EUCERS Newsletter

Newsletter of the European Centre for Energy and Resource Security (EUCERS) **Issue 67, August/September 2017**

Introduction

Dear readers and friends of EUCERS,

After a summer break, it is my great pleasure to welcome you to this latest edition of the EUCERS newsletter, in which we present you with two articles.

In the first article, Vahe Davtyan, a professor at Russian-Armenian University (RAU) approaches Global Energy Security as an Ontological System.

The second article, Pablo Necochea, a PhD Candidate at the Autonomous University of Madrid and KAS-EUCERS fellow, looks at the potential impact of the US withdrawal from the Paris climate agreement for Latin America.

This edition also features reports on three events that EUCERS conducted this past summer.

I would like to take this opportunity to welcome the new KAS-EUCERS fellow Simon Chin-Yee to the team!

Feel free to keep us informed about your research projects and findings as we look to remain at the forefront of new knowledge and innovative ideas.

Thank you for your interest in EUCERS and for being part of our community.

Yours faithfully,
Thomas Fröhlich
EUCERS Newsletter Editor

In this Month's Edition:

ARTICLES

Global Energy Security as an Ontological System: A Socio-Philosophical Approach

By Vahe Davtyan

The study of global energy security in the context of socio-philosophical problems is necessary because global energy security has already been transformed from a purely technical and economic system, into a socio-forming and ontological system. The problem of a continuous process of human image formation 'as a consumer' is key to the philosophical understanding of global energy security. Being an insatiable consumer of energy (and other) resources, the individual is considered a resource or the construction of various ideological structures, which require examination and assessment in terms of social philosophy.

Dr. Vahe Davtyan is an associate professor at the Institute of Law and Politics of the Russian-Armenian University (RAU), where he leads the master's program 'Applied Political Science'. Dr. Davtyan also heads a research group on problems of energy and transport development in unrecognised states. He has authored more than 40 scientific articles, as well as 3 monographs and a textbook. Dr. Davtyan also serves as a columnist for a number of newspapers and online news agencies in Armenia and abroad.

Turning to the ontological meaning of any system, first of all, we should understand the presence of specifics within a system that directly affect existence as it is, in other words – they affect the material and ideological components of human life. Global energy security is no exception. In the twentieth century, energy security became a kind of 'backbone' factor that had great influence on the world economic and political system, as well as on the formation of a number of socio-cultural trends and patterns, as shown by consumer behaviour markers. On the other hand, it is important to understand that energy consumption is one of the main criteria for the development of modern civilisation, as well as an indicator of quality of life. It is obvious that in a purely materialistic context, such an approach may be justified, because energy consumption is the main mechanism for stimulating the growth of economic activity. However, there is still the problem of identifying the risks that global energy consumption has. When speaking of the ontological foundations of energy consumption, it is necessary to determine not only the economic and environmental risks, but also spiritual and moral risks.

The "Energy of the Disaster"

In the period from 1890 to 1990, global energy consumption increased almost 12-fold, and in the final decade of the last century, it reached an astronomical figure of 12 billion tons of fuel equivalent[1]. Comparing the indices of energy consumption in the world for the mentioned period with the demographic picture of the world during this period, it is not difficult to identify the main ontological significance of energy security. For the last one hundred years, the number of people in the world has increased, and that has directly affected the increasing demand for energy. According to UN demographic forecasts, in the early twentieth century the number of people in the world was about 1.6 billion, it was six billion at the end of the century, and by 2050 it will have increased to 9.7 billion people[2]. This issue is traditionally considered in the context of the global challenges to humanity in the twenty-first century, and is directly associated with the increasing consumption of natural resources. However, this issue should be considered at a system-wide level and not in the narrow context of a logical-causal relationship, "increase in the number of population – growth of consumption". Of course, historically an increase in population has a general effect on the level of energy consumption, but significant trends in the contemporary world show that energy consumption is in fact mainly growing in countries with relatively high levels of socio-economic development. Although this is quite natural, the problem is that economic activity is not always associated with the creation of new material and spiritual values. It is typical that the largest consumers of energy resources today are megacities whose economies are largely built on the service sector. It is appropriate to consider this trend in the context of the impact of energy consumption on civilisational processes.

The French philosopher Baudrillard's attention to New York in the context of the culmination of energy

[1] The system of statistical indicators of the world energy (1993). Yu. Rudenko (ed.). Moscow: International Fuel-Energy Association (in Russ.)

[2] UN (2015) World Population Prospects: Key Findings and Advanced Tables

consumption is not accidental. He writes that New York acquired the highest level of the energy consumption due to its own spectacular nature, which is incandescent to the limit. Thus, the greater the costs, the more energy and wealth grow. This is the "**energy of the disaster"** that cannot be anticipated by any economic calculation[3]

Considering trends of urbanisation, forecasts predict that 70% of the earth's population will have moved to cities by 2050[4]. If we observe this issue in demographic terms, we could note that city dwellers usually have fewer children than residents of provinces. Does this mean that the sharp growth of the world's population will come to a halt, and in parallel, that the growth of energy consumption will also be suspended? Not at all. Urbanisation affects the growth of energy consumption, and I can add that if predictions regarding urbanisation are realised, then we should expect a sharp rise in energy consumption; therefore, energy security will remain a key issue in the twenty-first century.

The demographic problems of world energy consumption should also be considered in the context of the Pareto empirical principle that states that "20% of the effort gives 80% of the results, and the remaining 80% of the effort gives only 20% of the results". Here we can consider an example from Africa. Per capita consumption across Africa is, as a continental average, the lowest in the world. The population changes taking place in sub-Saharan Africa have major implications for the development of the energy sector. The growth is rapid, having increased by 270 million people since 2000 to around 940 million in 2013. The number of people in Africa has reached one billion people and Africa is currently seeing an increase of 24 million people every year. If such growth rates continue, the number of people in Africa may have doubled to two billion people by 2050[5].

On the other hand, Japan is among the top five countries demonstrating the highest rates of energy consumption. Japan consumes 4.2% of the world's primary energy sources. At the same time, during the last five years, Japan has declared that it has serious demographic problems. The Japanese government predicts that if current trends continue, Japan's population will have declined from its current level of 127.5 million, to 116.6 million by 2030 and 97 million by 2050[6].

Energy Consumption in a post-industrial World

The post-industrial society, as a result of de-industrialisation, is characterised by the decrease in the consumption of primary (or natural) resources. However, the contradiction is that the use of the innovative and intellectual mechanisms of a society's economic development also implies an increase in energy consumption. According to the concept of the information society, which originates from the basis of the post-industrial society concept, the main driving force of the economy should be maximal informatisation. Today, sales of computers, tablets, and smartphones are growing at a tremendous speed. Naturally, the consumption of electricity is increasing in parallel. Also, taking into account the increase in the number of server organisations with superprocessors, we can come to the conclusion that the informatisation of society contributes not only to its intellectualisation, but also to the growth of energy consumption.

At the same time, the development of energy-efficient technologies does not actually keep up with the spread of new computer technologies and new information products. Moreover, if the current growth in computerisation is maintained, the world may face an energy crisis by 2040. The amount of personal computers used in the world exceeded two billion in 2015, and this figure represents a trend of continuous increase[7]. As is noted in the report of the Semiconductor Industry Association, the world energy system will not be able to power computers by 2040. This may lead to a number of social risks, due to the increasing informatisation of contemporary society. The figure below demonstrates this trend[8].

[3] Baudrillard J. (1990) La Transparence du Mal. Paris: Galilee (in Fr.)
[4] United Nations (2014). World Urbanisation Prospects.
[5] International Energy Agency (2014). Africa Energy Outlook.

[6] Japan's Demographic Nightmare // http://thediplomat.com/2012/08/japans-demographic-nightmare/

[7] Semiconductor Industry Association (2015) Global Sales Report
[8] Semiconductor Industry Association (2014). Rebooting IT Revolution: A Call to Action

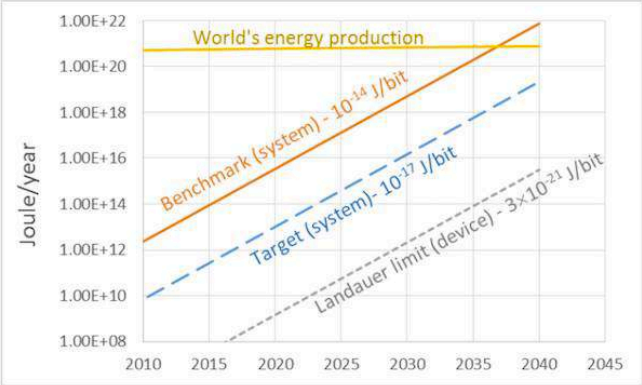


Fig. A8. Total energy of computing.

Conclusion

Thus, it is necessary to determine the methods of constructing a human security system, which should also include the subsystem of human energy security, directly related to the culture of consumption. The main objective that should be pursued in the formation of a human being's energy security is a rationalisation of energy consumption. In this case, I do not mean a sharp limitation of consumption, as this may cause stress in the economic and social spheres. I mean a rationalisation that refers to the constant search for ways to harmonise a human being's relationship with nature, establishing a dialogue with it primarily through non-aggressive research methods. Obviously, this rationalisation also requires a deep self-knowledge and evaluation of a human being's spiritual and intellectual potential. These should be parallel processes, completing each other. In turn, continuous self-knowledge may lead to the renouncement of stereotypical consumer archetypes and reassessment of the pressuring consciousness of artificially constructed myths, and finally, to a review of the individual's place and purpose in the world. Thus, we can conclude that self-knowledge is the main guarantor of human security, including energy security.

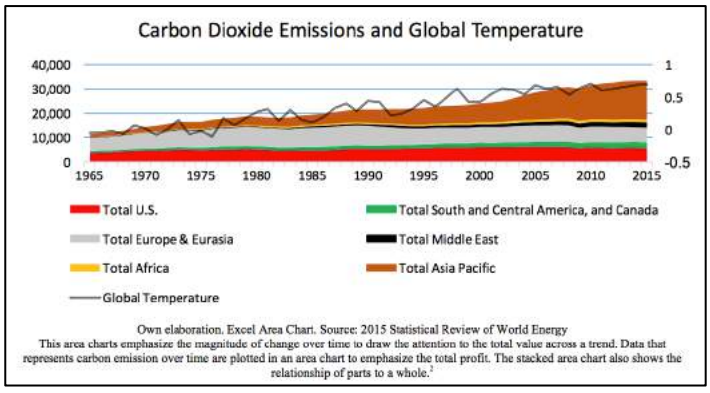
This article is an abbreviated version of the book "Energy Security as an Ontological System" published by DOC Research Institute. The full version can be found under https://doc-research.org/en/energy-security-ontological-system/

Implications of the US Leaving the Paris Agreement for Latin America

By Pablo Necoechea

Although climate change is a natural phenomenon, between 1000 and 1850 the temperature did not vary more than 0.5 degree Celsius (C. Bernstein, & L., Bosch, P. 2007). However, since the mid-nineteenth century - after the Second Industrial Revolution - the temperature has increased by more than one degree. It is estimated that it is inevitable that the Earth will warm up by one and two more degrees by the year 2100 and at the current rate could increase up to five degrees more (The Guardian 2013).

Scientific evidence points to the fact that this acceleration of warming is due to the emission of human-made contaminants. In 1895, Svante Arrhenius calculated the impact that increasing carbon dioxide could have on Earth's temperature (Rodhe, H. & Charlson, R. 1997). According to his work, the amount of carbon dioxide emissions into the atmosphere has a strong correlation with rising global temperatures. Carbon dioxide remains in the air, and the impacts will linger long into the future. The following chart[1] shows the amount of carbon dioxide by region versus the global temperature:



Own elaboration. Excel Area Chart. Source: 2015 Statistical Review of World Energy
This area charts emphasize the magnitude of change over time to draw the attention to the total value across a trend. Data that represents carbon emission over time are plotted in an area chart to emphasize the total profit. The stacked area chart also shows the relationship of parts to a whole.[2]

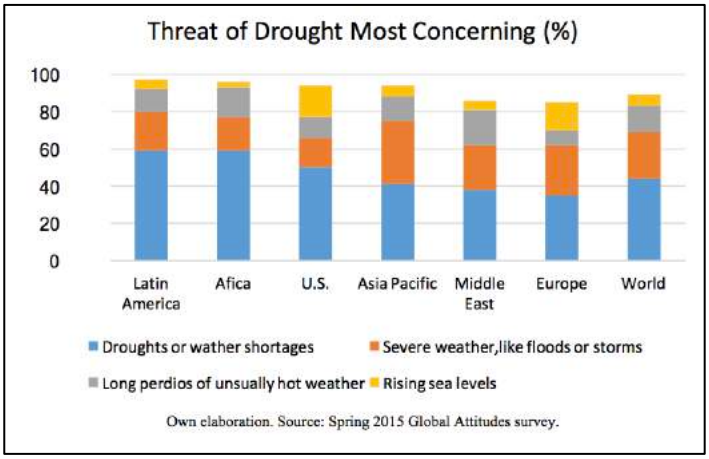
There is a significant difference between regions such as Asia or the Middle East and South and America Central. Even the US alone contributes in a significant manner in the global emission account, and there is not a close comparison with any Latin American (LATAM) country. Even though, all the LATAM countries except Nicaragua, have agreed through an agreement to limit that warming to well below 2 degree Celsuis above pre-industrial temperatures. It is a long-term goal to reduce greenhouse gas emissions aims to reach neutrality in the second half of the century (Rogelj, J., & Den Elzen. 2016). The PA includes legally binding obligations for all countries to regularly prepare climate plans called Nationally Determined Contributions (NDCs). The NDCs will be reviewed by each country every five years starting in 2018 to assure progress toward achieving the long-term goals.

Pablo Necoechea was one of the 2016/17 KAS/EUCERS fellows. Originally from Puebla, México, he is currently pursuing a Ph.D. in Economics and Innovation Management at the Autonomous University of Madrid. Pedro holds a B.A. in Business, a Master's in Competitiveness and Innovation (Deusto Business School), a Master's in Economics and Management Innovation Management (Universidad Complutense de Madrid), and a Master's in Economic and Strategic Sectoral Development (UPAEP University). Pablo has worked in different Mexican government levels managing and developing strategic projects. He writes on issues about energy and economic sector, as well as innovation and competitiveness.

Concerns about Climate Change

According to the Spring 2015 Global Attitudes (PEW Global 2015), which is a climate change concern survey to 31 countries, the people were questioned about climate change concerns from a list of warming potential effects. The following chart shows the results.

[1] The unity of carbon emissions are million tons carbon dioxide, and the unity for global temperature are °C. The carbon emissions reflect consumption of oil, gas, and coal for combustion-related activities.
For this analisis US is considered apart to state the importance of emissions in comparison with world regions.



Own elaboration. Source: Spring 2015 Global Attitudes survey.

Inhabitants of regions with high intensive levels of carbon emissions such as Europe, Middle East, and Asia Pacific, are less concerned about climate change and its potential impact. On the other hand, regions such as The LATAM, which has very low emissions per capita, is most concerned about climate change effects. The LATAM is increasingly worried about global warming and its impacts. The region has focused on renewable energy and energy efficiency, forest protection, sound agricultural practices, clean transport, waste management, improvement of industrial processes. The LATAM is in need to work deep with their PA commitments. However, the country's efforts are impacted by implications due to President Trump's announcement to withdraw from PA.

LATAM'S Implications

The US is the world's second-largest climate contaminant country, and its carbon emission reduction would have made up more than a fifth of the PA's goals by 2030 (The Guardian 2017). However, on last June 1st, President Trump announced the start of the four-year exit from the PA. President Trump signed executive orders to undo President Obama's Clean Energy Plan that aims to decrease emissions from power plants. The program was a central plan for the Obama administration's efforts to meet PA goals reducing its emissions by 26% from 2005 levels by 2025 (Inside Climate News 2017).

Global Warming

Global warming is a consequence of not reducing toxic emissions. According to World Meteorological Organization (WMO), the period 2011-2016 has been the hottest period since it is known (BBC 2016). LATAM is already experiencing serious climate impacts. Since 2014, droughts have impacted the region due to low rainfall and exacerbated by El Niño. If the US continues with its carbon emissions, the impact may be even greater. The region would be less safe because the increasing temperatures, it may suffer higher levels of warming, the glacial melts could accelerate, and the sea level could rise.

US-LATAM cooperation

The collaboration between the US and LATAM had been recently working well. In 2014, the US launched a Caribbean Energy Security Initiative in order to funding Caribbean nations decrease their costly imported fossil fuels dependence, and provide assistance to unlock their considerable potential to develop renewable alternatives (The White House 2014). From 2014 to 2015, the Overseas Private Investment Corporation (OPIC) committed over US$256 million to clean and renewable energy programs in the Caribbean and Central America (OPIC 2017)

Several major oil companies have introduced holistic solutions to automation and developed what is often referred to as "digital fields". International oil companies have invested significant resources in such technologies and even given them brand names: for example, Shell develops "Smart Fields", and BP – "Fields of the Future". Some national oil companies have followed suit and advanced digital field solutions – for instance, Saudi Aramco and Petrobras. In Russia, a joint venture between Shell and Gazprom Neft operating the Salym group of fields in West Siberia applied ANN-based automation and digital control of wells and reservoirs. As a result, operating costs were reduced, downtime was lowered, and production increased at a rate 2-2.5% a year.[2]

Economics

Glacial melt in LATAM is likely to affect water supplies with significant consequences for millions of agriculture dependents and the provision of electricity from hydropower. More frequent and more intense hurricanes, floods and droughts are only expected to

[2] Smart Fields of Salym // Russian Oil and Gas Technologies Magazine, 2014. https://www.google.co.uk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUKEwi_iYXMwp_VAhVGLMAKHaWSDcYQFggrMAA&url=https%3A%2F%2Frogtecmagazine.com%2Fwp-content%2Fuploads%2F2014%2F09%2F06_SPD_Smartfields.pdf&usg=AFQjCNH4ybusJ0Wq_wZ9u9Gk2ehG5eaFzg&cad=rja

increase. The Economic Commission for Latin America and the Caribbean (ECLAC) proposes that the estimated costs of climate change in the region range from 1.5 to 5% of GDP (Scobie, M., 2016).

Climate Finance

The uncertainty which followed the oil market shift of 2014 created demand for deeper structural analysis of energy markets and new approaches to forecasting. So far, artificial intelligence methods in market research have been primarily the domain of traders – mostly in price forecasting of highly volatile products (stocks, commodities, derivatives etc.). More recently, ANNs are starting to make their way into the realm of oil and gas companies.

Private Sector Implications

LATAM's private sector has an essential role to play in supporting national efforts to achieve emission reduction targets to create a low carbon economy. However, President Trump's anti-climate agenda could discourage the private sector enthusiasm to invest and contribute voluntarily to emission and contribute to emission reduction efforts across the region.

Conclusion and Policy Recommendations

Renewables present a significant opportunity for the LATAM to accomplish emission reduction goals for the PA. Some countries have created renewable energy targets and established an enticing regulatory environment as a signal that renewable energy is the new target for new energy generation. The LATAM potential for cooperation on renewables is considerable so the region should encourage the dialogue and collaboration - It represents US$1 trillion of clean energy investment opportunities by 2040, of which US$600 billion is expected to materialize by 2030 (IFC, 2016) -.

The LATAM private sector should continue their commitment to collaborate with governments to create public-private partnerships to incentive interest in the construction of clean, innovative and sustainable energy infrastructure. The LATAM society must understand the urgent need for climate action, and also must work in partnership with local governments, cities, and universities in the region to help join the vast region potential for climate action.

LATAM governments must keep operating in their NDCs as well as evaluate their PA goals periodically. Governments should create clear policies to support low-carbon economies into long-term national plans. The Presidents should increase leadership in the worldwide climate action to negotiate local new financial products for clean technologies, highlighting innovation in transporting solutions. The region should pursue the making decision process into the reconfiguration of the PA.

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DISCLAIMER

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ANNOUNCEMENTS

EUCERS welcomes new KAS fellow Simon Chin-Yee

Simon Chin-Yee is the Konrad Adenauer Stiftung (KAS) fellow 2017/18. As part of the EUCERS team, Simon will be assist in organising the EUCERS/KAS Energy Talk Series 2018, as well as work on a research project focusing on the future of global climate change policy in light of the 'Paris Paradigm' and the 'Trump Challenge'. Having recently completed his doctoral research at the University of Manchester, this project will continue Simon's work exploring influences on national climate policy. In addition to his academic background, Simon has extensive experience international cooperation and policy having worked as a consultant on UN projects primarily in Africa.

EUCERS Workshop in Moscow

"EU–Russia Energy Partnership in Difficult Times"

EUCERS is organizing a workshop to discuss EU-Russian energy partnership in Moscow on 16-17. November 2017 together with the Centre for Resource Economics at School of Public Policy of the Russian Academy of National Economy and Public Administration (RANEPA) and the Konrad Adenauer Foundation in Moscow.

Frank Umbach with new Position at RSIS

EUCERS Research Director Dr. Frank Umbach has been appointed in September as an Adjunct Senior Fellow at the S. Rajaratnam School of International Studies (RSIS) at the Nanyan Technological University (NTU) in Singapore. The entire EUCERS team congratulates him for this important step to internationalize the centre's work. Frank will remain in his primary position at EUCERS.

Report: Resources in Central Asia: Chances for Cooperation

Saturday/Sunday, July 8th/9th, 2017, Issyk Kul Lake, Kyrgyzstan

Together with the **Regional Project Energy Security and Climate Change Asia-Pacific (recap)** of the Konrad-Adenauer-Stiftung e.V. (KAS), the **European Centre for Energy and Resource Security (EUCERS)** at the Department of War Studies at King's College London organized a two-day workshop on the topic of ***Resources in Central Asia: Chances for Cooperation*** on July 8th and 9th, 2017 at the Issyk Kul Lake in Kyrgyzstan.

The main goal of the workshop was to offer a platform for dialogue for a diverse group of representatives from academia, government, NGOs and energy industry in an attempt to encourage the expansion of regional and international cooperation, support the establishment of expert networks and promote the development of sustainable energy policy.

Day I, Saturday, July 8th, 2017

Dr Peter Hefele, Director of the Regional Project Energy Security and Climate Change Asia-Pacific (recap) of KAS and **Dr Vladimir Korotenkto**, Chairman of the Council Ecological Movement Kyrgyzstan (BIOM), both offered welcoming remarks, gave a brief overview of the country and introduced the topic of the workshop.

The keynote was given by **Mr Arsen Syspekov**, the Deputy Director of the State Agency for Environmental Protection and Climate Change, who spoke about the challenges and opportunities Kyrgyzstan in its efforts to

expand its energy sector. At present the energy sector is overwhelmingly dependent on fossil fuels and the challenge is to uphold environmental standards.

Session 1: Reshaping the Eurasian Energy Landscape: Energy and Geopolitics in Central Asia

The first session was chaired by **Dr Birgit Wetzel**, Journalist and the KAS Project Coordinator in Bishkek and included impulse statements by **Dr Frank Umbach**, EUCER's Research Director, **Mr Azamat Dikambaev**, Director of the National Institute for Strategic Studies of Kyrgyzstan as well as **Prof Akkoziev Imil Akunovich**, the Head of Department for Non-Traditional and Renewable Energy Sources (NIER) of the Kyrgyz Russian Slavic University Bishkek. **Mr Rustam Makhmudov**, Energy Consultant from Uzbekistan, rounded up the panel by offering comments on the topic.

The panelists concentrated on Kyrgyzstan's role in the energy landscape of Central Asia and in the greater geopolitical context of the region but also on energy project economics. Low returns on renewable investments were identified as one of the major challenges for the transition to sustainable energy generation of the coal-rich Kyrgyzstan and more efficient coal power plants and carbon capture technologies were discussed as alternatives.

Day II, Saturday, July 9th, 2017

Session 2: Energy Market Integration in Central Asia: Enhancing Regional Stability

The second session was chaired by **Prof Dr Friedbert Pflüger**, Director of EUCERS, and included impulse statements by **Prof Dr Anatole Boute** of the Chinese University of Hong Kong, **Mr Rustam Makhmudov**, Energy Consultant from Uzbekistan as well as **Mr Aleksei Kurokhtin**, Member of BIOM. **Dr Joachim Lang**, Chief Executive Officer of the Federation of the German Industry, commented the statements and offering a perspective from Germany.

The panelists focused on the role of energy market integration – preeminently through the Belt and Road initiative – for the stability of the region, not only from the perspective of supply security but also geopolitics. While some similarities to the process of European integration exist in Central Asia, the conclusion was that in the short to medium term it is improbable that spillover effects would lead to setting up a supranational organization such as the European Union.

Session 3: Developing Policy Recommendations: Towards an Enhanced Framework for Regional Resource Cooperation

In a third session, two working groups led by **Prof Pflueger** and **Dr Wetzel** brainstormed policy recommendations for improving regional cooperation in the field of energy and natural resources. Subsequently, the results were presented in the plenum of the workshop.

The recommendations focused on finding a balance between the political goal of energy independence and the benefits of regional energy integration, i.e. participation in the Belt and Road initiative. Furthermore, while it is certainly purposeful to learn from the experience of trailblazers, such as Germany, when developing own sustainable development policies both positive and negative outcomes need to be taken into account, experiences tailored to the specific needs of the country and technologies assessed based not solely on their potential but also on their local economic viability.

Report: Domestic and Regional Challenges for Kazakhstan's Energy Transformation

Monday, July 10th, 2017, Almaty Tech Garden, Almaty, Kazakhstan

Together with the **Energy Security and Climate Change Asia-Pacific (recap)** of the Konrad-Adenauer-Stiftung e.V. (KAS), **Almaty Tech Garden** and the **Ministry for Investment and Development of the Republic of Kazakhstan**, the **European Centre for Energy and Resource Security (EUCERS)** at the Department of War Studies at King's College London organized a workshop on the topic of ***Domestic and Regional Challenges for Kazakhstan's Energy Transformation*** on July 10th, 2017 in the offices of the startup incubator Almaty Tech Garden in Almaty, Kazakhstan.

The main goal of the workshop was to offer a platform for dialogue to a broad range of representatives from academia, government, NGOs and the energy industry with a particular focus on the digital revolution of the sector. The exchange attempted to highlight the leaps forward made by Kazakhstan in this field, emphasize cooperation opportunities and encourage the expansion of regional and international expert networks and business partnerships.

HE Jörn Rosenberg, Consul General of the Federal Republic of Germany, and **Dr Peter Hefele**, Director of recap, offered welcoming remarks and introduced the topic of the workshop.

Mr Sanzhar Kettebekov, the Chief Executive Officer of the startup incubator Almaty Tech Garden, welcomed the participants in his offices and ecplained the role of his organization in promoting innovation, establishing international partnerships and developing new technologies for the energy sector.

Session 1: Domestic Challenges for Kazakhstan's Energy Transformation

The first session was chaired by **Prof Dr Friedbert Pflüger**, Director of EUCERS, and included impulse statements by **Mr Zhomart Mominbayev**, Advisor to the Director-General of Samruk Green Energy and **Dr Joachim Lang**, Chief Executive Officer of the Federation of the German Industry. **Dr Marat Koshumbayev**, Member of the International Informatization Academy at the United Nations, commented on the impulses.

In this session, panelists delved into technical aspects of the modernization of Kazakhstan's energy infrastructure, particularly electricity infrastructure, and the challenges faced by a potential transition to renewables. Both positive and negative examples from the German (and European) experience were given and the role of technology transfers through investors emphasized.

Session 2: Energy Market Integration: Enhancing Regional Stability

The second session was chaired by **Dr Peter Hefele** and included impulse statements by **Mr Arman Kashkinbekov**, the Chief Executive Officer of the Association of Renewable Energy of Kazakhstan and **Prof Dr Anatole Boute** of the Chinese University of Hong Kong. The statements were commented by **Dr Frank Umbach**, Research Director of EUCERS.

The speakers focused in this session on the way the political and legal framework determines the development of Kazakhstan's energy sector. It also looked at its potential for regional integration of markets for energy and other resources. While projects such as the Chinese Belt and New Silk Road initiative were broadly regarded as beneficial for the development of the region, concerns were raised regarding the potential impact of rules, regulations and standards implementation. Parts of this initiative would unduly limit Kazakhstan's options to source technologies from Europe and Russia.

Report: The Future of Energy Security: Conventional and Renewable Sources in the Aftermath of the Paris Agreement

Tuesday, July 11th, 2017, Astana, Kazakhstan

Together with the **Energy Security and Climate Change Asia-Pacific (recap)** of the Konrad-Adenauer-Stiftung e.V. (KAS), the **Global Energy Center of the Atlantic Council U.S.** and the **Nazarbayev University**, the **European Centre for Energy and Resource Security (EUCERS)** at the Department of War Studies at King's College London organized a workshop on the topic of ***Domestic and Regional Challenges for Kazakhstan's Energy Transformation***. After previous iterations in Singapore and Seoul, this third workshop in our ***Future of Energy Security Series*** took place on July 11th, 2017 at the Nazarbayev University in Astana, Kazakhstan.

The main goal of the workshop was to offer a platform for dialogue for a varied group of representatives from academia, government, NGOs and energy industry with a particular focus on the impulse given by the EXPO 2017 in Astana to the country's energy transformation. The exchange attempted to share knowledge and highlight cooperation opportunities in this field. And to encourage

the expansion of regional and international expert networks and business partnerships.

H.E. Jörn Rosenberg, Consul General of the Federal Republic of Germany, **Mr Kanat Baigarin**, the Vice-President for Innovation of the Nazarbayev University and **Dr Peter Hefele**, Director of recap, offered welcoming remarks and outlined the principal themes of the workshop.

Prof Dr Friedbert Pflüger, Director of EUCERS, gave the introductory keynote of the workshop. He concentrated on challenges and opportunities for Kazakhstan's energy transformation against the backdrop of the Paris Climate Agreement. Kazakhstan's natural resources, geographical location as well as solid political and economic relations with China, Russia and the EU alike are an ideal foundation for well-balanced and sustainable development as pioneer in the region.

Session 1: Energy Security and Decarbonisation in Times of Interest Collision and Paris Agreement

The first session was chaired by **Prof Dr Friedbert Pflüger**, Director of EUCERS. **Mr Yerzhan Saltybayev**, Director of the Institute of World Economics and Politics Under the Foundation of the First President of the Republic of Kazakhstan, **Mr Joachim Goldbeck**, CEO of Solarnet and President of the German Solar Association, offered initial impulses. **Mr Arman Satimov**, Advisor to the Chairman of Kazenergy, commented on the statements.

This first panel stressed that in addition to the expansion of renewables, efficiency and the need for economic viability of new technologies remain important factors for a realistic approach to reaching climate targets. However, while capital expenses for the extraction of fossils are increasing, renewables, even in the absence of subsidies, are becoming more and more attractive to investors. Meanwhile, developing nations are a significant driver of the international growth of renewables and offer opportunities in the solar and wind sector.

Session 2: The Rise of Renewables: Challenges and Opportunities for Emerging Nations

The first part of the second session was chaired by **Dr Peter Hefele**, Director of recap, and included statements by **Mr Arman Kashkinbekov**, Chief Executive Officer of the Association of Renewable Energy of Kazakhstan, **Dr Andreas Ziolek**, Chief Executive Officer of TÜV Energy Engineers and **Mr Rustam Makhmudov**, Energy Consultant from Uzbekistan.

The second part of the second session was chaired by **Mr John Roberts**, Senior Fellow of the Global Energy Center of the Atlantic Council U.S. and included statements by **Dr Joachim Lang**, Chief Executive Officer of the Federation of German Industry, **Dr Frank Umbach**, Research Director of EUCERS and **Mr Hans Wolf von Koeller**, Head of Energy Policy at STEAG Germany.

As part of this session, Dr Umbach presented the EUCERS and KAS study ***Strategic Perspectives for Bilateral Energy Cooperation Between the EU and Kazakhstan.*** He updated the findings, specifically addressing the geopolitical implications of Kazakhstan's place in the Belt and Road initiative but also its close ties with Russia and the European Union. In the subsequent exchange, the panel discussed the role traditional generation will continue to play in the decades to come despite the advancement of renewables and considered the role storage and carbon pricing but also carbon capture, storage and use could play for reaching CO2 emission reduction targets.

Session 3: Resources and Regional Security: Challenges and Solutions for Central Asia and Beyond

The third session was chaired by Thomas Helm, Director of KAS Kazakhstan, and included statements by **Prof Shreekant Gupta** of the National University of Singapore, and **Mr Matthew Wittgenstein** of the International Energy Agency.

The panelists discussed different solutions (such as... if you have an example), but concluded that there is no "one size fits all" solution for Kazakhstan's energy transformation. Despite the impressive progress made by renewables, fossil fuels will remain part of the energy landscape for the foreseeable future and a make an important contribution to its energy security. However, the integration of generation across Central Asia can

indeed significantly contribute and save up to five per cent generation capacity in the region.

EUCERS ON THE ROAD

Our team represents EUCERS at various conferences and events all over the world. This section gives a regular update and overview of conferences and interview contributions by EUCERS Director Professor Dr Friedbert Pflüger, Research Director Dr Frank Umbach and Associate Director Dr Adnan Vatansever, as well as by our Research Associates.

26.09.2017 Oberammergau, Germany	Frank gave a presentation on "Global Energy Developments" at the NATO School's "Energy Security Strategic Awareness Course"
10.08.2017 Munich, Germany	Frank gave a presentation on "Europäische Energiesicherheit im globalen Kontext" („European Energy Security in the Global Context") at the Hanns-Seidel Foundation.
11.07.2017 Astana, Kazakhstan	Frank gave a presentation on "Strategic Perspectives for Bilateral Energy Cooperation between the EU and Kazakhstan" at the international Workshop: "The Future of Energy Security: Conventional and Renewable Sources in the Aftermath of the Paris Agreement", organized by KAS, EUCERS and the Atlantic Council, at Nazarbayev-University
10.07.2017 Almaty, Kazakhstan	Frank gave a presentation on "Creating a Political Framework for Eurasian Cooperation", at the International Workshop on "Domestic and Regional Challenges for Kazakhstan's Energy Transformation", organized by KAS, EUCERS and Almaty Tech Garden.

PUBLICATIONS

Pflüger, Friedbert, "Neue Chancen im Iran" ("New opportunities in Iran"). In: bizz energy, Das Wirtschaftsmagazin für die Energiezunft. Summer 2017, pp 30f.

— "Europe's Natural Gas Sector and the Quest for Energy Security - Geopolitics, Current Developments, and Implications for the Broader Security Debate". In: James Bindenagel, Matthias Herdengen, Karl Kaiser (eds.), "International Security in the 21st Century. German's International Responsibility". Bonn University Press 2017, pp. 149-156.

Umbach, Frank, "Decarbonization and Global Instability", Geopolitical Intelligence Service (GIS), 5 September 2017, 6 pp (https://www.gisreportsonline.com/decarbonization-and-global-instability,energy,2337,report.html).

— "Schutz kritischer Infrastrukturen im Zeitalter von Cybersecurity" ("Protection of Critical Infrastructures in the Age of Cybersecurity"), Mittler-Brief 2/2017, 8 pp.

— "The Myth of Cheap Russian Gas", Geopolitical Intelligence Service (GIS), 5 September 2017, 8 pp. (https://www.gisreportsonline.com/the-myth-of-cheap-russian-gas,energy,2323.html).

— "Does OPEC Have a Future? OPEC versus US Shale Oil Revolution", in: European Security & Defence (ES&D), August 2017, pp. 22-25.

— "The Future of Iraq Gas and EU Energy Security", Pflueger Consulting/Roland Berger Consulting, July 2017, 45 pp.

— „Im Dickicht der Cybersecurity" („In the Thicket of Cybersecurity"), in: Volksblatt (newspaper in Liechtenstein), 13 July 2017, p. 9.

— "Das Nord Stream-2-Projekt und die Auswirkungen auf die gemeinsame Energiesicherheit und Außenpolitik der EU" ("The Nord Stream-2-Project and the Impacts on the Common Energy Security and Foreign Policy of the EU"), in: Österreichische Militärische Zeitschrift (ÖMZ) 4/2017, pp. 478-489.

— "The Fog of Cybersecurity", Geopolitical Intelligence Service (GIS), 10 July 2017, 8 pp. (https://www.gisreportsonline.com/the-fog-of-cybersecurity,defense,2270.html); reprinted by the Austrian Economic Center (http://www.austriancenter.com/the-fog-of-cybersecurity/), 10 July 2017

IN THE MEDIA

EUCERS Research Director, Frank Umbach, was featured in an interview in the German journal "Wirtschaftswoche" about former Chancellor Gerhard Schroeder becoming a member of the board of Rosneft and its implications: Andre Ballin et al., "Genosse Expansion" ("Comrade Expansion"), in: Wirtshaftswoche Nr. 38, 8 September 2017, pp. 19-25 (on former Chancellor Gerhard Schroeder becoming a member of the board of Rosneft and its implications).

SOCIAL MEDIA

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