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BILKENT ENERGY POLICY RESEARCH CENTER NEWSLETTER

A Green Chancellop for Germany?



NEW GREEN IMPERIALISM THE SUEZ CRISIS

THE USEFULNESS OF SMALL HYDROPOWER PLANTS

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New Green Imperialism Barış Sanlı

Climate change is one of the most critical problems we face. If we cannot reduce CO2 emissions quickly, living conditions in the world will be much more difficult. The root of the problem is our ever-increasing appetite for commodities and energy. The solutions presented are nothing more than a battle of strife for the chance to win world domination and tax others. Green concepts may seem innocent, but when politicized, nothing can preserve their innocence.

A huge transformation awaits us. Our energy system, agricultural system, lifestyle must change. Unilateral actions will not be enough. It is imperative to take coordinated steps. This coordination problem cannot be solved overnight. However, some political blocs try to market their policies to others as "the only way," threatening others with complex trade rules to force others to follow their leadership or to "get them on track."

In the Covid crisis, which is perhaps a rehearsal of the climate crisis, we have once again seen that these complex rule systems and the fight against the crisis do not work in the EU's own covid vaccination problems. Neither could they reach the pace of other countries in vaccination. On the contrary, they created trade barriers with vaccine protection, and they had to start closing again with endless meetings behind the rules. They have transformed what seemed like solutions into barbed wires that encapsulate deadlocks.

Another interesting aspect of the work is that the advocates of the ideas of establishing "climate clubs" within the developed countries are also political blocs with egalitarian and justice discourses; However, it is very significant that these ideas are not accepted. Although neither China, the USA, Russia, nor any other country in the near geography accepts these ideas, they have turned into a green complex of winning the appreciation of the white masters who always repeat in geographies where copy-paste culture prevails.

As China claims, most developed countries already peaked in their emissions years ago. In other words, their conversion from the highest emissions to zero can be done in 30 years. However, the energy demand of developing countries has not stopped. But they have to make the same transformation in the same period. While a developed country citizen moves from a diesel SUV vehicle to an electric SUV, many Asian motorcycles will continue to pollute the world with their transportation facilities. Do you think this situation is fair?

Large budgets are needed to finance the energy transformation. Each of the developed countries explains the amount of investment larger than the GDP of many developing countries. To achieve the goals, you need to invest in new infrastructure, new skills, innovation, and tax breaks. However, most of the world does not have these deep budgets. Since there is no economic situation to print money



for their investment, every investment will be a burden to their citizens. A citizen of a developed country may see a small effect, but this effect will be much higher for the rest of the world. A 10% increase in an EU citizen's bill is the difference between life and death in Asia and Africa. These increases can even block access to energy in these poor countries.

Because developing countries are riskier than others, financing costs are higher. This increases investment costs and costs shared by citizens. Being a developing country means you have to pay the developed world for equipment and interest, commission, consultancy fees. So we have to ask who is the winner, who is the loser.

For example, suppose the transition to a hydrogen-based economy is aimed. In this case, some countries have the finance to spend enormous amounts of money on electrolyzers, infrastructure, new equipment, and fuel cells. What about a developing country? It cannot finance them. An international organization will charge a higher interest rate for the loan than developed countries, the rich country will sell the equipment, its engineers will be consulted, and the poor country will be the user and payer of this energy transformation.

In addition to all these burdens, the developing country has to pay extra taxes if it cannot manage this unfair energy transition anyway. Most of the developing world needs money and finance to grow. The main source of this money is export. When you tax the exports of these countries, you destroy the wages of workers, the source of the extra investment costs that industries need to transform, and the general well-being of these countries. The developed countries win, and the rest lose as planned.

Only green tyrants can defend such a transition. He taxes the poor and gives to the rich. It forces the poor for rapid "green development" and bills for interest, technology, and advice. In short, the whole system finances the New Green Imperialism.

Advocated green policies will make banks richer than ever. The poor will pay for the green, but developed countries with advanced accounting systems will be green in everything with a few certificates based on fake calculations. More rules and green bureaucracy will result in encircled state institutions and institutions that developing countries could never be a part of except to monitor. They will pay for standards, certificates, technologies, but they will be poorer than ever. The new green imperialism cannot go beyond an illusion that will ensure that the rich richer the poor remain poorer in the current world order. Although puppets play games of justice, equality, and freedom, it is always the puppet player who collects the money at the end of the show.

Systems Management: Turkish Nuclear Energy Program

Onurcan Mısır 🛛 in

'It may turn out that [the space program's] most valuable spinoff of all will be human rather than technological: better knowledge of how to plan, coordinate, and monitor the multitudinous and varied activities of the organizations required to accomplish great undertakings.' Editorial in Science, November 1968.

Turkey is a country with tremendous energy demand, and nuclear energy is the most debated way to supply it. According to figures, it has the biggest energy demand growth rate among OECD countries. Even though it uses natural gas and electricity both in urban areas and production facilities, it lacks the necessary amount of natural resources to provide itself with energy. Being one of the largest buyers of energy in its region, it has legitimate political concerns economic and regarding energy security and feels the need to establish an energy mix. To achieve this, it recently made decisions to build nuclear power plants and started the Akkuyu Nuclear Power Plant construction process in Mersin with Russian cooperation. Even though the decision and construction process has helped raise many questions regarding safety and environmental issues in Turkish media and civil society, one of the most critical aspects of projects this big seems to be overlooked. That is the issue of 'Systems Management.'

The Japanese government has been rated among the top 30 countries globally on 'Control of Corruption' in recent years. However, investigations following the Fukushima Nuclear Power Plant accident in 2011 have put clear evidence that the disaster had many man-made aspects. For example, following the New York Times report on the widespread process of "Amakudari" in the Japanese government, which allowed bureaucrats to take up positions at the companies they once oversaw when retired, several top officials were fired. These investigations have uncovered the very close relationship that the regulator has established for many years with Tokyo Electric Company (TEPCO) which operates the plant using its former bureaucrats that landed on lucrative positions at TEPCO. These relationships led to a cut

in the operational expenses that would increase the security of the facility. Associated Press exposed the business ties of 95 people currently working at three main nuclear regulatory institutions, 26 of them being clearly affiliated either with lobbying groups that promote nuclear power. AP also came across 24 former employees of those three regulatory institutions - 8 of whom had connections to privately owned nuclear industry or pro-nuclear groups. These employees, using their connections to both sides of the equilibrium, have impacted the decision-making and regulation processes negatively. The Fukushima Accident Nuclear Independent Investigation Commission (NAIIC) Chairman Kiyoshi Kurokawa said, "It was a profoundly man-made disaster that could and should have been foreseen and prevented. And its effects could have been mitigated by a more effective human response."

What looked like a human error was actually a systemic failure, for what is expected to function in a system are humans, ideas, and machines, in



this exact order. In this case, humans malfunctioned, which led the whole system to collapse. Even though it occurred in a nuclear powerplant in this particular case, such failures are imminent in a world where each part of any system (social, political, economic, and technological) is interconnected with very close and thin lines. Luckily, the errors and malfunctions that many systems, such as Fukushima, have faced in the past would give us the correct definition of properly functioning systems management. There are certain lessons that should be learned to achieve a risk-free and tremendously beneficial Turkish nuclear energy program.

The first lesson should be that technological devices can't work properly unless there are enough ideas to oversee these devices. What created the Fukushima disaster, as mentioned above, was the lack of emphasis on personnel selection, training, and education processes. On the other hand, the increased quality of individuals and their decisions can not be achieved merely by selecting the best engineers, and it can only be achieved if the system (humans, ideas, and machines) itself has the ability to correct its mistakes rapidly using a bottom-up approach. To guarantee this ability, everybody in such a large facility would need to understand as much about the plans and previous mistakes as possible, and the personnel selection should be made accordingly with no flaws. Maximum transparency and communication, horizontally as well as hierarchically, should be the goal between competent personnel whose standard deviation on different dimensions (IQ, willpower, management ability, metacognition, etc.) are as high as possible, and those who oversee and manage these facilities should not be exempted from such necessities. Obviously, there would be the need for competent leadership, but every part of the system can't be put to rest on this centralized rule. While central vision should, and would, define the most important goals and strategy, it would be vital that decentralization dominates operationally so that decisions are fast and unbureaucratic, especially in the event of a crisis. Projects this big must rely on every individual worker throughout the system and shouldn't depend on orders issued from above. However, there will be some orders to be issued; and all of these orders and plans should reach those at the bottom with crystal clarity.

This, in its most basic form, should be the way a nuclear powerplant and all big alike facilities are run. As the quote in the beginning suggests, the increased effectiveness would have significant impacts on Turkey's know-how on similar projects and even its economy as a whole. Such management would be expected to strengthen ties among top scientists, engineers, decisionmakers, and universities, resulting in a massive benefit to the civilian hightechnology economy. On the other hand, if all of these policies are not to be pursued simultaneously, the risks would be too high for such a fragile and potentially damaging sector.

The Suez Crisis Atahan Tümer in

The Suez Crisis, which emerged with a ship's accident, has become an important agenda item worldwide. This event, which occurred unexpectedly and turned into a global crisis, tells many things. Examining this us crisis, whose effects are immediately observable, reveals the sensitivity of global economies. The fact that a ship thousands of kilometers away had a minor accident on the bank of a canal and the whole world was affected by it tells us a lot about the era we live in. It may be a good movie subject that an accident that occurred by a single ship at a critical point affects the life of someone on the other side of the world who is not aware of this event. This event, which is an excellent example of the butterfly effect, reveals how sensitive our lives' constant variables are. It will be very beneficial for us to examine this event, which affected quite different sectors such as electronics, food and energy industries, etc.

The Suez Canal is one of the most critical routes globally, shortening the road between Europe and Asia. The channel, which plays a role in the sustainability of a significant part of the world trade, plays a vital role for Europe and Asia. According to the Suez Canal Authority, the canal provided access to nearly 20000 ships in the last year. Considering this information importance of the canal can be better understood.

The experienced crisis stopped production in some sectors in many countries. When parts imported from Asia did not arrive, many sectors experienced a shortage of raw materials and components and either reduced or stopped production. This caused considerable damage to the world economy. However, regional damage is much higher.

Egypt is making quite a lot of money from this channel. This channel, which has made billions of dollars to its economy, plays a vital role in the Egyptian economy. That is why Egypt suffered perhaps the most from this crisis. The Suez Canal, whose income has already decreased in recent years, is an essential income source for Egypt. Considering that a significant part of the world trade passes through here, we can better understand such a channel's importance for the regional economy. While currently considering alternatives to the Suez Canal, the



possibility of such events playing an inhibitory role in the realization of these alternative projects should be taken into consideration. The oil pipeline, which is currently being seriously discussed and considered between the Gulf countries and Israel, may decrease the importance of Suez. This project can also cause significant damage to the Egyptian economy. If this project, which aims to deliver the Gulf countries' oil directly to Israeli ports, may decrease the importance of the Suez Canal for the energy sector. Egyptian officials also think so.

The White House has also offered help for this crisis. They also stated that they anticipate that this crisis will have an impact on the energy market. That was the reason why they offered help. This announcement also affected the markets. Many manufacturers also had problems in the short term. The amount of damage could have increased if the issue had not been solved.

Syria also experienced an oil crisis because of this incident. So much so that the oil shipment disruption caused urgent measures to be taken in the country. The distribution of the oil has been shifted in order of priority, and critical sectors are prioritized. For example, bakeries and hospitals were prioritized.

The crisis also brought attention to the North. According to Russian officials, this crisis demonstrated the importance of the North Sea Route. This route, which emerged as an important alternative with the melting of glaciers in the North, seems to have a high volume in the coming years. This route, which is currently used for Russia's energy resources to Europe, apparently will attract attention from Asia in the coming years.

In the era of globalism we live in, we have seen how an event at any point in the world affects people on the other side of the world. This event suddenly became the main agenda item of everyone in the world, closely related to all of us. It has also had a significant impact on the energy markets. Delays in energy shipments caused a fluctuation in oil prices. This crisis has shown us how sensitive production is in the age of consumption we live in. This crisis is likely to accelerate many projects. It should not be difficult to predict that alternative projects and routes currently planned to replace the Suez Canal will attract attention.

The Usefulness of Small Hydropower Plants Mihael Gubas

Ideas about the environmental friendliness of small hydropower plants are slowly coming to an end. The number of studies and research suggests that the harm from them is larger than the benefit is growing. The last one was published in January this year and was conducted by scientists from NOVA University in Lisbon, Portugal. The research aimed to calculate the impact of small hydropower plants and their importance as electricity suppliers within the European part of the Mediterranean.

Small hydropower plants (SHPs) are defined as "small" because they have 10 MW or less capacity. Because they do not require dams, in previous years, they were considered to possess a less negative impact on rivers and ecosystems than large HPPs. But with a growing number of such power plants across the Balkans and the European part of the Mediterranean, they're proving to be way more harmful than previously thought. Certainly, it will be argued that the matter lies within the greedy number of SHPPs built and planned, which is a political problem. Still, the study shows just the opposite: that the share of SHPPs in total energy production is little and without the real potential for growth given the global climate change that's already happening within the Mediterranean. In other words, the hyperinflation of SHPPs cannot increase the amount of electricity produced compared to the environmental damage it would do. Moreover, economic calculations show a similar result.

The study is predicated on a pre-existing list of current and projected SHPPs. For every site, the theoretical hydropower potential was calculated based on climatological, hydrological, and altitude data and the criteria for planning SHPP plants. Results for 14 countries in two different modeling scenarios (built: 4177 SHPPs and planned: 9925) were compared for the first time with national gross electricity consumption and primary energy consumption. The estimated potential was then compared with the particular data on SHPPs.

Also, the study concluded that the efficiency factor was overestimated and that existing projects have more than three times lower average productivity than the theoretical potential. The figures are even more devastating if we consider global warming scenarios that predict long periods without precipitation within the Mediterranean and shorter ones with abundant precipitation. However, because of low power, SHPPs cannot utilize excess water in heavy rainfall, so their efficiency remains low again.

In short, the study concludes that the potential (overestimated) contribution to the energy mix of existing SHPPs within the European Mediterranean is simply about 2.6 percent of gross electricity consumption and 0.47 percent of primary energy consumption. The calculated contribution is about 3.5 percent lower and falls to about 0.74 percent of gross electricity consumption and 0.12 percent of primary



energy consumption. Furthermore, with the construction of 5,748 new plants and doubling the number of SHPs, their potential (overestimated) energy contribution is growing from 2.6 percent to 4.4 percent of gross electricity consumption and from 0.47 percent 0.79 percent of primary energy consumption. Electricity production in SHPPs largely depends on the environmental condition and might vary by over 50 percent of annual production years with favorable and non-favorable conditions. Results vary by region because drought in one region usually means high productivity in another. SHPPs have a better and more stable potential in mountainous areas (due to the combined effect of height and rain caused by the form of the terrain). Therefore, the Balkans have greater hydro potentials than Greece, Spain, France, and Italy.

However, even the Balkans aren't safe from temperature change. Moreover, in recent years, the Balkans have been under the threat of both floods and droughts happening in the same year, during a scenario of worldwide warming averaging 2 degrees Celsius per annum (although we are In the scenario of global warming at an average of 2 degrees Celsius per year (although we are currently warming to three average degrees), the flow of streams and rivers is predicted to fall by 10 to 30 percent. And with droughts and water shortages, the potential of hydropower plants will decrease even more. High levels of precipitation followed by long droughts will mean an even greater decline in electricity production from hydropower, as water scarcity would encourage greater competition for water. The priority would be the supply of water for human consumption, ecosystems, and agriculture. Consequently, most of the flow will exceed the turbine's capacity and will not be used for energy production. Long periods of low flow will produce small amounts of electricity.

These two combined effects will greatly reduce the production of Mediterranean hydropower and make SHPPs unusable. Exceptions are locations where network connectivity is greater than the effects of installing SHPPs in ubiquitous systems such as irrigation, water supply, or wastewater systems. The latter are mostly located in areas where environmental damage has already been done.

Furthermore, the value of electricity from SHPPs ranges from 40 to 300 MWh, which is very expensive, since the wholesale market value of electricity in Europe is from 40 to 60 euros per MWh, and this is all without the cost of investing in energy efficiency and without leveling the price of competing emerging technologies (such as advances in photovoltaic cells). Mini hydropower plants have therefore used up their purpose, both economically and environmentally, and why they're still being forced continues to be only a political issue.

A Green Chancellor on the Horizon for Germany? Selin Kumbaracı

Following notable victories by the German Greens—and significant losses by the Christian Democratic Union (CDU) in the two recent regional elections in Germany, the country may be on track to have its first Green chancellor, depending on the results of the federal elections in September.

The CDU had its poorest performance ever in the German states of Baden-Württemberg and Rhineland-Palatinate, which were the sites of two key regional elections. In contrast, the Greens held on to their first-place position even increasing their support—in Baden-Württemberg. They also nearly doubled the proportion of votes that they received in Rhineland-Palatinate, raising their share from 5.3% (in 2016) to 9.3%. At the same time, the CDU's share of votes decreased in both states.

These results are especially interesting in terms of Baden-Württemberg being the heartland of the German automobile industry and the state capital, Stuttgart, home to Mercedes-Benz and Porsche. The specific candidate the Greens have, Winfried Kretschmann—the incumbent state premier—has won over the support of the metal and electronics industries as well as those of conservative voters through his pragmatic approach.

Indeed, as Philip Oltermann of The Guardian put it, "Baden-Württemberg and neighboring Rhineland-Palatinate could teach the German public a surprising lesson: that they can vote for a continuation of Merkelism not just without Merkel, but also without the CDU."

These results could spell trouble for the recently elected head of the CDU, Armin Laschet, in terms of his bid for the German chancellorship. Laschet was already facing difficulties and a challenge arising from within the CDU/CSU coalition, in the form of the more popular Markus Söder (of the Christian Social Union in Bavaria).

Söder has been portraying himself as a more 'green' conservative and vying for an alliance with the Greens themselves, who are at this point Germany's second-largest party. They may, however, soon swap this position with that of the CDU/CSU bloc if those polls which are predicting the Greens' ascent into the role of Germany's largest party are correct.

Such a development may ensue regardless of who ends up becoming the CDU/CSU joint candidate in the chancellorship race, though perhaps it would not be too controversial to say that Söder is the more popular



of the two potential conservative candidates.

This shift towards the Greens is not necessarily caused in its entirety by the increasing amount of people gaining a 'green' awareness but is also significantly related to a major corruption scandal that took place recently involving CDU politicians and questionable business deals on face masks, as well as to the broader (mis)handling of the pandemic.

As the Greens put it in their draft manifesto, "Vaccine problems, too few tests and a lack of strategy in combating the corona pandemic would once again show that reactive politics can at best prevent the worst. But it's about making the best possible."

In this draft manifesto (to be finalized in the party congress in June) the Greens also highlight various measures they will be pushing for that will differ from what they called the "reactive politics" of the Merkel government.

Some of the most noteworthy of these measures include the phasing-out of coal as well as cars with combustion engines by 2030, going towards a massive expansion in renewable energies, setting a 130-kilometer-per-hour speed limit on the autobahns,

increasing Germany's 2030 domestic emissions reduction target to 70%—a 15% rise from the current 55%.

In terms of even more sensitive issues, though, the Greens have also strongly expressed their opposition to Nord Stream 2, stating in their manifesto that, "The Nord Stream 2 pipeline project must be stopped," in addition to arguing elsewhere that, "The project finances a corrupt regime and is a bet against European climate goals — it should never have been realized," alongside a petition to halt the project.

Even if the Greens are not successful in taking the chancellery, polls suggest that a coalition between the CDU/CSU and the German Greens appears to be the most likely outcome, replacing the current coalition consisting of the CDU/CSU and Social Democrats.

Thus, while the ruling coalition that will come out of the federal elections still remains unclear, it is almost certain that the Greens will take on a significant position in a majority of the configurations being considered.



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