# POLICY BRIEF ENVIRONMENT

Security at Risk – Efficient and resilient means of cooperation in Europe

## OVERVIEW

In the current day and age, it is hard to avoid the effects of climate change and further environmental crises. As stated in the latest IPCC report that indicates a temperature rise which is likely to exceed 1.5 degrees, Europe will face weather extremes and catastrophic events on a more consistent basis.

This policy briefs aims to highlight the effects environmental insecurities currently have on Europe and provide recommendations on how to improve on the current status quo.

Our focus is primarily aimed at health, food, and energy security. The environmental effects on health can be clearly illustrated by the rise in cardio-vascular and respiratory diseases, direct impacts of increased environmental hazards, and general malnourishment, which are adversely affected by the effects climate change has on food production. The agricultural output is also at risk, even in Europe, caused by general inefficiencies and the worsening effects climate change has on unprepared food production chains, leading to the increased dislocation of people and the desertification of entire regions. Tying into all this, general inefficiencies and outdated methods of energy production and consumption are currently accelerating that process, simultaneously fostering dependencies on autocracies and outside powers. This in turn threatens our security not only by contributing to climate change, but also by providing certain actors with the ability to wage wars and extort our energy dependencies.

#### **KEY POINTS:**

- Threatened Health, Food and Energy Security in Europe because of Climate Change necessitate a call for immediate action
- Establishment of a management system for health-related issues
- Coordination, efficiency-improvements, and new outside the box methods are needed in the food sector
- Expanding on RePowerEU, increased coordination and a complete restructuring of European energy and security policies

Authorship: Participants of the JLU-KAS-EHU Student Exchange 2022 Arsenji Tereshkovich, Stephan Fribe, Patrick Muntean

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## 1. Health

#### 1.1 Current situation

As defined by national climate assessments in the US and by the IPCC in 2021 (National Climate Assessment 2022; Ipcc.ch. 2021) we have several implications with health issues due to climate change, which are highly applicable to Europe.

To start, an increase in **issues with cardio-vascular system** and **heat strokes** due to heatwaves and wildfires should be noted. Continued smoke exposure increases respiratory and cardiovascular hospitalizations, emergency room visits, and medication dispensations for asthma, bronchitis, chest pain, chronic obstructive pulmonary disease, respiratory infections, and medical visits for pulmonary illnesses. In Europe, cardiovascular issues were most typical, however these are only on the rise due to climate change. According to the EEA, there was a 50% mortality rise from 2000 to 2018 (European Climate and Health Observatory 2022) which resulted in almost 300,000 deaths annually.

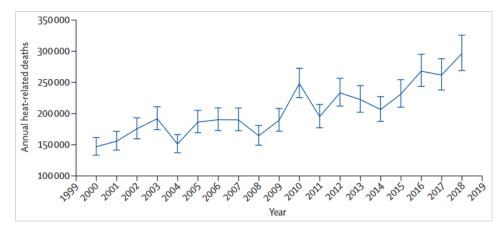


Figure 1: Annual heat-related deaths (European Climate and Health Observatory 2022)

Furthermore, **respiratory system and joints problems** connected with rising humidity and rainfall are becoming increasingly likely. Water intrusion into buildings can result in mold contamination that manifests later, leading to indoor air quality problems. Buildings damaged during hurricanes are especially susceptible to water intrusion. Populations living in damp indoor environments experience an increased prevalence of asthma and other upper respiratory tract symptoms, such as coughing and wheezing as well as lower respiratory tract infections such as pneumonia, Respiratory Syncytial Virus (RSV), and RSV pneumonia.

A **rise in allergies** due to higher pollen rates, bacteria, and algae blooms is also observable. Climate change, resulting in more frost-free days and warmer seasonal air temperatures, can contribute to shifts in flowering time and pollen initiation from allergenic plant species and increased CO<sub>2</sub> by itself can elevate production of plant-based allergens. Other effects of the climate catastrophe are **physical destruction** and increased **damage to human life** stemming from catastrophic events such as floods, cyclones, and tornados.

Climate change is one of the factors that influences the **distribution of vector-borne diseases**, such as fleas, ticks, and mosquitoes, which spread pathogens that cause illnesses. The geographic and seasonal distribution of vector populations, and the diseases they carry depend not only on the climate but also on land use, socioeconomic, and cultural factors, pest control, access to health care and human responses to disease risk, among other factors.







#### 1.2 Challenges

A decentralized healthcare system in the EU is based on strategies implemented by local health departments. Thus, citizens of the EU face quite different conditions regarding modern-day problems like Covid-19 or Monkey pox. Both diseases have connections to anomalous climate conditions of past years. Countries like Germany provide strict control measures and good access to needed medicine. However, in countries like Poland and Bulgaria, restrictions were much lighter, but the accessibility of medicine was debatable. This eventually led to drastic swings in infection and mortality rates, the consequences of which can be seen even now.

The same goes for Monkey pox which is an example of tropical vector-borne disease (infections like this could become more widespread due to climate change). This pathogen does not even have proper medication and vaccinations because it was uncommon in Europe for decades. In the case of climate change, those *rare occurrences* will become quite common.

At the same time, there are several indicators like Lancet and Copernicus (The Lancet 2019; EASAC 2019). However, these are relatively new (most of them since 2016, 2017) and thus the data is **insufficiently small**. Those indicators are **just there for recommendation** and still not so popular.

#### **1.3 Recommendations**

Health persistent problems connected to climate change-related health issues have already paved a road to multiple indicators like Copernicus, Lancet countdown, and indicators from the EEA. Those factor in not only illnesses and climate sensitivity data, but also the work of governments, industries and businesses on the matter.

However, those indicators usually treat the problem as a general climate change-related topic, which leave less options for a public health response. It is clearly stated that those indicators are for recommendation sand consultations. Thus, **action** is needed through

1. The creation of a **management system between the public health ministries of EU member-states**. This could be achieved by certain **directives** from the European Commission, as it was with invasive species standard-izations.

Indicators mentioned earlier could act as a **factual basis** for the functionality of such a management system, which due to its versatility could be implemented in many spheres outside healthcare.

2. **Certain limits** for those indicators could be established for industries, governments in violation of it may be subjected to **fines**, which could improve **financial aid** to the most vulnerable parts of healthcare infrastructures. For those indicators to be successful, they should have certain levels of standardization as well that could be accepted in any EU country.

The current decentralized system lacks equity for its citizens, which do not have equal access even within EU member states.

A **centralized system** must be implemented in order to avoid a non-systematic approach during Covid-19. This could prove to be challenging considering the national interests of individual states. The Covid pandemic illustrated that current response models may contribute to **economic downswings** and **increased discrimination**. However, this is where the idea of **European unity** should work, since future challenges may be even more challenging.







## 2. Food security

#### 2.1 Current situation

The Food and Agriculture Organization of the United Nations defines food security as "the situation where people have physical and economic access to sufficient, safe, and nutritious food that meets their dietary needs and preferences for an active and healthy life at all times; in other words, people are free from hunger malnutrition" (Berkhout et al. 2022: 6). This vision is being pursued through numerous **international agreements** on food security, most prominently the Social Development Goal (SDG) #2: Zero Hunger, which takes the point of view of overall food security (Berchin et al. 2020: 179).

The Global Food Security Index identifies the ten countries with the highest level of food security, all of whom are western countries (GFSI 2022). Europe in total is classified as having a **high level of food security**, though a myriad of regional differences can be observed, especially in the Balkans or Caucasus regions (FAO 2022:6). Although the overall food security in the EU does not appear to be threatened by volume loss at the present time, it is nonetheless affected by the **rising prices** (Berkhout et al. 2022).

The cheap prices of European food are based on the externalization of costs along the (global) production chain (Mardsen et al. 2018: 1303). Yet within this production and supply chain, **inefficiencies** are apparent when dealing with food waste. A meta study of food waste along the supply chain indicates ranges of annual waste between 200 to 400 kilogram per person. Regarding Europe, within around 160 kilogram and 300 kilogram per person a year, food waste is comparatively high, especially against the background that the highest share of **food waste** happens at the point of consumption (Corrado & Sala 2018: 127).

Although Europe has relatively high levels of food security, the current Russia-Ukraine war has had two outcomes: It has created a new dimension of international food insecurity, but it has also highlighted existing **systemic weak-nesses** in international food security (Behnassi & El Haiba 2022).









#### 2.2 Challenges

There has been a notable **increase in food and energy prices** as a direct global impact of the Russian invasion of Ukraine (World Bank 2022). As of right now, no serious supply issues have been observed in the EU, but the Russian-Ukrainian war can be viewed from the lens of **multiple crises striking at the same time**: the ongoing coronavirus pandemic, a general energy crisis, disruptions in the global supply chain, and continually worsening extreme weather events caused by climate change.

This has led to a European food crisis which is **negatively affecting both ends of the food production** chain - both the production, caused by "cost-price" squeezes - and the consumption, through significant price increases, which in turn lead to nutritional and health problems (Mardsen et al. 2018: 1302). The underlying issues of this crisis are rooted in a crisis of food governance as existing and longstanding **governance regimes no longer appear to be capable of delivering effective, long-term food security and availability** (ibid.) The focus on short-term benefits and lower prices has, similar to energy markets, led to vulnerabilities and global dependencies, especially in light of the climate catastrophe.

"Europe's food system is threatened by increasing levels of food poverty, environmental degradation, resource scarcity, climate change" (Mardsen et al. 2018: 1302), as well as declining water availability and an urgent need for more resilient crops. The global refugee movements caused by the food crisis and climate change also in turn stand to worsen the current state (World Bank 2022).

#### 2.3 Recommendations

The current crisis has led to the establishment of a Global Alliance for Food Security under the G7 presidency of Germany and the World Bank at the April 2022 World Bank Summit (World Bank 2022). Additionally, the European Commission has implemented a monthly monitoring system for stocks of agricultural commodities (European Commission 2022).

There is still a **narrow window of opportunity** to scale up measures in this decade. Food security can be ensured if governments implement policy measures to support a stable macro-environment, including improved food supply, better infrastructure, and less import dependencies as a precursor to higher productivity (Máté et al. 2020: 9). To this end, the increased use of renewable energies will most likely lead to an increase in food security because it reduces future costs in production and transport.

Future global and/or European food security can only be achieved by

- 1. An **increase in agricultural productivity** (Smyth et al. 2015) that cannot be achieved at the expense of climate protection and means to protect biodiversity (Strange et al. 2022).
- 2. A **major rethinking** in the way agricultural production currently works needs to happen, with the role of highly dependent subsidized producers and conventional farming needs to be critically evaluated (Mardsen et al. 2018: 1305).
- 3. Additionally, **concepts such as genetic engineering** might prove to be a way to safely increase agricultural productivity (Smyth et al. 2015). Though currently unpopular, it can play a key role in preserving food stability and preventing future mass crop failures and famines.
- 4. We propose the **introduction of financial assistance schemes** on an intra- and intergovernmental level for those threatened by high food insecurity (Berchin et al. 2020: 180).
- 5. An **institutional safeguarding and monitoring process for global food security** (ibid.: 181) needs to be implemented to facilitate the **creation of global strategic food reserves**, helping to combat losses in production and hardships caused by price shocks in the long term (Behnassi & El Haiba 2022; Lang & McKee 2022). This in turn could support the alleviation of poverty by reducing the vulnerability to shocks caused by food prices or availability (Máté et al. 2020: 9).
- 6. To achieve all this, we additionally propose an **expansion of international humanitarian law** to **explicitly** address **food infrastructures** (Behnassi & El Haiba 2022).







## 3. 3. Energy

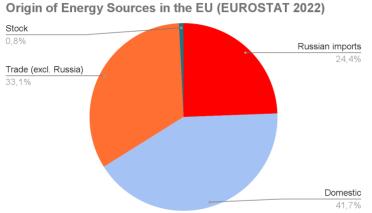
#### 3.1 Current Situation

At the beginning of the 20th century, coal was the main source of energy and powered most western industries and economies, a position which was quickly supplanted by oil, gas and nuclear energy. Growing concerns over the use of fossil fuels in the context of the climate catastrophe and the strategic and geopolitical weakness caused by an **overdependence on fossil fuel exporting autocracies**, however, have started to change the discussion. The **emissions** from the use of fossil fuels in the energy sectors account for almost half of the EU's annual CO<sub>2</sub> emissions, making up roughly 1406 million tons of CO<sub>2</sub>. If we are to reach the ambitious goals laid out by the European Energy Transition Plan 2030, we would have to cut the use of coal by two thirds and reduce the use of oil and gas by 25% by 2030 (Buck 2019). Currently only 41.7% of the **consumed energy** inside the European Union is produced domestically, meaning that more than half of all energy consumed in the form of fuel, electricity, or industrial production must be imported (Eurostat 2022).

The ecological necessity to move away from the use of fossil fuels has been widely discussed and is viewed upon as a global consensus, but the security risks that come with **energy dependency** are rarely discussed in a productive analysis.

#### 3.2 Challenges

European energy policies remain disjointed and inefficient with individual states deciding their own respective energy and electricity policies. In addition to a 4-way split electrical grid, every state continues to run their own respective energy grid and market, whilst only coordinating day-ahead markets and productions. Overproduction is usually compensated by the sale of excess electricity to other European markets and/or the shutdown of excessive energy generators. Renewable energy sources end up being turned off first during overproduction phases, since they are easier to scale down than conventional fossil plants. **Theoretical renewable energy potential can thus not be used adequately**.



The war in Ukraine has thrown the world's energy and electricity markets into a deep crisis. A 400% year-on-year price increase for electricity in the EU in Q4 2021 (compared to Q4 2020) was only exacerbated following the invasion of Ukraine (Directorate-General of Energy 2022). Nowhere can the problematic nature of complete energy dependency be seen more clearly with Russia being the biggest single import-source of fossil energy, providing 24.4% of all gross available energy in the Union (Eurostat 2022). The term "energy weapon" has been identified as a strategic threat in European-Russian relations long before the war in Ukraine started (Colins 2017), yet it has been proven to be the bane of existence for European support in the war in Ukraine.







The reliance on Russian-sourced energy is clearly being used to facilitate Russian aggression, by threatening European energy security, thus undermining European unity and support for Ukraine in general.

The import-potential of Russian gas and oil is likely to decrease amidst European sanctions against Russia. European governments have started to deal with the current energy crisis by temporarily disregarding their respective paths towards an emission free future, severely jeopardizing their plans. Germany has announced a temporary replacement of gas-based energy generation by coal, potentially threatening their plans to exit coal by 2035/38. The construction of new LNG facilities in the EU could potentially supply 25% more gas to the EU than before, at a time where we should drastically cut back on the use of gas. These developments have the potential to put us on an irreversible path to global warming (Climate Analytics, 2022) and must therefore be avoided at any cost.

#### 3.3 Recommendations

Though the previous section clearly outlines a slew of desperately needed reforms and actions, we want to focus on a few key actions and provide a general outline what is necessary to move forward in the coming years.

We propose:

- 1. **Expand the scope of RePowerEU to allow the establishment of PCIs** (projects of common interest, as outlined in RePowerEU) with European-aligned or bordering states that can add to a net benefit to the European energy system.
- 2. For this, a comprehensive analysis of potential bottlenecks and future electricity and energy highways is needed, with a clear focus on outlining viable expansion plans on major points of network stability.
- 3. This will need to be combined with **unprecedented investments in energy-critical infrastructure** that cannot be based on fossil fuels, requiring a pan-European program that realizes its vital role for Europe's safety and future prosperity, and should not be postponed.
- 4. The immediate **suspension of practices that inhibit the use of renewable energies**. Renewable energy sources should have a prioritized status in the European energy mix. Over- and underproduction phases should be combated through the use of the common market, since the likelihood of renewable slumps decrease drastically when Europe is taken as a whole. Backup overhead RE-generating reserves should be built, as they are more environmentally friendly and flexible than gas generators.
- 5. All this should be **exclusively handled by a centralized planning and executive bureau**, yet to be established, **with extensive fiscal and legal competencies** to coordinate the massive transformation the continent needs to undergo as soon as possible.

Additionally, we propose learning the lessons taught by our common history seriously and accepting the reality of changed critical infrastructure being used to facilitate a war in Europe as of right now and of the inefficiency of splinter-markets:

6. What is desperately needed is the **unification of European energy and electricity markets** under one, continuously regulated entity in the form of the European Commission or a suitable pan-European agency, solely tasked with the common governance and control of our most vital assets.







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