current teaching and research focus is on cyber and energy security and NATO policy, and she is currently a co-lead for a NATO project on “Energy Security in an Era of Hybrid Warfare”.

She joins the Jackson School from UW’s Communications Leadership faculty, where she teaches on emerging technology, big data and disinformation. Previously, she served as the Senior Cyber Fellow with the American Institute for Contemporary German Studies at Johns Hopkins University, where she managed projects which aimed to increase agreement between Germany and the United States on improving cybersecurity and creating cybernorms.



# Key Terms

**Greenhouse Gas Emissions:** Greenhouse gases are gas molecules that have the property of absorbing infrared radiation (net heat energy) emitted from Earth's surface and reradiating it back to Earth's surface, thus contributing to the phenomenon known as the greenhouse effect.

**Climate Change:** periodic modification of Earth's climate brought about as a result of changes in the atmosphere as well as interactions between the atmosphere and various other geologic, chemical, biological, and geographic factors within the Earth system.

**EU Enlargement (Integration):** has expanded a number of times throughout its history by way of the accession of new member states to the Union. To join the EU, a state needs to fulfil economic and political conditions called the Copenhagen criteria, which require a stable democratic government that respects the rule of law, and its corresponding freedoms and institutions. The process of enlargement is sometimes referred to as European integration. This term is also used to refer to the intensification of co-operation between EU member states as national governments allow for the gradual harmonization of national laws.

**Geopolitics:** analysis of the geographic influences on power relationships in international relations. In contemporary discourse, *geopolitics* has been widely employed as a loose synonym for international politics.

**Energy Security:** the uninterrupted availability of energy sources at an affordable price. Energy security has many aspects: long-term energy security mainly deals with timely investments to supply energy in line with economic developments and environmental needs. On the other hand, short-term energy security focuses on the ability of the energy system to react promptly to sudden changes in the supply-demand balance.

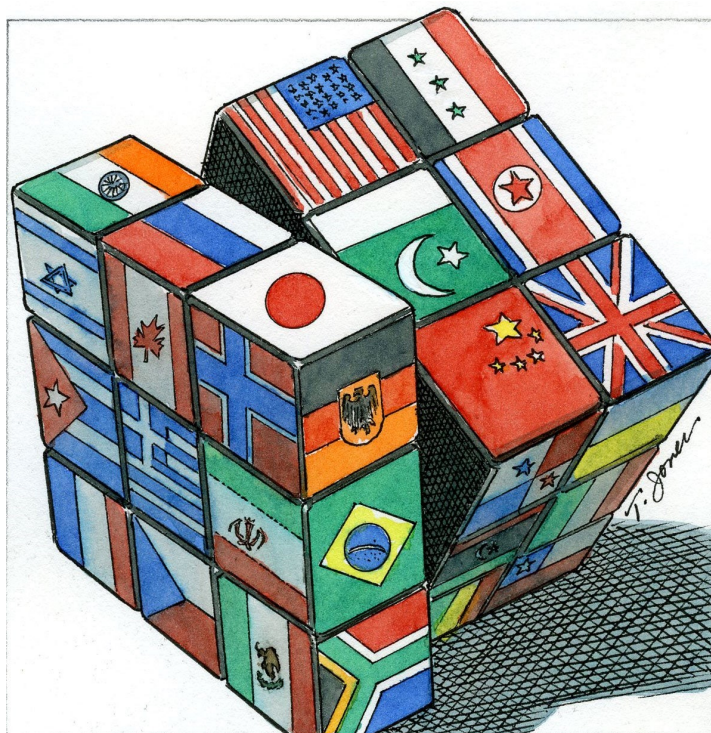
**Renewable Energy:** usable energy derived from replenishable sources such as the Sun (solar energy), wind (wind power), rivers (hydroelectric power), hot springs (geothermal energy), tides (tidal power), and biomass (biofuels).





# Learning Objectives

1. Students will be able to identify, analyze, and discuss the impact of climate change on European nations, including efforts to mitigate the impact of climate change on local, national, and regional communities.
2. Students will be able to define the concept “green energy” and analyze strategies across the European Union to address climate and environmental sustainability issues.
3. Students will be able to define the concept “geopolitics” and explain how EU policymakers are attempting to balance energy security and geopolitical issues within the context of their Green Deal.
4. Students will be able to define “energy security” and explain/discuss its role in shaping political, economic, and environmental decision-making among nations, including the EU.
5. Students will be able to analyze and discuss the implications of Europe’s Green Deal on its non-European political and economic partners.
6. Students will be able to analyze data resources, such as public opinion polls across EU member states, to assess citizen support (and concern) for climate and environmental sustainability initiatives/policies.



# Energy Security



## [Europe Unveils Plan to Shift From Fossil Fuels, Setting Up Potential Trade Spats](#)

The Proposal would impose tariffs on some imports from countries with looser environmental rules. It would also mean the end of sales in the European Union of new gas-and-diesel powered cars in just 14 years.

## [EU Environmental Sovereignty and Security Under the Green Deal](#)

Think 2030 is an evidence-based, non-partisan platform of leading policy experts from European think tanks, civil society, the private sector and local authorities. The platform meets at least once every two years for a high-level conference to discuss and present the outcomes of the collaborative work.

## [In Focus: Energy Security in the EU](#)

The constant supply of energy is something we often take for granted. Securing that energy supply is vital. It ensures our homes are heated – or air-conditioned – that we can phone, use lights and computers and that our hospitals, public transport and other essential services, like water distribution, function. How does the EU contribute to assure energy security to its nearly 500 million citizens? And what happens if the security of that energy supply is threatened?

## [Energy Security in the EU](#)

The energy policies of European countries increasingly incorporate security of supply as a required element. States are determined to rule out politically motivated disruptions to energy supply or significant price spikes and reduce the risk that they might, in the most extreme case, be subject to direct coercion by threats of denial of access to energy. Security is an explicit element in the European Union's long-term strategy concerning its energy supply. SIPRI studies the potential security risks associated to energy supply across Europe and the ways in which these can be minimized.

# 7 AFFORDABLE AND CLEAN ENERGY



## [World's Largest Lesson](#)

World's Largest Lesson promotes use of the Sustainable Development Goals in learning so that children can contribute to a better future for all. They are a programme from Project Everyone and produce creative tools for educators and action focused learning experiences for children and young people that build skills and motivation to take action for the SDGs.

## Goal 7:

Ensure access to  
affordable, reliable,  
sustainable and  
modern energy for all.



# Energy Security



## [What's the best way to improve energy security in Europe?](#)

Since 2014, the price of oil has fallen by over 70%. With Saudi Arabia keen to keep production high in order to maintain its market share, coupled with a slowdown in China and the lifting of sanctions against Iran, oil prices could indeed fall further. What does this mean for energy security in Europe? Does cheap oil make it harder for Europe to break its dependency on energy imports?

## [Speech by Commissioner Simson at the North Atlantic Council meeting on energy security](#)

2020 was a breakthrough year for energy. The oil supply shock and the pandemic provided a preview of how a renewable based energy system can look like. In Europe, for the first time electricity from renewable energy overtook electricity generated by fossil fuels. Many EU Member States accelerated the phase out from coal. New technologies and innovations kept coming to the market. Yet, the pandemic also brought to the fore our vulnerabilities, from the dependence on global supply chains to the vital role of functioning digital and electricity infrastructure.

## [Geopolitics of the Green Deal](#)

The Green Deal will affect geopolitics through its impact on the EU energy balance and global markets; on oil and gas-producing countries in the EU neighborhood; on European energy security; and on global trade patterns, notably via the carbon border adjustment mechanism. At least some of these changes are likely to impact partner countries adversely.

### **Be Thinking About...**

1. How does EU energy and environmental policy shape local, national, regional, and global decision-making?
2. What key concepts (and skills) do you want students to know/acquire?
3. What teaching strategies could you use to teach these topics in your classroom?





# ENERGY SECURITY

in the EU

THE EU IS

**HIGHLY DEPENDENT**

ON ENERGY IMPORTS

\* AROUND €400 BILLION IN 2013



TODAY, THE EU IMPORTS **53%** OF ALL ENERGY IT CONSUMES

ALL IMPORTS ACCOUNT FOR MORE THAN **€1 BILLION/DAY\***

ENERGY MAKES UP MORE THAN **20%** OF THE EU'S TOTAL IMPORTS



## RUSSIA

IS THE BIGGEST SUPPLIER OF:  
(IN % OF TOTAL IMPORTS)

SOLID FUELS 28.8%



OIL 33.5%

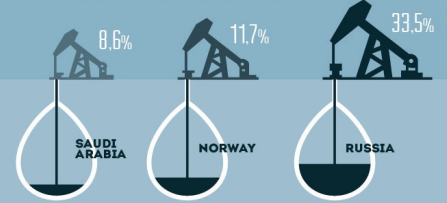


GAS 39%



## CRUDE OIL

THE EU IMPORTS 90% OF THE CRUDE OIL IT CONSUMES



## NATURAL GAS

THE EU IMPORTS 66% OF THE NATURAL GAS IT CONSUMES



IN 2013, 39% OF GAS IMPORTS BY VOLUME CAME FROM RUSSIA



NATURAL GAS SUPPLIES FROM RUSSIA OFTEN GO THROUGH TRANSIT COUNTRIES SUCH AS UKRAINE OR BELARUS



WHICH COUNTRIES ARE MOST RELIANT ON GAZPROM?\*

\*PERCENTAGE OF TOTAL NATURAL GAS IMPORTS

THIS DEPENDENCE LEAVES THE EU VULNERABLE TO SUPPLY DISRUPTIONS, WHETHER CAUSED BY POLITICAL OR COMMERCIAL DISPUTES, OR INFRASTRUCTURE FAILURE.

## ELECTRICITY

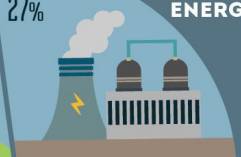
TODAY, THE EU IS THE ONLY MAJOR ECONOMIC ACTOR PRODUCING 50% OF ITS ELECTRICITY WITHOUT GREENHOUSE GAS EMISSIONS

RENEWABLE ENERGY



23%

NUCLEAR ENERGY



27%

## THE EU CAN SECURE ITS ENERGY SUPPLY BY...

INTEGRATING ITS ENERGY MARKET

ENERGY MARKET

REPLACING GAS AND OIL CONSUMPTION WITH RENEWABLES: WIND, SOLAR, HYDROPOWER, BIOMASS

RENEWABLES

ENERGY METERS

HELPING CONSUMERS TO LOWER THEIR ENERGY CONSUMPTION WITH SMART ENERGY METERS

OTHER IMPORTS

INCREASING GAS IMPORTS FROM NORWAY AND THE OPEC COUNTRIES

IMPORTING SHALE GAS FROM THE US

THE FUTURE

BY 2020, THE EU WANTS 20% OF ITS ENERGY CONSUMPTION TO COME FROM RENEWABLES

# Climate & Geopolitical Security



## [European Energy Diversification: How alternative sources, routes, and clean technologies can bolster energy security and decarbonization](#)

This issue brief was informed by discussions at an Atlantic Council Global Energy Center roundtable on European energy security in Berlin on October 9, 2019, as well as other conversations with government officials, private sector executives, and leading academics in the global energy sector. The information in this issue brief will not be attributed to any specific individual since the discussions took place under the Chatham House Rule. This is the second issue brief in a series; it complements the findings in the first issue brief, “European Energy Security and Transatlantic Cooperation: A Current Assessment,” which covered the current state of the European Union’s regulatory environment and energy markets with a specific focus on energy security and natural gas markets.



## [Peace Points: Climate Security: Challenges and Progress](#)

Dan Smith discusses challenges and progress made over the past year on addressing the climate-related security risks, as highlighted in the new report 'Climate Security – Making it #Doable. The report was recently published ahead of the 2019 Planetary Security Conference.

# Climate & Geopolitical Security

## [The Geopolitics of Energy Security in Europe](#)

Since Russia cut off the gas flowing through Ukraine in 2006 and 2009, energy security has been high on the minds of NATO's member states. These crises briefly halted major industrial production in the affected states and caused measurable economic harm. They also highlighted a clear vulnerability on the part of NATO countries, which could be exploited in future crises on the Eastern flank. That is why, although major decisions about individual nations' energy mixes and infrastructure investments are for those states and the European Union (EU) to make, NATO also has a distinct interest and a role to play.

## [European Energy Security: Options for EU Natural Gas Diversification](#)

As a major energy consuming region, Europe faces a number of challenges in addressing its future energy needs. For member states of the European Union (EU), challenges include rapidly rising global demand and competition for energy resources from countries such as China and India, tensions with Russia,



efforts to integrate the EU's internal energy market, and a growing need to shift fuels in keeping with the EU's climate change policy goals. As a result, energy supply security has become a key concern for the EU. European energy security is also of significant interest to the United States.

## [The Political Economy of Clean Energy Transitions](#)

The 21st Conference of the Parties (CoP21) to the United Nations Framework Convention on Climate Change (UNFCCC) shifted the nature of the political economy challenge associated with achieving a global emissions trajectory that is consistent with a climate. The shifts generated by CoP21 place country decision-making and country policies at centre stage. Under moderately optimistic assumptions concerning the vigour with which CoP21 objectives are pursued, nearly every country in the world will set about to design and implement the most promising and locally relevant policies for achieving their agreed contribution to global mitigation. These policies are virtually certain to vary dramatically across countries. In short, the world stands at the cusp of an unprecedented era of policy experimentation in driving a clean energy transition.



# Climate & Geopolitical Security



## [The EU Energy Strategy in 5 Graphs](#)

The EU wants to insulate itself against the risk of energy supply disruption. The crisis in Ukraine has heightened the sense of vulnerability, particularly for those countries in the eastern EU that rely heavily on Russian gas. The European Commission has explored recent and expected future trends to see how greater energy security could be achieved. Here are five graphs that give you a flavour of what it says.



## [Why The EU Needs A Geopolitical Commission](#)

History has shown that rogue leaders only understand the language of diplomacy when it is backed by force. With the return of great power rivalry, the EU has felt the need to gradually adapt its posture on the increasingly conflicted world stage. Last year, the newly appointed President of the European Commission, Ursula von der Leyen – a former defence minister of Germany, even defined her institution's mandate as being a geopolitical one. In her first State of the Union address, she has every reason to double down on that mission.

## [How The EU Can Survive in a Geopolitical Age](#)

The euro, trade and competition policy, the norm-setting power of the internal market, and the EU's financial strength give the union the necessary means to thrive. But to fully use these instruments, the EU needs more decisive leadership, and its way of doing business will have to change.

## [2021, A Crucial Geopolitical Year For The European Green Deal](#)

While the Covid-19 health crisis has frustrated the hopes and expectations of 2020, which was due to be a year of major momentum for environmental multilateralism, the coming year gathers opportunities brought by the Green Deal for an ambitious ecological transition and renewal of the globalisation, but also geopolitical challenges. France, which will hold the EU presidency at the start of 2022, will have to contribute to the diplomatic resolution of several of these key issues, in close alignment with the 2021 Portuguese and Slovenian presidencies and in coordination with Germany, whose presidency has just ended, particularly on the issue of trade where it has sought to bring about change.

### Thank You to Our Sponsors:

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