

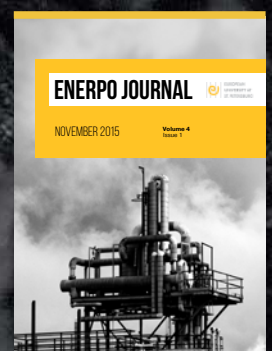
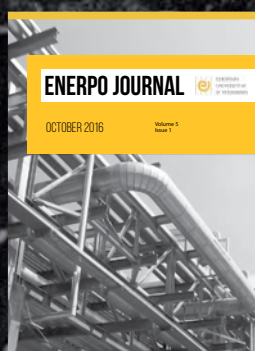
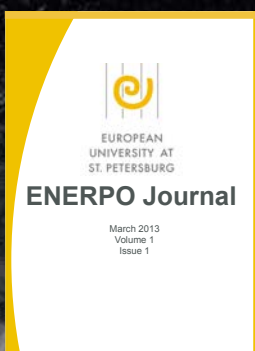
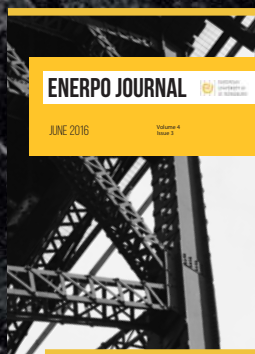
10TH ANNIVERSARY

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FOREWORD FROM THE EDITOR



EUROPEAN
UNIVERSITY AT
ST. PETERSBURG

This year we celebrate the 10th anniversary of the ENERPO Journal – an international scientific publication on world energy politics, security and economics, which strives not only to provide a discussion platform for scientific and industry professionals, but also to give young researchers an opportunity to publish their work.

Originally started as a students' initiative back in 2013, the journal has come a long and thorny way to become an internationally recognized and peer-reviewed publication, which our readers now hold in their hands. However, it wasn't always like that. At the outset of its existence, the journal was available only in PDF format and was distributed via email among subscribers.

After the ENERPO Research Center was established in 2015, and thanks to the efforts of the editorial team consisted mainly of enthusiastic students and alumni of the European University at Saint Petersburg's 'Energy Politics and Energy Transition in Eurasia' educational program, the ENERPO Journal underwent the process of rebranding. Back then, we decided to switch from a PDF version to print, and since that very moment, the journal has become a visiting card both for the Center and the ENERPO educational program.

As a popular saying goes, "you cannot judge a book by its cover". However, without a shadow of a doubt, it is the cover that makes the first impression, especially when you are a young academic journal being distributed at university events. The appearance of our journal now reflects an immense amount of time and effort devoted to the lengthy and challenging process of creating the ideas and finding partners willing – and able – to embody them. Thanks to the contribution of our former and current editorial team, we believe the journal has found its own unique style and design.

From a scientific point of view, our path has not been smooth either. It was a detailed plan suggested by our alumni and editors that resulted in the adoption of a double-blind peer review editing process with experts from around the globe and publishing ethics for the journal. Step by step, following this ambitious and scrupulously developed plan, we have created an Editorial Board and expanded our reviewer database. As a result, the journal has been assigned with both ISSN and DOI, and we are now in the process of redesigning our website to align with the best standards of scientific publishing.

Summarizing all the above and reflecting upon the experience we have gained over 10 years of hard and devoted work, one thing can be said for sure: the ENERPO Journal is not only a compilation of solid research in the form of analysis, viewpoints reflecting competent opinions of scientific and corporate professionals, or interviews and success stories of

industry experts aimed at encouraging young readers. The ENERPO Journal is also the result of collaboration between like-minded students, alumni, colleagues and friends. It is a result of 10 years of teamwork, where each contributor has their own view and understanding on how the journal should look like, but everyone is united by the goal of making the journal better.

Having said that, we would like to thank everyone who established the ENERPO Journal 10 years ago and has supported us through these years. By all means, our Editorial Board highly appreciates continued readership and contributions to the journal of those enduringly interested in energy politics and related matters.

Despite today's unstable and rapidly changing international environment, we strive to continue our work on developing the journal and increasing our involvement with both the Russian and international scientific communities. We at ENERPO believe that continuing challenges bring numerous opportunities to open new pages both in everyday and professional life. Keeping that in mind, we look forward to seeing what further achievements await the journal in the upcoming year so we can share them with our devoted readers in the ENERPO Journal's 2024 issue.

Anastasiya Oshchepkova

COLUMN OF THE EDITOR-IN-CHIEF: WHAT'S NEW IN THE ANNIVERSARY ISSUE

Anastasiya Oshchepkova

2023 is a very remarkable year for us at ENERPO, and not only because we are celebrating the 10th anniversary of our journal, launched in 2013. This very year also saw the first wave of our students graduating from the ENERPO educational program.

For readers not familiar with this program yet, the Energy Policy and Energy Transition in Eurasia Program is part of the European University at Saint Petersburg's International Relations division which focuses on the study of global energy policy and the energy transition. Our students gain practical skills in working with energy statistics and learn how to apply quantitative and qualitative methods of analysis.

With the rapid pace in which our life flows these days, it is of paramount importance to find your own place in the professional world. But what does one need to be successful in such fluid circumstances? No one would dispute that education is a cornerstone of professional success. Without any doubt, the more you study and brush up your knowledge, the more skills and expertise you gain. However, young specialists in the beginning of their professional path need not be on their own as today there is an abundance of different educational programs that can pave them a way for moving forward along this path and developing necessary skills.

For example, the professors at ENERPO explain to students how to analyze the changes in world energy policy that are taking place before our very eyes and help them delve into the problems and prospects of international relations in the energy sector. Since the program was established in 2012, we have welcomed almost 100 students from all over the world.

In this anniversary issue, in addition to already familiar formats of analysis and viewpoint articles, we decided to include a series of interviews with special focus on professional development. Firstly, we place our ENERPO Program in the context of lifelong education and career planning with career consultant Evgeniya Beba. Evgeniya is working in Germany, but she has extensive experience in different countries and regions, including Russia, China and Italy. She shared her views with us on some very difficult questions that young professionals face.

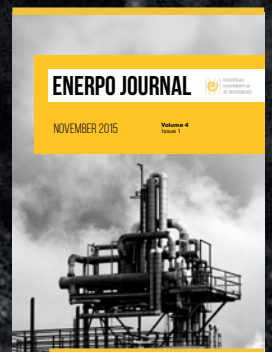
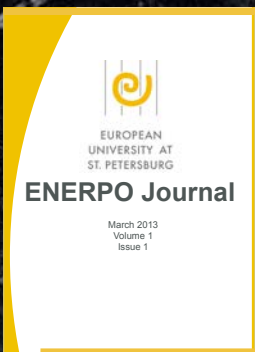
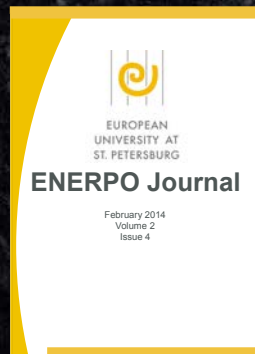
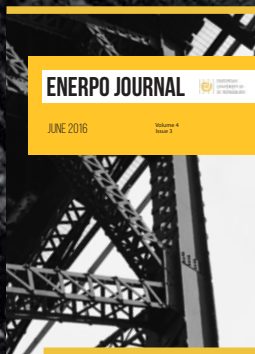
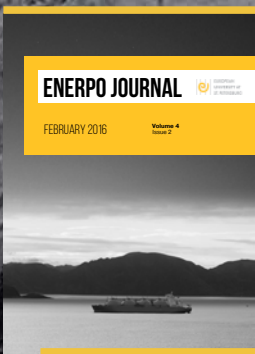
We also spoke to two of our graduates, Nicholas Watt (class of 2013) and Michael Roh (class of 2016), who shared their stories about career development after graduation from ENERPO. Nicholas and Michael spoke about aspects of ENERPO education that were helpful in building their careers – as a reporter at a price assessment agency, and as a lead surveillance analyst at a derivatives exchange.

For the ENERPO program, it is very important to keep up with the speed of the energy industry development, so we are constantly updating our curriculum, including based on the feedback from our graduates. For this reason, we asked Nicholas and Michael to share with us their opinions on how their studying at ENERPO helped them in their current positions.

The stories of Michael Roh and Nicholas Watt are only two examples of the possible career paths for ENERPO graduates. In the next issues of the ENERPO Journal, we plan to share other interesting career tracks, as our graduates work not only in the energy sector but also in the sphere of politics and diplomacy, sustainable development; some of them have even built successful scientific careers. Stay tuned for more inspirational stories!

For more information about the ENERPO program, please visit the website: <https://enerpo.eusp.org/>

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HOW TO BUILD A SUCCESSFUL CAREER

Interview with *Evgeniya Beba*

Held by *Irina Mironova*, transcribed by *Frederik Augustin Boumeester*

Abstract:

The purpose of this interview is to inspire ENERPO journal readers – particularly the young professionals at the start of their careers – to approach their professional development strategically, choose their path mindfully, and be happy at work.

Keywords: career, education

Как построить успешную карьеру

Аннотация: Цель данного интервью – вдохновить читателей журнала ENERPO, особенно молодых специалистов, которые находятся в начале своей карьеры, на то, чтобы они стратегически подходили к своему профессиональному развитию, осознанно выбрали свой путь и были счастливыми на работе.

Ключевые слова: карьера, образование

ENERPO: *Evgeniya Beba is a career consultant working in Germany, but she has extensive experience in different countries and regions, including Russia, China and Italy. She shares her views on some very difficult questions that young professionals face. The first question that I have is about professional orientation. Our ENERPO program – Energy Politics and Energy Transition in Eurasia – is a program of additional professional education in the field of international relations at the master's degree level. We have a mix of students – one part is those who have gained their BA degree and are continuing the educational track to gain MA level, but there is a consistently growing number of more, I would say, 'adult' students, who already have professional experience. However, all of them very often have a question of how to understand what you want to become professionally. How would you advise them on approaching this task? What I get from my experience as a teacher (as well as the one thinking of my own career path), simply choosing a field is not enough.*

EVGENIYA: Let me start with a little comment on what you've said about the ENERPO program. You mentioned that master's students are not only those who have just graduated from bachelor's degree, but there are increasingly more people with professional experience. The whole Bologna system is about that: you have separate educational bricks from which you can build, put one on top of another. This system allows you to have your own path, to learn something that you need. I think people who decided to go for educa-

tion after they have gained some experience are in a more favourable position, because they know what kind of skills and knowledge they are missing, and they have higher chances of actually getting it.

For example, I completed my MA straight after BA. It seemed like a very logical step. I didn't even think about doing something different – I was studying regional studies for BA and went for international security during MA. Back then, I thought that I was making a very smart move, since international security was a different field after all. But actually, it wasn't that smart. I didn't really ask myself the question: "Why am I doing this"? And this is a very common mistake – people do something just because this something happens to them. Somebody asked them to do it, somebody said "oh there is a cool opportunity, come to us". They applied to several places and one of them worked out. The moves happened not because we have planned them, but because we re-acted on something from outside. This is not bad per se, but there's one more option: to act strategically, knowing where we go. And even if the path we chose was not the best one, we still can change it as it is not cut in stone. The difference is that we have an opportunity to invest in the direction we believe in rather than following the flow.

The most important question that you can ask yourself is: What do you want in your life? Based on the answer, you will build your career path. Realizing that you have a particular

skills' gap in order to achieve a goal, you may choose the right education. It can be an MA, an MBA, a PhD, or probably just a module, some six-month educational program, or on-line courses at Coursera. There is no one size fits all. **Because sometimes, based on you end goal, you need the knowledge, sometimes you need the network, sometimes you need the diploma. So, the next educational step will depend on what is required.**

See, what you said in the beginning that to choose the field is not enough, that's true. You need to understand what you want to be, and this is probably the most asked question in the world, and the most unanswered. Everybody is sick and tired of it, but nobody takes time to think about it: How do you see yourself in ten years? And this is not a formal question of an HR professional, it is the basis for the choice of your next step.

Do you want to be a corporate professional?
Do you want to be self-employed?
Do you want to be a blogger?
Do you want to be a motivational speaker?

Depending on the answers to those questions, it becomes easier to choose the direction when you are at a crossroad. If I want to be a motivational speaker, I shouldn't apply for work at a corporation, because it is a waste of my time. If I want to go into the corporate world, there is no sense in writing posts on Instagram because, well, why would I spend my time on something that doesn't bring me closer to my goal?

And in these regards, the choice is not only what you are going for, but also what you are *not* going for. There are a lot of exciting opportunities all around: one day you speak to a scientist, and you get excited about science, next day you meet your friend who deals with international relations by working at the UN, and then there is this inspiring businessman or businesswoman. You become excited by their example and try everything, but at the end of the day, you get nowhere. You are just standing in the same place.

But if you did answer that question "What do I want to be in ten years"? then today you will start making the necessary steps. Probably they are wrong ones, probably they are small ones, but they *are* in that direction. To get the direction, you need to know your goal.

ENERPO: *I see, but how to understand what is your goal?*

EVGENIYA: Imagine this is a magical moment in your life and you can do anything. Try to switch your perspective from "I don't know for sure what I will be in ten years" to "What if anything was possible"? What will it be? Politics? NGO? International organization? Business? Don't focus on problems, but on your imagination. Take your time. Sometimes it really takes a lot of effort. When you keep coming back to thinking that you don't know, remind yourself that nobody knows! In my practice, and I have been doing this for 5 years full-time, and some years before that as a manager, I found out that no one actually knows this for sure. But even if you

are 45 and you are a solid professional, there are still things that you could change. If you know that you are going in a *certain direction*, it is much easier.

A few more important points: firstly, that vision of ten years from now is not cut in stone. **Secondly, it's OK to make mistakes, but it is important to leave it at the very moment you realise it was a mistake.**

When you have a goal, you will be capable of making your tactics and your strategy of how to get there. The way most probably won't be easy, but it will be very straightforward, and you will have a clear picture and a road map of what to do.

ENERPO: *So, when does the career consultant enter the scene?*

EVGENIYA: On this journey, you might need some help. It should be a person whom you trust and with whom you can speak without judgment. It could be a coach, a mentor, a supervisor or tutor at your university, or a friend. You need a conversation and some feedback from someone you trust. A mentor is someone who has walked that way. A coach is someone who probably does not have the experience but can help you in a non-judgemental way to think it through. If it's your friend, it should be a person who can listen, not just give his or her perspective.

In fact, there are a whole bunch of situations when people should not go to a career consultant, and most commonly this can be described as the situation when you can Google it.

What are the trends in biology, nanobiology medicine? Google it.
What are the visa requirements for Germany? Google it.
What kind of template to use for a CV? Google it.

Before going to a professional, Google. Make that list of questions which you can't find the answer to, or you hesitate about the answers. And when you have worked through that list yourself, and you still have a question, come to the career consultant. Most probably at that point it will not be about the knowledge (the facts), but it will be about what to do with those facts in your particular case.

ENERPO: *When you are choosing this path and you are dreaming, very often it happens that you start treating the alternatives negatively (devaluing). On the one hand there is dreaming, and on the other there is doing. Imagining what you want to be is not enough to get you there. Obviously, you then have to write up a strategy and develop certain missing skills – soft or hard – that you need to get there. Could you comment on these two problems in the process of 'getting to your goal' – devaluing the alternatives and dreaming instead of doing?*

EVGENIYA: Hmm, negative thinking, that's a good question. Usually, we do what we believe to be the best option. Sometimes we do it because we should – our parents told us to

do so, or everyone is doing that. And then we explain it to ourselves as being the best option, leaving other options as 'stupid'. But the trick here is to understand that every option is equally possible and equally good.

Two people can graduate from the same program at the same university but travel two completely different professional paths. But neither of those two careers is better or worse than the other. They are just different – because those are two different people who have different values and attitudes in life. So, devaluing one of those paths is essentially failing to appreciate what another person is.

It works the other way around too: some people say, "I'm such a loser and she's such a cool professional". This probably means that they are not satisfied with what they have now, so they are looking for something better. There are no 'bad' emotions in your life. Envy – and this is the name of the emotion which we are talking about – is not bad. If you have this emotion towards another person, or any other positive or negative emotion, use it. Use it not only as an energy source, but as a thinking anchor. What am I missing if a certain picture brings out my envy? Maybe I missed that I wanted to build a family, maybe I missed that I wanted to build a career. Sometimes we imagine something that doesn't exist. We look at perfect pictures on social media, magazines or TV shows, and we see only the perfect, beautiful outside which in most of the cases does not match the reality. So, when you realise that missing part, you can go to that person you envy and ask:

What do you like about your life?
 What is your career?
 What is special about your field?
 What do you enjoy about your work as a practicing professional in this field?
 What is cool about that? What is difficult?
 What do you think is the most challenging in being a teacher/business owner/career consultant/mother of five?

When you get the answers to those questions, you will get a real picture of what it is to be in that position. And your next question is for yourself:

Do I want to have it?

This is a good networking exercise as well. If you ask one person, you will have one truth, but if you ask many people in that field, you will get that insight into what it is to be a professional in that field. The most valuable part in it is that you can now decide whether that would work for you, or not; whether that is something you are really looking for. You can discover that this path is not something that you want. It may look nice because everybody is speaking about it, but it's not yours. But luckily you spent, let's say, one week researching the topic and now you know it's not yours.

So, my tip is to do this research straight away! Don't wait till you are done with your studies, don't wait till you have learned the language to a particular level, just do it right now!

Through this research you can also decide to incorporate elements of those careers into your path. For example, if you like teaching, but after speaking with university professors you decide that a pure academic career is not for you, you can still incorporate teaching in your professional activities. You will start building your own unique puzzle.

This is a good match for the second part of the question: how to create the roadmap, to move from vision to actions? I will repeat myself in saying that it's better if your vision is ten years, well maybe five years, but not one year. You know now what you want to be doing, what that person you want to be is doing. What does he or she have as a *skill set*? Make a "picture"! And then you compare this picture with yours and find the skills that are missing. It can be a degree, a language, some teaching experience or international experience, some set of hard skills or soft skills. Now you have a roadmap of what to learn.

ENERPO: What about work-life balance? Does it have to be included in that picture?

EVGENIYA: I'd say be realistic, and think of it as "What am I ready to sacrifice to get it"? In the end, you can get anything you want, it's just a matter of price. But you can't have one hundred percent of everything because there's only *one* hundred percent and you need to somehow distribute it between different aspects of life. Either you want to spend time with your family, and you sacrifice some of your job, or you say, "No, I'm traveling eighty percent of the time and thus don't see my family a lot and I'm OK with that". And you are more successful in your job obviously. If you think, "I want it, and I'm ready for the consequences" – you do it! Or you think, "Well, I want it but I'm not ready for the sacrifice" – accept it. But be clear about your choice.

Now a lot of people say it's all about your heart. You don't need to work a lot, you will be successful with two hours a day... I truly believe it is not true. I do believe that you should work smarter not harder, but it's still about *work*.

ENERPO: OK, that's an important takeaway for me, and hopefully for the readers as well! We have already talked about various professions, but I guess they also can be fit in certain career types. Could you also talk a bit more about career types? Can different career types be combined – for example, corporate and academic? And is there any balance that you can find between various types of careers?

EVGENIYA: We need to come back to the definition of what 'career' is. And 'career' is a translation from Latin, it means a path. There is no one particular type of career, which is better than others. They are all different.

There is a classic understanding of a career which is a *hierarchical vertical path* when you have been a junior, and then middle, and senior, and then you become director. But it's not the only way, because not everybody wants and not everybody can be a manager. It's a very specific path. Managing people is a skill set that is not universal. So, if you don't like

your manager's way of working with people, it can be he or she chose the wrong career path.

The second type is a *horizontal career*. It means following several paths at the same time. For example, combining corporate and teaching careers – it is at the same hierarchical level, but it differs in terms of what you do specifically.

The third type of career is *diagonal*. It's when you have both the change of the acumen of your work, and also the change of your hierarchical level.

You can also choose what you want; there is a career which doesn't have any specific form. It's very common in today's world and hasn't happened before – people just change different things (different roles in different industries, sometimes down- or upgrading in terms of level).

We are coming back to the core question of what you want. There is no one-size-fits-all when it comes to career. So really think about yourself, and never compare yourself to others, because this feeling of success is not universal. For me, it was one of the most important insights in my life when I realized that success is not achieving the picture that somebody around me has. Success is to achieve what I want for myself. If I believe I want to work two hours a day and I want to be a full-time mom... Or I want to be child-free and work hard... It's my right and it's up to me to follow this vision. The worst thing that can happen to you is when you follow someone else's dreams and someone else's pictures of what good and bad is. And then when you achieve this milestone you feel empty.

ENERPO: *Because it's not your achievement, it's someone else's?*

EVGENIYA: Yes. See, there's no perfect path. You just need to know there are different ways.

And what is also important: many people say, "But you know, it pays better". It's not true. It can be paid equally well if you are good at what you are doing. Every one of us knows, again, great professors who earn tons of money even if they're working in a governmental university because they just have the expertise that everybody's coming to them for. We all know businessmen who don't earn anything because they are failing at what they do. In the big picture, money is not about your title – money is not about the profession itself. Money is about the value that you bring, and that people are ready to pay for it. And most of the time, anyone can earn whatever they want if they are doing the right thing backed up by their strength and not by what is asked on the market in the first place.

ENERPO: *Would 'downshifting' be an example of a diagonal career?*

EVGENIYA: The question is why you're doing that. Sometimes you're burnt out and you don't want to do it further. Or you have enough money and decided that you want to live in

Thailand. And some other times it's because you've realized you don't want to be a manager any longer and you come back to the individual contributor role.

For example, I had a client some time ago, he had this career path in front of him: he thought he wanted to be a manager and he was a high achiever. Finally, he got his promotion and from an individual contributor he became the manager... and it was the worst year of his life. He hated every single day of it, and in the end, he was honest with himself and his management. He said, "I don't want to be a manager any longer and I want to be an individual contributor", and he instantly became much happier. It takes courage to do such a thing, right? You need to be that brave to say "I know what I want, and this 'what' is not managing people. I don't want to be a bad manager; I want to be a good professional". In this case it would be a diagonal shift.

Another client of mine was thinking about making a vertical step, and every time she was close to it, she was really burnt out. At some point she confirmed, "Well, I'm an expert. I want to be an expert". She changed her job, and she even got a promotion in terms of salary as an expert. When she talked to me as a result, she said "It was the best decision in my life because now I know who I am, and I'm paid well for that. And I don't need to pursue these dreams of others".

These two examples can be labelled as downshifting, but you see, downshifting per se is not bad, it's not because you're weak, it's because you are brave to say what you want. I think we perceive the downshifting as something negative. If we stop judging ourselves and people around us in terms of 'successful' and 'not successful', but think about whether we are happy in what we're doing, genuinely trust that people can be happy in a different way than we are, the world would be different. I like this metaphor: we all have different shoe sizes. Imagine somebody says: "I've tried everything besides my size 40, it's not comfortable. If it's smaller, it hurts, and if it's larger, I can't walk. So, size 40 is the best size, and everybody should wear this size". We would laugh! But that is what we are doing with our lives. And if it's good for you, it doesn't mean it's good for me! This is the most important question: What is good for you personally?

ENERPO: *We have hard skills and soft skills as two basic bricks at the foundation of whatever you do. And now there is a discussion that soft skills are shifting to the background a bit in the current situation, especially with the changed geopolitics, where a lot of people relocated. They find it easier to use their hard skills, as opposed to soft skills. There is a certain balance between them which can change. Are there any differences in the combination of hard and soft skills when you are looking at different international directions?*

EVGENIYA: The combination is not about geography; I think it's about the level of your position. When you are a junior, you don't really have hard skills yet. You will learn everything on the job. At this stage, it is more important to have the right soft skill set, and in these regards it's more about being ready to learn new things, being curious, open, and so forth.

When you're a professional, it is more important that you get the job done, so you need to have hard skills specific to your profession. And then when you're going higher again, you become a manager, it's about your soft skills once again: how you work with your team, how you motivate people, whether you're a leader or a manager. So, in the end, throughout your career you need both hard and soft skills. There are different aspects of what is more important for your particular job.

On the other hand, you should also define your strengths and your weaknesses, and to decide where you want to go, because usually it is much more efficient and much easier to develop your strengths rather than develop your weaknesses.

I would recommend investing your time in what you think is important and build your skills in accordance with what you want to be. And not because it's just popular, like the popular soft skill nowadays of public speaking. It's useful to be good in public speaking but not every single profession needs that and if it's not yours, it is also OK.

ENERPO: *The concept of 'lifelong education' is very well in line with what we've been discussing today, because if you have this path, you have a roadmap, you obviously have a list of things that you would like to develop. And most often we cannot just take a two-year break altogether from our life for an educational re-fit. So, it would be one skill at a time, and more or less permanently. I guess, continuous education is a sign of our time. You have to catch up, and lifelong education is just a term to frame it.*

EVGENIYA: We live in a brittle world – everything is changing so fast. The concept of lifelong learning is super important. Every time you realize you need extra knowledge, you can get it by reading a book, by going to a seminar, by getting some certification or taking an extra educational program. But the question is whether you need to have higher education every single time you miss something. My answer is: in most cases, no. You will need to take some course to understand how it works, and this will be your 'lifelong learning'.

There are some skills that you must have in order to be 'in this era'. In other words, you can't be successful in any area if you don't have the skills. Today, these skills include digital literacy and English language. Even for these essential skills, let alone others, most of the time you don't need to have a formal education, but you need to identify the gaps. If you meet with people in your industry, get to know leaders in your industry, if you read the latest books, and you really know what's going on there, it's also education.

When learning, focus on the skill, not the facts. **If you just learn the facts, then probably it doesn't make sense because you can easily find them on the internet. But if you learn to interpret the facts, if you learn how to work with data, if you learn how to pose right questions, how to look for data, then that is the skill.**

When you're coming to your educational program and you're doing your masters, it's not about your teacher, it's about you.

The teacher just gives you, at the end of the day, a list of literature that you need to read. And if you're not ready, if you're not prepared, if you haven't read the material, you won't get the concept! The best teachers in my life never explained to me the details of the things. They discussed with me what I read, what I thought about it, and how I can use this information. Education is not about the facts. Obviously, you need to know the facts. But learning how to interpret the facts, learning how to work with the data, what kind of questions you may ask about that data – this is essential, and this is what you need to learn for the whole of your life!

About Evgeniya Beba

Evgeniya Beba is a career consultant focusing on helping international professionals building their career, based on values and personal strength and thus reach their highest potential on the international labour market. Evgeniya started as a PR and Communications Manager at Microsoft within a high-potential program, moved to Strategic Business Development in the energy sector at Enel and was finally responsible for Business Development at an electrical engineering company in China. After moving to Germany, she worked in recruitment. She later started her own career consultancy MyGermanJob.de.

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UNDERSTANDING CLIMATE TRANSITION PLANS AND STRATEGIES FOR RUSSIAN COMPANIES

Olga Teplova, Andrei Ivanov, Marina Alieva

Abstract:

A critical part of the climate agenda is to drive sustainable development in general and ESG-practices of financial markets in particular. International standard-setters and national regulators have professed support for incorporating the issues of climate change into the disclosure standards, acknowledging that a climate plan and/or strategy is an instrument to raise capital in debt markets. The aim of the study is to examine the concept of a climate transition plan and its basic elements as part of a broader climate strategy, while also to evaluate the progress of sampled Russian companies towards developing such climate transition plans (strategies) and disclosing climate-related information. The paper finds a lack of convergence in defining the concepts of a climate strategy and transition plan among Russian companies, as well as insufficient climate-related disclosures in line with national and international requirements. To address these issues, Russian enterprises should continue developing emissions reduction actions, bringing increased transparency to their climate projects, setting robust targets, and improving governance practices within their businesses. Additionally, policy-makers could underpin companies' efforts by developing a convenient yardstick for defining climate transition plans and strategies that are used in transition debt issuance.

Keywords: climate strategy, climate transition plan, climate-related reporting, climate transition bonds

Разработка планов и стратегий климатического перехода: опыт российских компаний

Аннотация: Климатическая повестка не перестает быть драйвером устойчивого развития, в том числе для финансовых рынков. Международные регламентирующие организации и национальные регуляторы направляют свои усилия на стандартизацию информационных потоков, связанных с климатом, чтобы придать импульс «зеленому» финансированию. Целью исследования является изучение концепции плана климатического перехода и его основных элементов как части стратегии климатического перехода, а также оценка прогресса российских компаний в разработке таких планов (стратегий) и в раскрытии информации, связанной с климатом. Как показал проведенный анализ российских компании, многие из них находятся на разных этапах пути к раскрытию климатических данных, в том числе в формате планов и стратегий. Результаты исследования также указывают на отсутствие единого подхода к определению этих ключевых документов среди компаний в России и на недостаточный уровень раскрытия климатической информации для соответствия требованиям регламентирующих организаций. На практике компании активно участвуют в проектах по снижению выбросов парниковых газов, увеличивая прозрачность климатической информации и совершенствуя системы корпоративного управления. Тем не менее этого пока недостаточно, чтобы выпустить инструменты для управления климатическими рисками, такие как адаптационные облигации и облигации климатического перехода. Написание руководства по составлению климатических планов и стратегий регулятором помогло бы поддержать и систематизировать усилия компаний, открывая для них новые возможности по привлечению финансирования.

Ключевые слова: климатическая отчетность, климатическая стратегия, климатический план перехода, облигации климатического перехода

Intro

UNEP's latest 2022 Emissions Gap Report (EGP) states that the international community is falling far short of the goals set in the Paris Agreement, with no credible pathway to limit global warming to 1.5°C¹. According to the study, if current trends hold, global temperatures could rise by 2.8°C by the year 2100. The experts highlight the need for urgent and multilateral actions to address the emissions gap and pre-

vent further negative climate change impacts. The 2022 EGP also underscores the importance of a rapid transformation of such sectors as electricity supply, industry, transportation, buildings, food, and financial systems to achieve the goals set in the Paris Agreement. Similar conclusions are drawn in the State of Climate Action 2022 Report by the Climate Action Tracker (CAT) project².

¹ UNEP, *Emissions Gap Report 2022: The Closing Window – Climate Crisis Calls for Rapid Transformation of Societies*, 35–36, <https://www.unep.org/emissions-gap-report-2022>.

² Sophie Boehm et al., *State of Climate Action 2022 Report*, 2022, 160, <https://climateactiontracker.org/documents/1083/state-of-climate-action-2022.pdf>.

Although policy makers are in a position to create synergies among companies and to incorporate their climate-related initiatives into policies, strategies and plans, regulatory authorities are not doing enough to support the climate agenda, according to UNEP's and CAT's reports. The same is confirmed by the standard-setting organizations, such as the Climate Disclosure Project, that analyze the problem through the corporate lens. In February 2023, CDP published its annual review on whether companies are developing credible climate transition plans. The study shows that in 2022 more than 4,100 organizations disclosed through CDP's climate change questionnaire that they have already developed a 1.5°C-aligned climate transition plan. These are only one-fourth of the total 2022 reporting sample. Even though the overall tendency is positive, with around 6,500 organizations planning on developing a climate transition plan within two years, such plans may not be having the desired effect. Only a fraction of more than 18,600 organizations – 0.4% or 81 companies – reported sufficient details on all of 21 CDP's key criteria for a credible climate transition plan³. This number might indicate that organizations are having troubles providing high-quality information in their climate-related reporting, which entails another problem also raised by the CAT⁴ and other initiatives, like the G20 Data Gaps Initiative⁵: there is a data gap that hinders monitoring and evaluation of the progress made in achieving global temperature targets. Another explanation might be that some companies set this goal as a must-do to keep up with the latest green trends with no robust science-based, strategic planning behind them and no intention to develop one, or that they do not know how to do it properly yet. Either way, it might be reasonable to assume that organizations are in need of further explanation and guidance on developing a robust climate transition plan and increasing the quality of climate-related information disclosures, especially those coming from regulators and the expert community.

The structure of this research is as follows. In the first part, the existing approaches to defining climate strategies and transition plans, as well as the Russian national regulations on the related issues, are analyzed to provide theoretical background and conceptual framework for the study. The second part describes the methodology of the conducted empirical research while the third part outlines its results. In the last part, the overall conclusions and recommendations for the Russian companies on improving their climate strategies and transition plans are given.

Approaches to Defining the Climate Strategies and Transition Plans

The increasing pressure on companies to move from corporate climate commitments and declarations towards

credible climate transition plans and strategies is not only external. Domestic policy makers in Russia are also recognizing this trend. It is their responsibility to set up an internal framework with climate-related guidelines and to create favourable conditions for companies and financial institutions to follow it. The Central Bank in Russia (CBR) has professed support for incorporating the concept of sustainability and climate change into the financial market. It also acknowledges an idea that ICMA and other standard-setters that a climate plan and/or strategy is a tool to raise capital in debt markets⁶. Given that, in November 2022 CBR, updated issuance standards by introducing new types of fixed income instruments sustainability-linked, transition bonds, and bonds linked to climate strategy⁷. Among documents regulating issuance of sustainable development bonds in general and the aforementioned three in particular, one can highlight: the National Green Taxonomy⁸ and the Regulation of the Bank of Russia N 714-P⁹ and 706-P¹⁰.

As for bonds linked to climate strategy, this is a financial instrument for general corporate purposes, and it might be used for developing green business activities to improve the company's carbon performance. To issue such bonds, companies should provide the regulator with their science-based climate transition strategy, approved, in most cases, by the board of directors¹¹. According to chapter 69(2), section 1.1. of the Russian Central Bank's Regulation N 706-P, the climate transition strategy consists, inter alia, of the following elements:

- One or more goals set in line with the Paris Climate Agreement, the achievement of which is facilitated by the implementation of the issuer's climate transition strategy.
- Information about the application of internationally recognised climate change scenarios.
- Description of the issuer's core and/or most GHG-intensive activities and how they are incorporated into the climate transition strategy of the company.
- Interim and final climate related-targets of the issuer and the time boundaries for achieving these targets, as well as

³ CDP, Are Companies Developing Credible Climate Transition Plans?, 6–8, https://cdn.cdp.net/cdp-production/cms/reports/documents/000/006/785/original/Climate_transition_plan_report_2022_%2810%29.pdf?1676456406.

⁴ *State of Climate Action 2022 Report*, 9–10.

⁵ IMF, G20 Data Gaps Initiative 3: Workplan. 2022, 5–13, <https://www.imf.org/-/media/Files/News/Seminars/DGI/Home/g20-dgi-3-workplan-people-planet-economy.ashx>.

⁶ ICMA, *Climate Transition Finance Handbook*, 2023, <https://www.icmagroup.org/assets/documents/Sustainable-finance/2023-updates/Climate-Transition-Finance-Handbook-CTFH-June-2023-220623v2.pdf>.

⁷ INTERFAX.RU, “Bank Rossii s 28 Noyabrya Rasshirit Linejku Obligacij Ustojchivogo Razvitiya”, November 17, 2022, <https://www.interfax.ru/business/873007>.

⁸ The Russian Government, *The Government Decree No. 1587 of September 21, 2021, On Approval of Criteria for Sustainable (Including Green) Development Projects in the Russian Federation and Requirements for the Verification System for Sustainable (Including Green) Development Projects in the Russian Federation*, 2021, <http://government.ru/docs/all/146531/>.

⁹ Central Bank of Russia, *The Regulation of the Bank of Russia dated March 27, 2020, N 714-P “On Disclosure of Information by Issuers of Equity Securities”*, 2020, <https://www.cbr.ru/Queries/UniDbQuery/File/90134/1038>.

¹⁰ Central Bank of Russia, *The Regulation of the Bank of Russia dated December 19, 2019, N 706-P (ed. dated July 4, 2022) “On Standards for the Issue of Securities”*, 2019, <https://www.cbr.ru/Queries/UniDbQuery/File/90134/1030>.

¹¹ Svetlana Bik, “Adaptaciya, Klimaticheskij Perehod i Slb Po-russki”, *Climate Change Moscow*, November 22, 2022, <https://climate-change.moscow/article/adaptaciya-klimaticheskij-perehod-i-slb-po-russki>.

the procedure for determining them. These targets cannot be prompted by the need to comply with national regulations.

- Description of the methodology for setting climate-related targets and the steps that will be undertaken if their evaluation becomes impossible due to circumstances beyond the issuer's control.
- Description of an action plan for the implementation of the climate transition strategy, including the specified time frame for each step, and monitoring tools, including corporate governance practices.

In order to ensure transparency and accountability, the issuer is obliged to submit an annual report on the progress made in meeting its climate commitments that are articulated in the corporate climate strategy and the decision to issue transition bonds. As sections 1.3 and 1.4 of the same chapter state, progress on climate transition and emissions reduction should be verified by a third party. This third party verification organisation should be a Russian entity qualified by VEB.RF against the requirements set out in the Taxonomy and be included in the national list of verification bodies¹² or a foreign company approved by ICMA or Climate Bond Initiative¹³ as an independent verifier. The verification body, whose role is served mostly by rating agencies, publishes an independent statement assuring compliance of the issued bonds with international and national sustainability standards and principles as well as the achievement of interim and final climate performance goals or lack thereof.

However, even though the regulations are in place, as of May 2023, the Russian companies had not issued any climate transition bonds¹⁴. Director of the Corporate Relations Department of the Central Bank of the Russian Federation Elena Kuritsyna believes that one of the main reasons why Russian companies do not use this type of financial instrument is because “in order to issue such bonds, it is necessary to have an internal sustainable development strategy. It is still difficult for our companies to develop such strategies. They don't have the experience yet¹⁵”. Therefore, the Russian Central Bank recently announced that it would prepare a set of recommendations to help companies develop and articulate their climate transition plans and sustainable development strategies.

Even though national soft regulations on developing a valid corporate climate transition plan have not been published yet, there are several international initiatives that have formulated recommendations in this regard, including the Inter-

national Sustainability Standard Board (ISSB), the Transition Plan Taskforce (TPT), etc. These initiatives deserve approbation for helping companies develop a robust transition roadmap to a low-carbon economy, although several differences in approaches and methodologies do exist. In 2022, the issue of the climate transition plans and their differences was brought up by the group of international standard-setters, resulting in a report that examines the core building blocks for the plan in a variety of metrics. This “Climate Transition Action Plans: Activate Your Journey to Climate Leadership” (hereinafter – CTAP's research)¹⁶ report brought about a range of documents that guide and shape a credible climate transition plan¹⁷. As a result of the analysis, the guidance formulated the definition of a climate transition action plan as “A forward-looking list of actions taken in the near term to align internal strategies and external climate and energy policy advocacy to reduce GHG emissions in line with a 1.5°C pathway and achieve a just transition¹⁸”. For improving the effect on climate plans, companies should disclose specific blocks of information and pay close attention to carbon reduction actions and targets. According to CTAP's research, the following GHG reduction programmes and actions are outlined:

- Energy efficiency and renewable energy programmes; actions on supply chain emissions reduction
- Waste reduction practices
- Switching fuel and electrification alongside fuel efficiency programmes and/or electrification of transportation and logistics¹⁹.

The publication also highlights the importance of integrating the transition plan into business strategy and governance. This includes adapting business models, conducting research and development, developing new products and services, and more, while also conducting robust scenario analysis to assess climate-related risks and opportunities, and implementing strong oversight and governance structures²⁰.

In 2023, the definitions and elements of the climate strategies and plans were also brought up by ISSB as a part of its IFRS S2 climate-related disclosure standard that is built on the TCFD recommendations. One essential dimension of the standard is how interconnectedness of a climate strategy and transition plan are explained. The standard defines a climate-related transition plan as “an aspect of an entity's overall strategy that lays out the entity's targets, actions or

¹² “List of Verifiers Approved by VEB.RF”, VEB.RF, 2022, https://xn--90ab5f.xn--p1ai/en/sustainable-development/green-finance/national-competence-center/?tabs=verifiers_and_bond_issues.

¹³ “Approved Verifiers under the Climate Bonds Standard”, Climate Bonds Initiative, <https://www.climatebonds.net/certification/approved-verifiers>.

¹⁴ Prime, “CB Vypustit Rekomendacii po Formirovaniyu Strategii Klimaticheskogo Perekhoda”, May 18, 2023, <https://1prime.ru/business/20230518/840630345.html>.

¹⁵ Prime, “CB Vypustit Rekomendacii po Formirovaniyu Strategii Klimaticheskogo Perekhoda”.

¹⁶ CDP, Ceres, the EDF, *Climate Transition Action Plans: Activate Your Journey to Climate Leadership*, 2022, 3, <https://www.wemeanbusinesscoalition.org/wp-content/uploads/2022/10/WMBC-Climate-Transition-Action-Plans.pdf>.

¹⁷ Reviewing 31 transition plan guidance documents from 17 organisations and surveying over 100 companies, investors, and other stakeholders worldwide to benchmark relevant practices and identify common core transition plan elements.

¹⁸ *Climate Transition Action Plans: Activate Your Journey to Climate Leadership*, 4.

¹⁹ *Climate Transition Action Plans: Activate Your Journey to Climate Leadership*, 7.

²⁰ *Climate Transition Action Plans: Activate Your Journey to Climate Leadership*, 8.

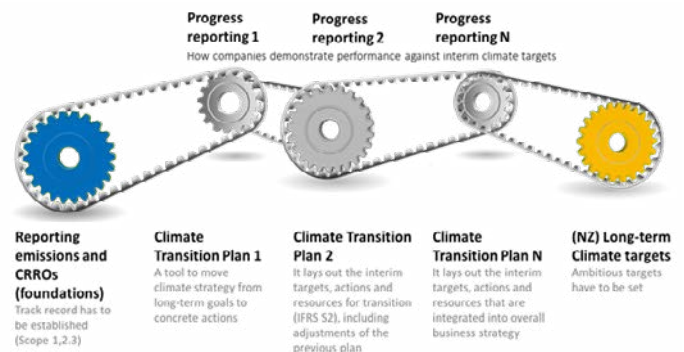
resources for its transition towards a lower-carbon economy, including actions such as reducing its greenhouse gas emissions²¹. According to paragraph 14 of the standard, a climate transition plan should reflect the company's response to climate-related risks and opportunities in its strategy and decision-making, current and anticipated changes to the entity's business model, including its resource allocation, to address climate-related risks and opportunities. Additionally, it should include direct and indirect mitigation efforts, information about key assumptions used in developing the transition plan, and underpinning dependencies as well as how the entity plans to achieve any climate-related targets, including GHG reduction targets; and quantitative and qualitative information about the progress of plans²². Another piece of the explanatory jigsaw relates to climate strategy. The basic elements of it are given in paragraphs 8 and 9 of the IFRS S2 standard. According to IFRS S2, a climate strategy refers to the approach and actions taken by an entity to manage climate-related risks and opportunities. It also should address the current and potential impacts of climate-related risks and opportunities on the entity's prospects, business model, value chain, corporate strategy, decision-making and financial performance. When disclosing its climate strategy, the company should specify how such risks and opportunities are integrated into the financial planning process as well as the resilience of the entity's strategy and business model to climate-related changes and uncertainties²³.

As noted earlier, policy makers are faced with the need to reconcile building blocks of the climate plans and strategies. For companies this means an iterative process of upgrading and adjusting their documents in accordance with the regulatory frameworks, non-binding disclosure standards and own progress reports. Down the road the companies might realize that their initial plan has to be modified to attain long-term climate targets set in the strategy. These updates and changes signify a dynamic, not static nature of transition plans as an integral part of the overall climate strategy. In Figure 1, the key take-aways related to both climate plans and strategies are put together based on the reviewed international initiatives.

Another framework that will also shed light on climate transition plans and might become a golden standard in the future is the Transition Plan Taskforce. It defines a transition plan as "integral to an entity's overall strategy, setting out its plan to contribute to and prepare for a rapid global transition towards a low GHG-emissions economy²⁴". According to the TPT Disclosure Framework, a credible transition plan should cover an entity's high-level climate transition ambitions, including GHG reduction targets; short-, medium-

and long-term actions for achieving this strategic ambition and how they will be financed; proper governance and accountability mechanisms; and climate-related risks and opportunities management system that also incorporates the impact on the environment and stakeholders that arise as part of these actions²⁵. Even though this framework is still in progress and is not included into Figure 1, it contributes to the understanding of what are the elements of the credible transition plan through the lens of the financial sector that allocates capital.

Figure 1.
Integration of Credible Climate Transition Plans into Climate Strategy



Source: generated by the authors based on CTAP's Research and IFRS S2 Frameworks²⁶

Given the structural similarity of the reviewed initiatives, four core building blocks of transition plans that are also part of climate strategies have been identified for the purpose of this research paper (Figure 2). Integration of these blocks results in higher credibility of climate plans and strategies, as well as in better-informed decisions of their users according to international standard-setters. At the same time, the list of the blocks and their elements is not exhaustive and can be adjusted to the needs of other research papers.

The overarching aim of this research paper is to contribute to the understanding of the climate transition plan as a part of overall climate strategy, including its basic elements. In addition, this article is aimed at scrutinizing climate disclosure practices of Russian companies to find out whether they comply with the recommendations of the standard-setters. A number of Russian companies voluntarily disclose climate-related information. However, due to limited environmental disclosure requirements²⁷, including those on climate performance, and the lack of nationally determined methodologies²⁸, market participants are imple-

²¹ ISSB, IFRS S2: *Climate-related Disclosure*, 2023, 19, <https://www.ifrs.org/issued-standards/ifrs-sustainability-standards-navigator/ifrs-s2-climate-related-disclosures/#about>.

²² IFRS S2: *Climate-related Disclosure*, 8–9.

²³ IFRS S2: *Climate-related Disclosure*, 7.

²⁴ TPT, *The Transition Plan Taskforce Implementation Guidance*, 2022, 6, <https://transitiontaskforce.net/wp-content/uploads/2022/11/TPT-Implementation-Guidance-1.pdf>.

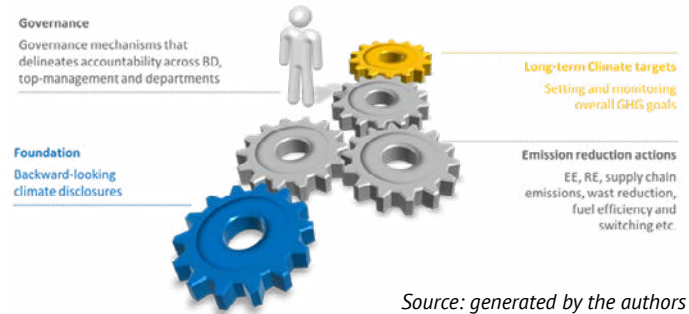
²⁵ *The Transition Plan Taskforce Implementation Guidance*, 6.

²⁶ CROs – Climate-related risks and opportunities. NZ – net zero.

²⁷ Ellie Martus and Stephen Fortescue, "Russian Coal in a Changing Climate: Risks and Opportunities for Industry and Government", *Climatic Change*, no. 173 (2022):25, <https://link.springer.com/article/10.1007/s10584-022-03420-0>.

menting disclosure practices at their own discretion. However, is such disclosure sufficient to comply with the criteria of best practices and requirements of the IFRS S2 standard, which is being adapted in the international arena and by the Central Bank of Russia?

Figure 2. Building Blocks for the Climate Transition Plan as a Part of Climate Strategy



Two research questions are put forward:

- 1) Is there any convergence among the Russian companies on what concepts of climate strategy and transition plan stand for?
- 2) Do the Russian companies disclose climate-related information in a systematic and sufficient way that complies with the requirements of the Russian Central Bank and international frameworks?

Methodology

To sample companies for research purposes, the tiered screening approach has been applied with the following criteria for each tier:

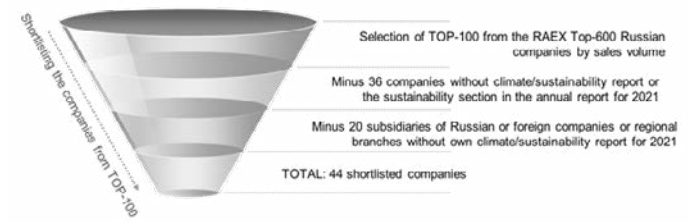
- Tier 1: Companies that are listed in the RAEX Top-600 by sales volume as of November 24, 2021
- Tier 2: Companies that are in the TOP-100 companies from the RAEX Top-600
- Tier 2: Companies that have a climate/sustainability report or the sustainability section in its annual report for 2021
- Tier 3: Separate companies and subsidiaries or regional branches that report on climate/sustainability performance within their own boundaries²⁹.

In the end, there are only 44 companies out of the initial tier left for further in-depth analysis (Figure 3).

²⁸ Svetlana Vozykova and Yuri Kustikov, "Current Trends and Key Limitations of Climate-Related Disclosure by Russian Companies", *IOP Conference Series: Earth and Environmental Science*, no. 866 (2021): 6, <https://iopscience.iop.org/article/10.1088/1755-1315/866/1/012030/pdf>.

²⁹ There is one example of an international corporation with a branch in Russia that issues annual sustainability reports within its boundaries and one example of a Russian subsidiary that publishes its report separately from the parent company.

Figure 3. Shortlisting Process and Results



Source: generated by the authors

The climate-related information disclosed by the remaining 44 entities in their sustainability reports and in the sustainability section of their annual integrated reports has been analyzed by applying the set of criteria based on international best practices mentioned in the introduction adjusted to the maturity level of sustainability and climate-related disclosure by the Russian companies³⁰. This set includes the following elements (criteria) that are divided into four blocks:

- **Governance:** climate policy, board of director's oversight, climate performance remuneration
- **Foundation:** use of TCFD/CDP frameworks, scenario analysis, backward-looking emissions disclosure (Scope 1, 2, 3)
- **Long-term Climate targets:** science-based and long-term emissions reduction targets, scope 3 targets
- **Emission reduction actions:** forestry, energy efficiency, renewables, fuel switching and waste reduction programmes; green products; climate-related financial instruments.

It's worth reiterating that there are various perspectives on what blocks and elements the plan and strategy should consist of and have in common. In this article, attention is paid to the requirements of the Russian Central Bank, CTAP's research, and the voluntary IFRS S2 standard, which was developed in accordance with the expectations of the financial sector actors discussed above.

Results

Governance

Does the company have a climate change policy? If not, are climate-related issues covered in corporate sustainability or environmental policy?

25 out of 44 companies have climate-related aspects covered by corporate policies. 13 of them, or 30% of the total, have a corporate climate policy as a specific document that reflects the company's position on climate change, elaborates on its approach for current activities and further actions, and articulates some relevant commitments. At the

³⁰ The only exception is Magnitogorsk Iron & Steel Works. The company discloses its climate-related information for 2021 on the website: MMK, *Information Disclosure*, 2021, <https://mmk.ru/ru/sustainability/ecology/environmental-management/>.

same time, there is no unanimous approach for naming the document. Among the most frequently met titles are: “Climate Policy”, “Company’s Position on Climate Change” and “the Environmental Policy on Climate Change”. However, the title itself seems to have no correlation with how the document is structured and detailed. 12 companies, or 27%, have environmental or sustainability policies that describe, varying in detail and quality, the company’s intentions, commitments, and/or measures aimed at combating climate change and/or mitigating its negative impact, i.e. they incorporate climate-related issues into the environmental ones with little or no distinction between them.

Does the company’s board of directors oversee climate-related issues and/or activities?

There is a member or a committee at the board of directors level responsible for overseeing climate-related issues and corporate climate performance in 23 companies. Generally, the main aspects to keep track of at the senior management level are carbon emission reduction and climate risks.

Does the company’s remuneration system incorporate KPIs that are tied to climate and/or environmental performance?

15 companies have set climate or environmental KPIs that are tied to the remuneration system for either top- or middle-level managers. The common practice would be to set such performance indicators for the board members nominated to be responsible for climate change oversight or for the chief sustainability officer.

As for the corporate governance of climate-related issues, the analysis has shown that 25 sampled companies, or 57%, disclose sufficient information on one or more aspects regarding climate governance practices. 12 of these 25 companies, or 27% of the total number, meet all three climate governance criteria. Surprisingly, one company does not have a climate policy, although showing very high performance on the other two criteria in this category as well as in the others.

Foundation

Does the company use the TCFD Recommendations when reporting on climate change and/or submit the CDP Questionnaire?

24 companies, or 55%, apply the TCFD Recommendations and/or CDP when reporting on climate change. However, the use of these reporting frameworks does not guarantee the quality of disclosures that vary among sampled Russian companies.

Does the company use one of the internationally recognised climate scenarios (e.g. IPCC SR 1.5) or one of their own?

The overwhelming majority of frameworks and standards on climate-related disclosure and climate transition plans, including the new IFRS S2 on climate-related disclosure, ICMA³¹, CTAP’s research, put a strong emphasis on conducting climate scenario analysis for a robust transition strategy.

However, only 17 out of 44 companies, or 39%, mention using scenario analysis in their reports. As a common practice, companies apply the three IPCC scenarios (SSP1-2,6, SSP2-4,5 and SSP5-8,5) and base their assumptions on them. The SSP2-4,5 2°C scenario is more likely to be used as a dominant one.

Does the company disclose its Scope 1, 2 and 3 absolute emissions and/or carbon intensity metrics for the last three years?

34 companies, or 77%, report their emissions, but to different extents. 12 companies, or 27%, disclose all three scopes of emissions and/or carbon intensity metrics for the last three years. 13 companies report on both scope 1 and scope 2 emissions, but do not report scope 3. Finally, 9 companies disclose only their scope 1 emissions.

Does the company disclose its Scope 3 emissions?

19 companies out of 44, or 43% of the total, disclose their scope 3 emissions. It should be mentioned that the “yes or no” – type of questions used in our research suits the purpose of showing a big picture of climate-related practices among the top Russian companies, but does not enable us to make a thorough and in-depth comparison. For instance, some companies provide detailed and comprehensive calculations of their scope 3 emissions, while others indicate only the final number of emission volumes.

Overall, in the foundation block, 10 companies, or 23% of the final sample, fully meet all four criteria. Only 2 companies, or 5% of the total, met just one criterion in the foundation block. Although more than half of the sampled companies adopted the global baseline for climate disclosures (TCFD, CDP) and built on it, there is still room for improvement.

Long-term Climate Targets

Has the company set science-based emissions reduction targets approved by the Science Based Targets Initiative?

Only 4 companies, or 9%, have set climate targets in accordance with the Science Based Targets Initiative. On top of that, 3 companies announced their intentions to set such emission reduction targets in the foreseeable future.

Does the company have medium and/or long term emissions reduction targets (beyond 2025)?

19 companies, or 43%, on the list set long-term reduction targets, and some of them mention reduction plans up to 2050. These targets also vary in quality and detail, limiting the ability of external users of information to evaluate their consistency and credibility.

Has the company set the Scope 3 emissions target?

Only 2 companies from the list set their scope 3 emissions target. This is significantly lower than the number of companies that report their actual data on scope 3 emissions.

Overall, despite a fairly high proportion of sampled companies reporting on CO2 emissions and climate action, a very small percentage actually set science-based emissions reduction targets.

³¹ ICMA, *Climate Transition Finance Handbook. Related Questions*, 2020, <https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/CTF-Handbook-QA-09122020.pdf>.

gets and Scope 3 goals, and less than a half of the sample set medium and long-term reduction targets. As a result, only 2 companies meet the full criteria in the long-term climate targets block.

Emission Reduction Actions

Does the company have any offset or forest fire protection projects in its portfolio?

Although companies that elaborate on the physical climate risks associated with their business operations often mention the danger of forest fires, only 11 companies, or 25%, report their actions towards decreasing forest fire hazards. Forest-based carbon offsets also have limited application among the sampled companies.

A number of companies report on the adoption of plans of organizational and technical measures to ensure fire safety at production facilities, paying attention to the safety of forest funds on the territory adjacent to the company's facilities. Such plans include both technical fire-fighting drills and personnel training activities. Some companies report on more specific actions, such as replacing overhead high-voltage power lines with underground cables to minimize fire risks.

Does the company participate in any green sectoral initiatives and/or have green certificates?

29 companies, or 66%, participate in green sectoral initiatives, having received green certification, including international ones. For instance, the Russian mining companies actively participate in ICMM (International Council on Mining and Metals). Most common green certifications received by the sampled companies are FSC (Forest Stewardship Council) and LEED (Leadership in Energy and Environmental Design).

Does the company have a renewable energy programme in place?

Russian companies, while acknowledging renewable energy as a decarbonization solution, put limited effort to implement these types of mitigation projects. More than half of the companies in the final sample declare that they have projects on developing and implementing renewables (29 companies or 66%), but do not elaborate in more detail on actual emission reductions from these projects and investment volume of them.

Companies report on the energy consumption structure, specifically noting that the growth in renewable energy consumption is associated with the replacement of traditional generation means by solar and wind power plants. Some companies also support hydropower development projects.

Does the company implement circular economy practices?

In addition, 26 companies, or 59% of the final sample, support initiatives on the circular economy, considering waste management and production of recyclable goods. Some metallurgical and oil and gas companies declare the processing of secondary raw materials and the subsequent profit from

the sale of recycled waste. Companies in other sectors, such as technology and transport, are placing more emphasis on the implementation of circular economy practices as part of their green office programs: they encourage separate waste collection by employees and customers, send waste for recycling, and use environmentally friendly consumables.

Does the company have an energy efficiency programme in place?

Almost all of them – 41 companies or 93% – do have programs for increasing the energy efficiency of their businesses. Since companies disclose information about energy efficiency programs only partly, it is difficult to evaluate the effectiveness of these energy efficiency measures and projects. The point is that information about activities in this area is qualitative rather than quantitative, and often is not enhanced by specific goals or KPIs.

Does the company have a programme for switching its operations to lower-carbon fuel?

25 companies have changed part of their business operations to lower-carbon fuels such as natural gas or biofuel. Although the Russian government has programmes supporting such initiatives, not all companies claim their readiness to continue switching from gasoline. There are examples of companies that take action toward the replacement of traditional fuels with LNG or biofuel as a part of larger climate action programmes or green initiatives. However, in several cases, the increase in gas fuel consumption is associated with the rise in overall consumption of fuels, including gasoline. Moreover, there is a case of a company that has suspended the greening of fuel mix, since it is not economically viable at the moment.

Does the company have a green product line and/or disclose the profit gained from selling green products?

Although 15 companies have developed a range of green products, they do not earmark green revenues generated from the sales of these products in most cases. At the same time, several energy companies report production of low-carbon fuels, as well as profits from the use of energy from renewable sources and equipment for electric vehicles. Companies in the chemical sector also mention environmentally friendly products such as organic fertilizers. Retail sector reports on the production of recycled goods.

Does the company have financial products linked to climate performance in its portfolio?

Banks are reluctant to disclose information on green products by client; therefore, an emphasis is placed on green bonds in the research. As for bond market, it provides limited funds for the Russian companies to address the climate-related issues. There are only 2 companies among those sampled companies that have experience in attracting investments through the issuance of sustainable debt instruments that fall under the criteria of the Moscow Stock Exchange.

Overall, a fairly large number of companies report on various programs and projects in the field of emission reduction. Ne-

vertheless, companies face a degree of difficulty in creating a portfolio of mutually reinforcing and comprehensive mitigation options. Only one company from our sample meets the full set of criteria identified in the block. Part of the answer might lie within the area of sector-specific business activities that are mirrored in emission reduction projects and impose some limitations on scope of mitigation options. However, most companies have energy efficiency, renewable energy and circular economy programs in place.

Conclusion

If we were to summarize the climate-related disclosures of Russian companies, answering the first research question, it appears that one of the barriers inhibiting consistent reporting on the implementation of carbon reductions is a lack of convergence among the sampled companies in defining the concepts of climate strategy and transition plan. This confusion has far-reaching implications for external users of climate-related information, especially for financial institutions that provide funds for carbon-reduction projects and need to monitor progress against targets. These conclusions are aligned with the results of CTAP's research. It has also shown that there is confusion among market participants regarding the core elements of the transition plans and strategies. In many cases, companies do not distinguish climate plans from goal setting. For instance, many companies rely on the SBTi as their main source of guidance, despite it being a GHG target setting and validation platform³². The abundance of various transition plan guidance documents makes this task even more challenging. Lack of convergence in definitions is exemplified also by RAEX's ESG Ranking "RAEX Top-50 Climate". It analyses climate policies and programmes on CO2 emission reduction, not discerning the difference between plan and programme. At the same time, RAEX indicated that companies' commitments placed in formal documents are not sufficient to reach goals on cutting emissions. In other words, the gap between the goals set and the actual effects does exist.

An answer to the second research question cannot be decoupled from the first one, since the lack of convergence in defining the climate strategy is inextricably linked to limited compliance with standards and recommendations. Despite visible efforts by Russian companies from the TOP-100 RAEX to comply with the disclosure requirements of the Russian Central Bank or international frameworks, the immediate outlook remains divergent. More specifically, if companies follow any standard, they tend to use the framework proposed by TCFD or CDP. The sampled companies, in an attempt to comply with standards, find themselves in a mire of soft regulation. Consequently, this results in the absence of a baseline for climate-related disclosures. Not surprisingly, less than half of the companies in the sample provide information on the criteria identified for the research purposes. The most disclosed criteria (more than 50% of companies) relate to the actions that companies direct to reduce their carbon footprint, such as energy efficiency programs, the develop-

ment of renewable energy sources and the implementation of the principles of the circular economy. In addition, slightly less than 40% of companies use scenario analysis based on both existing research and their own calculations.

The results of current research are sending an unequivocal message that without transparent climate strategy, transition plans and settled goals, such actions cannot be considered as sufficient. To comply with the requirements of the national regulator and international organizations, Russian industries should elaborate further on setting long-term climate action plans and specific goals, developing a stronger foundation for their climate action as well as implementing the practice of environmental and climate governance within their businesses. To assist companies in wading through innumerable recommendations and standards, Russian policy-makers can create by setting a set of national definitions and criteria for a credible transition plan and climate strategy based on international best practices.

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³² *Climate Transition Action Plans: Activate Your Journey to Climate Leadership*, 3.

THEORY AND PRACTICE: A PATH FROM ENERPO GRADUATE TO LEAD SURVEILLANCE ANALYST AT A COMMODITIES FUTURES EXCHANGE

Interview with **Michael Roh**

Held by **Irina Mironova**, adapted by **Anastasiya Oshchepkova**

Abstract:

In today's changing international environment, it is important for young specialists to find their place in the professional world. Education is a cornerstone of this process, so the ENERPO educational program helps students pave their way for a successful career in the energy sector. This is an interview with Michael Roh, an ENERPO graduate now working as a lead surveillance analyst at a commodities futures exchange.

Keywords: career path of ENERPO graduates, ENERPO program, Henry Hub, natural gas trading

Теория и практика: от выпускника ЭНЕРПО до ведущего аналитика биржи товарных фьючерсов

Аннотация: В сегодняшней изменчивой международной обстановке молодым специалистам важно найти своё место в профессиональном мире. Образование является краеугольным камнем этого процесса, поэтому образовательная программа ЭНЕРПО помогает студентам проложить путь к успешной карьере в энергетическом секторе. Данная статья представляет собой интервью с Майклом Ро, выпускником ЭНЕРПО, который в настоящее время является ведущим аналитиком биржи товарных фьючерсов.

Ключевые слова: карьерный путь выпускников ЭНЕРПО, программа ЭНЕРПО, торговля природным газом, Henry Hub

In an interview with Michael Roh, our graduate from ENERPO Class 2016, we asked him about his career path and specifics of his work. Our goal was to illustrate how his time spent at EUSP was beneficial for his professional career. Moreover, we wanted to highlight for our readers what skills and knowledge would be useful to gain success in this field.

In 2015, Michael came to Saint Petersburg to study at EUSP. He also received a MA degree from King's College London. He then started his career as a reporter at one of the price reporting agencies in New York. Today Michael works as a lead surveillance analyst at CME, a derivatives exchange.

Irina Mironova reached out to Michael to get an update on his life and career following his studies and asked him to share with us some of the functions of his current position.

IRINA: Hi Michael! We are now looking for input from our graduates for the ENERPO Journal. Could you tell us about your current job?

13:00

MICHAEL: Hi Irina! Yes, sure. I'm working now in market regulation at a derivatives exchange called CME.

In a nutshell, the job is to surveil trading activity on the exchange to identify and prevent market manipulation. I monitor futures prices, trading volume, open interest and participants' futures positions (how many

open contracts they hold). Those positions are monitored to ensure their compliance with the exchange's position limits, especially as contracts approach their expiration. The job also involves communicating with futures market participants to ask about things such as the strategy behind their positions and their plans for liquidating them.

I work on a team that helps with the process of launching/delisting and modifying contracts, while some of my fellow analysts work on a team responsible for reviewing and granting applications for hedge exemptions.

Every surveillance analyst is assigned their own contracts. My main responsibility is to monitor the New York Mercantile Exchange (NYMEX)'s natural gas contract, which is the most traded natural gas futures contract in the world.

13:01 ✓✓

IRINA: Your job is very compliance-oriented. To understand what skills and knowledge are needed to be a successful market surveillance analyst in natural gas trading, let me ask you a few questions about the specifics of your work as well as current market trends. Could you explain some concepts which are essential for your professional sphere? For example, shed some light on the meaning of an exchange in derivatives trading and the importance of Henry Hub for the international market. Also, what is the practical meaning of an exchange in derivatives trading? Why go to an exchange when you can do OTC (over-the-counter)? I mean, we teach that at ENERPO of course, but it would be very interesting for the readers to get the practitioner's view on this.

13:02

MICHAEL: An exchange facilitates futures trading and can be more attractive than trading OTC because the exchange guarantees that contracts will be honored. Futures traded on an exchange are centrally cleared, so this means that a participant trading a futures contract doesn't have to worry about the party on the other side defaulting. An exchange is also transparent about pricing and tends to be more liquid than the OTC market. An exchange also standardizes contracts so that every contract has the identical specifications like the quantity and expiration date. For example, each

NYMEX Henry Hub Natural Gas contract is 10,000MM-Btu and terminates on the 3rd to last business day of the month prior to the contract month.

13:03 ✓✓

IRINA: Henry Hub is quite a special item for the natural gas market. The concept of a gas hub is a staple for liberalized markets, and Henry Hub serves as an inspiration for regulators in other countries who wish to reorganize their natural gas markets to look more like the US. Can you talk about the benefits of such market organization, and maybe if there are some challenges inherent to this model you can also shed light on it?

13:04

MICHAEL: Henry Hub is the benchmark price for the natural gas market. And to understand why, you need to consider its location. The hub is in Louisiana and is connected to Texas through the Sabine Pipeline. Both Texas and Louisiana produce a significant volume of natural gas – combined it's about a third of US production. And there is also production offshore in the Gulf of Mexico. Henry Hub is also linked to other regional markets in the US, as it interconnects with nine interstate and three intrastate pipelines, connecting the larger US market through this one place. This means the gas can be pumped to places like the Northeast and Midwest. Henry Hub is also connected to storage facilities, both directly and indirectly through interconnected pipelines. This is all why the Henry Hub price is a reliable indicator of the US market's supply and demand.

Henry Hub's location is also strategic because it is connected to the global market through LNG, and most LNG export terminals in the US are in the Gulf of Mexico. US LNG is accelerating the influence of Henry Hub around the world. The US became a net exporter in 2017 and these volumes continue to grow. One somewhat recent development is Europe's increased appetite for LNG as they're weaning themselves off of Russian piped gas. And the US is helping to fill that need. US LNG exports to Europe more than doubled last year.

There are other hubs in the world. But outside Henry Hub in the US, markets like Europe and Asia haven't managed to create a single hub. In Europe, the market is fragmented because there are several national hubs in competition with each other. The Netherlands has the Title Transfer Facility (TTF) and the UK has the

National Balancing Point (NBP), and those are the two most advanced European hubs, but neither is as developed as Henry Hub. Europe is a much smaller natural gas market and both of those hubs are less liquid than Henry Hub. Asia is even more fragmented. And that's why historically, the pricing mechanism for LNG contracts with European and particularly Asia buyers was crude oil indexation. The problem with indexing to crude is that it's a separate market and the prices don't always move in tandem. Even the two largest LNG exporters, Qatar and Australia, use Henry Hub for their contracts because they prefer it to oil indexation, even though they're obviously nowhere near Louisiana.

13:05 ✓✓

IRINA: What have you learned about natural gas hubs (or Henry Hub in particular) at ENERPO that prepared you for your current job? What were the most memorable experiences at EUSP?

13:06

MICHAEL: The ENERPO coursework covered various topics in the politics and economics of energy, but the lessons that come to mind that are now applicable for my current role were those on derivatives, pricing mechanisms, and hubs. But outside the classroom, my education was enriched by the visiting speakers at the university, who came from the Russian energy industry, think tanks, foreign governments, etc. And the summer program EUSP offered in Tyumen was particularly memorable, especially the tour of the refinery.

13:07 ✓✓

IRINA: Thank you, Michael! I believe the information you shared with us will be very useful for our readers and potential students!

13:08

About Michael Roh

Michael Roh is a lead market surveillance analyst at CME. He has previously worked at one of the price reporting agencies in New York. In 2016, he was the Deputy Editor-in-Chief of the ENERPO Journal.

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SINO-CASPIAN ENERGY COOPERATION: AN ANALYSIS OF KAZAKHSTAN AND TURKMENISTAN CASES

Rohan Nest

Abstract:

This paper analyses the current state of Sino-Caspian energy cooperation by examining China's energy relationships with its two major economic partners in the region: Kazakhstan and Turkmenistan. China's increasing energy demand over the past decades has led to significant investments and cooperation in these countries. Kazakhstan has become a vital trade partner, with China investing in its energy sector and becoming a significant importer of Kazakh oil. Similarly, Turkmenistan has seen China emerge as its primary economic partner due to its vast natural gas reserves. This paper concludes in both sections that despite challenges such as declining trade volumes and competition from other suppliers, China is poised to remain an important stakeholder for both Kazakhstan and Turkmenistan.

Keywords: Caspian, Central Asia, China, energy, energy cooperation, Kazakhstan, natural gas, oil, petroleum, pipelines, Sino-Caspian relations, Turkmenistan

Энергетическое сотрудничество Китая со странами Каспийского региона: анализ опыта Казахстана и Туркменистана

Аннотация: В данной статье анализируется текущее состояние энергетического сотрудничества Китая со странами Каспийского региона посредством изучения энергетических отношений Китая с двумя его основными экономическими партнёрами в регионе: Казахстаном и Туркменистаном. Растущий спрос Китая на энергию за последние десятилетия привёл к значительным инвестициям в эти страны и расширению сотрудничества с ними. Казахстан стал жизненно важным торговым партнёром Китая, который инвестировал в его энергетический сектор и стал крупным импортёром казахстанской нефти. Аналогичным образом, Туркменистан стал свидетелем того, как Китай стал его основным экономическим партнёром из-за его огромных запасов природного газа. В обоих разделах данной статьи делается вывод о том, что, несмотря на такие проблемы, как снижение объёмов торговли и конкуренция со стороны других поставщиков, Китай намерен оставаться важным партнёром как для Казахстана, так и для Туркменистана.

Ключевые слова: Казахстан, Каспийский регион, Китай, нефть, отношения Китая со странами Каспийского региона, природный газ, трубопроводы, Туркменистан, Центральная Азия, энергетика, энергетическое сотрудничество

Introduction: China's Energy Ties with the Caspian

China's consistent economic growth in recent decades has transformed the country into one of the top consumers of energy in the world. In fact, the country accounts for 23.6 percent of all primary energy consumption globally¹. China's limited domestic oil and gas supplies has prompted it to invest more heavily into oil and gas fields overseas as well as diversifying suppliers². China's emergence as a prominent actor in the energy sector of Central Asian states, particularly those along the Caspian Sea, has profoundly altered the

region's geopolitical dynamics. The newly established republics in the Caspian region following the dissolution of the former Soviet Union have likewise sought alternative partners to not only reduce their reliance on Russia, but also to expand energy routes and realise their economic objectives through the forging of new ties. Since China mainly relies on energy imports that travel through the Straits of Malacca, which accounts for 80 percent of its oil imports, deepening trade relations with Central Asia is regarded as essential in alleviating potential costs and risks³. The over-reliance on energy from the Middle East has also driven China to diversify its source of energy supply by looking to its resource-rich

¹ Qiang Zhou, Ze He, and Yu Yang, "Energy Geopolitics in Central Asia: China's Involvement and Responses", *Journal of Geographical Sciences* 30 (2020): 1878–80.

² Zhou, He and Yang, "Energy Geopolitics in Central Asia", 1878–80.

³ Zhou, He and Yang, "Energy Geopolitics in Central Asia", 1882.

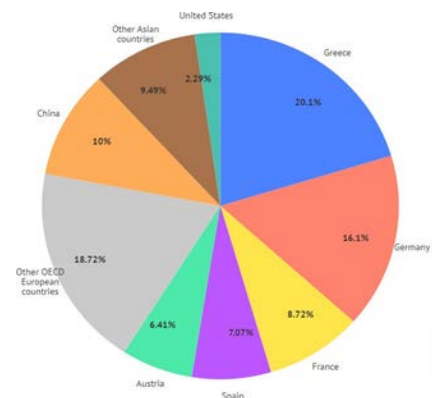
neighbours to the West⁴. The China National Petroleum Corporation's (CNPC) acquisition of 60.3 percent of oil exploration and exploitation rights over the Zhanazhol Oilfield and other fields from AktobeMunaiGaz in 1997 reflected Beijing's growing oil demand⁵. This demand could also be witnessed in the construction of the Central Asia-China gas pipeline which began operating in 2009⁶. China's Belt and Road Initiative (BRI) launched in 2013 further highlights the geographical significance of Central Asia to its energy security interests⁷. With a steady increase of energy trade between China and Central Asia since 2005, China represented a significant portion of 40.9 percent of total exports by 2015⁸. Among the littoral states of the Caspian, Kazakhstan and Turkmenistan's energy ties with China are the most significant, as they are the primary exporters of oil and gas to China from the region, respectively. This article therefore aims to examine the current status of Sino-Kazakh and Sino-Turkmen energy cooperation, in order to provide insights into the potential trajectory of Sino-Caspian energy cooperation in the future.

Sino-Kazakh Energy Cooperation

Given the strategic importance of Kazakhstan as a trade partner in the diversification of energy supplies, Beijing has been actively involved in the development of the nation's energy sector since the 90s. The combined reserves of Kazakhstan's onshore and offshore fields have been estimated to be around "37 billion barrels of oil and 3.3 trillion cubic meters (tcm) of natural gas" in 2013, which places the country among the leading potential producers of oil in the world⁹. Prior to 2003, CNPC invested up to \$4 billion in the Aktobe gas field, 60% of which it acquired from AktobeMunaiGaz in 1997. Over the next few years, China steadily exerted more control over Kazakhstan's energy sector as well as expanding its trade relations with the country through major projects. Additionally, China offered a substantial amount of loans to Astana to hasten its economic development. After 2003, Chinese investment in Kazakhstan's energy sector was accelerated by CNPC's acquisition of more than a third of the Buzachi North oilfield. CNPC's purchase of PetroKazakhstan, previously a Canadian company, was also significant due to the company's ownership of the Kumkol field and its role as one of the top petroleum producers in the country. Additionally, CNPC's acquisition of more than two thirds of PetroKazakhstan in 2006 and MangistauMunaiGaz in 2009 gave

China significant economic leverage. After 2013, CNPC continued expanding with the acquisition of over 8 percent of the North Caspian Operating Company, which further boosted China's economic presence in Kazakhstan since the company controls the massive Kashagan oil field¹⁰. With the launch of China's Belt and Road Initiative (BRI) which aims to link the Eurasian continent with the Middle East and Africa by means of extensive energy and transport infrastructure, Kazakhstan has increasingly become a strategically critical location for China¹¹. Its willingness and capacity to sponsor energy-related projects over the years has made the partnership increasingly indispensable for its Central Asian counterpart.

Figure 1. Kazakhstan's Oil Exports by Country, 2021



Source: generated by the author based on Observatory of Economic Complexity

In recent years, China's energy partnership with Kazakhstan can be reflected in petroleum and gas trade. Since Kazakhstan mostly depends on oil infrastructure built during the Soviet era, it does not export sufficient oil to China¹². Furthermore, as Kazakhstan's oil export destinations are still overwhelmingly the Organisation for Economic Co-operation and Development (OECD) countries of Europe via Russia, it has trouble diversifying its exports to other countries, which in turn limits the potential of Kazakh oil to compete in the international market¹³. Thus, by strengthening energy trade with China, a reliable importer of oil, Kazakhstan hopes to ensure that its oil prices remain competitive in the long-

⁴ Waihong Tang and Elmira Joldybayeva, "Pipelines and Power Lines: China, Infrastructure and the Geopolitical (Re) construction of Central Asia", *Geopolitics* (2022): 6–7.

⁵ "China-Kazakhstan Energy Relations Between 1997 and 2012", *SIPA Journal of International Affairs*, 2016, <https://law-journals-books.vlex.com/vid/china-kazakhstan-energy-relations-632340553>.

⁶ Vladimir Fedolenko, *The New Silk Road Initiatives in Central Asia*, Vol. 10. (Washington, DC: Rethink Institute, 2013), 13, <https://pmworldlibrary.net/wp-content/uploads/2014/09/160419-New-Silk-Road-3.pdf>.

⁷ "China-Kazakhstan Energy Relations Between 1997 and 2012".

⁸ Zhou, He and Yang, "Energy Geopolitics in Central Asia", 1881.

⁹ Fakhmiddin Fazilov and Xiangming Chen, "China and Central Asia: a Significant New Energy Nexus", (2013): 40.

¹⁰ Pier Paolo Raimondi, "Central Asia Oil and Gas Industry-The External Powers' Energy Interests in Kazakhstan, Turkmenistan and Uzbekistan", (2019): 30–31.

¹¹ Aghavni A Harutyunyan, "China-Kazakhstan: Cooperation within The Belt and Road and Nurly Zhol", *Asian Journal of Middle Eastern and Islamic Studies* 16, no. 3 (2022): 184.

¹² İlhan Sağsın and İshak Turan, "The Role of Kazakhstan in the Energy Security of China", *International Journal of Economic and Social Research* 17, no. 2 (2021): 447.

¹³ Sağsın and Turan, "The Role of Kazakhstan in the Energy Security of China", 447.

run¹⁴. Despite a steady growth of bilateral trade between the two countries in the 2000s, there was a stark decline between 2013 and 2019, decreasing by 23% to \$21.8 billion. Energy trade was particularly impacted, partly due to China's economic slowdown and the depreciation of the Kazakhstani tenge. In 2016, Kazakh oil imports only accounted for 0.85% of all of China's oil imports, which was 3.23 million tons¹⁵. In 2017, the share of Kazakh oil that was exported to China was a mere 4%¹⁶. Although the figure of crude petroleum exported to China rose to 10% in 2021 as shown in Figure 1¹⁷, the level of oil imported to China still clearly lags behind that of Europe. Moreover, there is a discrepancy in terms of the level of trade interdependence between the two countries. Kazakhstan exhibits a significantly higher level of reliance on oil exported to China than China is on oil imports from Kazakhstan¹⁸.

The share of natural gas exported to China was likewise at a low rate of 5% in 2019. Since half the Kazakhstan electricity needs are satisfied by coal power, the country was able to export some of its natural gas to other countries including China. In 2019, 7bcm out of Kazakhstan's 55bcm natural gas was exported to China via the Central Asia-China gas pipeline. This figure is considerably small as a share of Kazakhstan's overall exports. Nevertheless, the trade of gas contributes to Kazakhstan's economic stability, which in turn benefits China's domestic security in the bordering Xinjiang province where separatist movements had previously been Beijing's concern¹⁹.

China's important role in Sino-Kazakh energy cooperation is also demonstrated by its many investments and infrastructure projects in Kazakhstan. By 2015, China was estimated to have spent roughly \$43.5 billion in the Kazakh oil and gas sector mainly in investments, assets and loans²⁰. Chinese companies such as China National Petroleum Corporation (CNPC), Sinopec, and CITIC Limited are heavily involved in the hydrocarbon market of Kazakhstan. It is estimated that over half of Kazakh oil production of around 45 million tons was produced with the involvement of Chinese companies²¹. Examples of such involvement include Sinopec and CNPC's role in the reconstruction of the Atyrau and Shymkent re-

fineries, respectively²². The modernisation of the Shymkent oil refinery has allowed Kazakhstan to boost its yearly refining capacity to 16.5 million metric tons from 13.8 previously, enabling the generation of superior fuel and domestically-produced aviation fuel, instead of depending solely on Russian imports²³. Chinese companies likewise invested in the development of old sites such as the Kashagan Field in recent years²⁴. In 2019, Kazakhstan's Ministry of Industry and Infrastructure Development (MIID) reported that 20 out of the 55 Chinese infrastructure projects in Kazakhstan were under the Kazakh Ministry of Energy's purview²⁵, highlighting China's strong emphasis on energy development in Kazakhstan. In terms of pipeline infrastructure, the China-Kazakhstan pipeline and the Central Asia-China (CAC) pipelines built by Beijing were crucial in connecting China to the energy fields of Central Asian states and providing it with an energy source²⁶. In 2019, Kazakhstan exported around 10.8 million tons of oil per year (t/y) to China via the Atasu-Alashankou section of the China-Kazakhstan pipeline, which has the capacity to transfer 20 million t/y of oil annually between the two countries²⁷. The Beineu-Bozoi-Shymkent gas pipeline, commissioned in 2015 by the Chinese and Kazakh governments, also served to strengthen China's economic presence in the Central Asian state since it connected China with the Karachaganak, Kashagan and Tengiz gas deposits of Kazakhstan's Caspian Basin. Moreover, by transporting gas from the western region to the southern region of Kazakhstan, the pipeline alleviates Kazakhstan's energy deficits and minimises its reliance on gas imports from Uzbekistan. Similar to the pipeline transporting oil from China to Kazakhstan, the gas pipeline between Beineu, Bozoi and Shymkent was intended to facilitate the transportation of gas from both Kazakhstan and Russia to China. The development of additional gas infrastructure as part of energy cooperation between China and Kazakhstan had thus solidified the country's role as the leading energy transit hub in the region²⁸.

Although China invested significantly into Kazakhstan's oil and gas industry in early years, recent trends show that there has been a decline. China's share of Kazakh yearly oil production has now decreased to 16% in 2022 down from 31% in 2010. In terms of cumulative investment, the National Bank

¹⁴ Sağsen and Turan, "The Role of Kazakhstan in the Energy Security of China", 448.

¹⁵ Niva Yau, "Tracing the Chinese Footprints in Kazakhstan's Oil and Gas Industry", *The Diplomat*, December 12, 2020. <https://thediplomat.com/2020/12/tracing-the-chinese-footprints-in-kazakhstan-oil-and-gas-industry/>.

¹⁶ Sağsen and Turan, "The Role of Kazakhstan in the Energy Security of China", 447.

¹⁷ Observatory of Economic Complexity, "Kazakhstan", OEC, accessed July 5, 2023, <https://oec.world/en/profile/country/kaz?yearlyTradeFlowSector=flow0>.

¹⁸ Zhou, He and Yang, "Energy Geopolitics in Central Asia", 1881.

¹⁹ Sağsen and Turan, "The Role of Kazakhstan in the Energy Security of China", 449.

²⁰ Raimondi, "Central Asia Oil and Gas Industry", 32.

²¹ Harutyunyan, "China-Kazakhstan", 288–289.

²² Harutyunyan, "China-Kazakhstan", 288–289.

²³ Janet Xuanli Liao, "China's Energy Diplomacy towards Central Asia and the Implications on its "Belt and Road Initiative", *The Pacific Review* 34, no. 4 (2021): 497.

²⁴ Harutyunyan, "China-Kazakhstan", 288–289.

²⁵ Linda Yin-nor Tjia, "Kazakhstan's Leverage and Economic Diversification amid Chinese Connectivity Dreams", *Third World Quarterly* 43, no. 4 (2022): 803.

²⁶ Serik Orazgaliyev, "The Overland Silk Road: China's Energy Cooperation with Central Asia in the Context of Industry Competition", *China: An International Journal* 17, no. 4 (2019): 67.

²⁷ Sağsen and Turan, "The Role of Kazakhstan in The Energy Security of China", 449.

²⁸ Tang and Joldybayeva, "Pipelines and Power Lines", 18–19.

of Kazakhstan pointed out that this figure has fallen to \$1.3 billion in 2021 from \$3.7 billion in 2013²⁹.

In addition to investments in oil and gas infrastructure, China has also made minimal contributions to the development of power lines in Kazakhstan as part of its development aid to the region³⁰. To enhance domestic power generation and transmission, China has acted as the only external investor in projects such as the Moinak hydropower plant and the Dostyk hydro cascade. The BRI has also prompted China to explore Kazakhstan's renewable energy potential through the development of power lines that stretch from Kazakhstan into China³¹.

Due to China's growing global influence, Sino-Kazakh energy cooperation has resulted in increased participation of Chinese financial institutions in multilateral development initiatives in Kazakhstan³². A contributing factor to this shift in approach is China's "efforts to tout its international citizenship credentials" in addition to spreading its influence in a more subtle manner through rules-based collaboration with established Multilateral Development Banks (MDBs) such as the World Bank (WB) and the Asian Development Bank (ADB). This recent development is reflected in joint initiatives in renewable energy such as hydropower and solar energy in Kazakhstan. The Commercial Bank of China (ICBC) reportedly works alongside the European Bank for Reconstruction and Development (EBRD), the Asian Infrastructure Investment Bank (AIIB) to finance the Zhanatas 100MW wind power plant in accordance with the Renewables Framework Program of the Kazakh government. In 2018, the prominent Chinese solar energy company Risen Energy was also the sole operator in constructing the 63MW photovoltaic solar plant partially funded by the EBRD in Chalukurgan, Kazakhstan.

Prospects of Sino-Kazakh Energy Cooperation

In view of the growth of energy cooperation between China and Kazakhstan, many new developments are to be expected. In terms of trade prospects between the two countries, Kazakhstan's oil exports to China saw a substantial rise of 30% in 2022; however, this trend is unlikely to continue due to China's preference to purchase discounted Russian oil. Additionally, Kazakhstan intended to reduce the volume of oil it delivers to China³³. Efforts to ramp up oil exports to

the West, in order to take advantage of Germany's energy demand resulting from the conflict in Ukraine, can be observed. In early 2023, Kazakhstan began transporting oil through the Druzhba pipeline to Germany via Poland. Russia's oil pipeline company Transneft was contracted by Kaz-TransOil to manage shipment volumes of 1.2 million metric tons to Germany³⁴. Despite this apparent westward shift in Astana's export intentions, it is unlikely to have a substantial impact on its long-term export commitments to China. This is because Kazakhstan's dependence on Russian pipeline infrastructure for transporting oil westward places the country in a challenging predicament. At first glance, it does not align with the goal of European states to sever their connections with Moscow, nor does it offer any flexibility for establishing alternative transportation routes for Central Asian energy in the foreseeable future. According to some industry experts, Russia's ability to disrupt Kazakhstan's main export routes to assert its geopolitical stance cast doubt on the country's capacity to diversify trade partners³⁵. Moreover, Kazakhstan's reliability as an alternative energy partner to Russia may be undermined by the delay of shipment that occurred in the first fiscal quarter when only 20,000 tons of oil was delivered to Germany, a significantly smaller figure to the expected 300,000 tons³⁶. The political risks associated with dependency on Russia and Kazakhstan's inability to meet European demands thus far suggest that China will remain indispensable as an energy partner.

The renewables energy sector may be another area that suggests a steady rise in energy cooperation between China and Kazakhstan. With small but growing interest from Kazakhstan's government towards foreign investment in the renewable energy sector, Chinese renewable energy companies have begun to appear on the scene. This can be partly attributed to the renewable capacity of Kazakhstan, which benefits from its status as a nation abundant in natural resources. The Chinese and Kazakh governments have held many joint meetings to facilitate the development of renewable energy. These resulted in the Kazakh authorities' adoption of several major projects, including ones that produce up to 50 MW³⁷. Efforts to expand renewable energy facilities in recent years are reflected in the construction of "a solar power plant in the Almaty region, a wind power plant Zhanatas in the Zhambyl region and a thermoelectric furnace project using YDD ferrosilicon ore in the Karaganda region" in 2021³⁸. Moreover, the construction of the

²⁹ Almaz Kumenov, "Kazakhstan: Specter of Chinese Control over Oil and Gas Largely Illusory", *Eurasianet*, August 24, 2022. <https://eurasianet.org/kazakhstan-specter-of-chinese-control-over-oil-and-gas-largely-illusory>.

³⁰ Tang and Joldybayeva, "Pipelines and Power Lines", 20–21.

³¹ Tang and Joldybayeva, "Pipelines and Power Lines", 20–21.

³² Morena Groce and Seçkin Köstem, "The Dual Transformation in Development Finance: Western Multilateral Development Banks and China in Post-Soviet Energy", *Review of International Political Economy* 30, no. 1 (2021): 190, <https://doi.org/10.1080/09692290.2021.1974522>.

³³ Tatiana Mitrova, "Q&A | The Geopolitics Behind Kazakhstan's Turbulent Energy Sector", *Center on Global Energy Policy*, May 3 2023, <https://www.energypolicy.columbia.edu/qa-the-geopolitics-behind-kazakhstan-turbulent-energy-sector/>.

³⁴ Mitrova, "Q&A | The Geopolitics Behind Kazakhstan's Turbulent Energy Sector".

³⁵ "Kazakhstan still Struggles to Bring Oil across the Caspian", *Vlast*, 2023, <https://vlast.kz/english/54301-kazakhstan-still-struggles-to-bring-oil-across-the-caspian.html>.

³⁶ "Kazakhstan Exports Oil to Germany as Russia Keeps a Close", *The Jamestown Foundation*, 2023, <https://jamestown.org/program/kazakhstan-exports-oil-to-germany-as-russia-keeps-a-close-eye/>.

³⁷ Walker Darke, Marat Karatayev, and Rafal Lisiakiewicz, "Sustainable Energy Security for Central Asia: Exploring the Role of China and the United Nations", *Energy Reports* 8 (2022): 10742.

³⁸ Harutyunyan, "China-Kazakhstan", 289.

Turgusun hydroelectric power station has resumed³⁹. Aside from conventional renewable energy, China EximBank also financed an electrolysis plant which produces sustainable hydrogen (H₂) “by splitting water (H₂O)”. The steady expansion of China’s renewable energy sector may give it a comparative edge over its other rivals in Kazakhstan and the region at large, including the European Union, the United States and especially, Russia. Recent political pressure from Moscow, urging Kazakhstan to increase its gas imports from Russia⁴⁰, may also encourage Kazakhstan to embrace more investments in green energy from China as a means to reduce its dependence on Russia and traditional energy sources. Thus, the outlook for the future of green energy as a feature of Sino-Kazakh energy cooperation in Kazakhstan is positive. Both nations could reap substantial advantages and participate in the global fight against climate change by implementing effective policy, investment and infrastructure measures towards generating renewable energy.

Despite the positive impact Sino-Kazakh energy cooperation has on Kazakhstan’s diplomatic relations, it has also had an adverse impact on the country’s internal politics due to a general fear of China’s control over its energy resources. By 2020, 25% of Kazakhstan’s oil stocks were Chinese-owned and this figure has been gradually increasing over time⁴¹. The demonstrations that occurred in Kazakhstan in 2016 over proposed land reforms that would allow foreigners to rent agricultural land in Kazakhstan were partly motivated by fear of the government sale of Kazakh land to Chinese-run companies⁴². Another pressing issue confronting Kazakhstan is its increasing indebtedness to China. Although China’s funding, assistance and investments in Kazakhstan have contributed positively to its economic growth rates, there remains concern regarding the potential political ramifications associated with debt to China. Kazakhstan has obtained substantial loans from China, making it the sixth largest recipient of Chinese loans⁴³. Additionally, there are apprehensions about the potential political reliance on China in light of recent occurrences in other countries burdened with debt, such as the financial crises in Pakistan and Sri Lanka⁴⁴. In spite of these difficulties, this energy partnership between China and Kazakhstan is likely to endure, largely due to its significant strategic value for both nations.

³⁹ Harutyunyan, “China-Kazakhstan”, 289.

⁴⁰ Vladimir Afanasiev, “After Months of Kremlin Political Pressure, Russian Giant Gazprom Finally Signs First Central Asia Deal”, *Upstream*, June 19, 2023. <https://www.upstreamonline.com/energy-security/after-months-of-kremlin-political-pressure-russian-giant-gazprom-finally-signs-first-central-asia-deal/2-1-1469996>.

⁴¹ Togzhan Turganbayeva, “The Impact of Oil and Natural Gas to the Foreign Policy of Kazakhstan”, *ESAM Ekonomik ve Sosyal Arařtırmalar Dergisi* 1, no. 2 (2020): 235–236.

⁴² Turganbayeva, “The Impact of Oil and Natural Gas to the Foreign Policy of Kazakhstan”, 235–236.

⁴³ Srikanth Kondapalli, “Kazakh-China Relations: Balancing in Preventing Regional Domination”, *Вестник КазНУ. Серия международные отношения и международное право* 101, no. 1 (2023): 20.

⁴⁴ Kondapalli, “Kazakh-China Relations”, 20.

Sino-Turkmen Energy Cooperation

Due to Turkmenistan’s role as the main supplier of gas to the east, China has also been forging closer energy ties with the nation since the late 2000s. Estimates according to BP in 2018 suggested that Turkmenistan possesses gas reserves of up to 19.5 tcm, which ranks fourth globally⁴⁵. Increased energy cooperation and the efficient delivery of significant volumes of natural gas from Turkmenistan to China has resulted in it becoming the main economic and trade partner of Turkmenistan. The signing of a General Agreement on Gas Cooperation between the two countries in 2006 strengthened Turkmenistan’s trade relations with China in the post-Niyazov era. This gas agreement allowed CNPC to explore and extract gas reserves in the eastern region of Turkmenistan and prepare for the construction of the Central Asia-China Pipeline. China has become an essential partner in Turkmenistan’s efforts to reduce their dependence on Russia through its diversification strategy. In 2009, the completion of the Central Asia-China Gas Pipeline enabled Turkmenistan to end Russia’s quasi-monopsony of its energy sector⁴⁶. China’s involvement in energy cooperation with Turkmenistan has elevated its importance, owing to its diplomatic clout and increasing appetite for natural gas to fuel its burgeoning economy.

In the past decade, natural gas trade between the two countries has been the most significant feature of Sino-Turkmen energy cooperation. Turkmenistan obtains most of its income from exporting natural gas to China. Having entered Turkmenistan’s gas market in 2009, China initially purchased a substantially lower amount of gas than Russia, its main buyer. In 2010, China acquired less than 5 bcm of Turkmen gas, which lagged behind Russia’s 10 bcm and was slightly less than Iran’s 6 bcm. Nevertheless, China soon surpassed Russia and Iran in 2011 to become the principal buyer of Turkmen gas. By 2018, this figure has risen to 33 bcm⁴⁷. The following Figure 2 reflects China’s consistent purchase of Turkmen gas up until October 2022.

Despite these close trade relations, the natural gas sold to China⁴⁸ cannot be viewed solely as a source of revenue, as a significant portion of it is used to fulfill the country’s debt obligations to China. Since Turkmenistan’s primary creditor is China, a portion of its debt is likely being paid back through the exchange of gas at current market rates as part

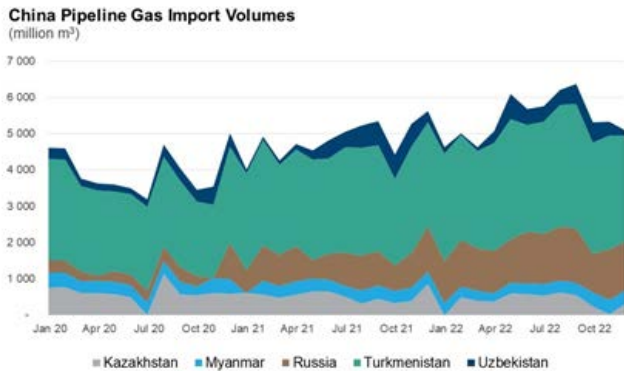
⁴⁵ Lea Melnikovová, “China’s Interests in Central Asian Economies”, *Human Affairs* 30, no. 2 (2020): 246.

⁴⁶ Akanksha Meena, “Turkmenistan’s Energy Relations with China: a Significant Energy Nexus”, *Modern Diplomacy*, accessed July 5, 2023, <https://modern diplomacy.eu/2022/08/14/turkmenistans-energy-relations-with-china-a-significant-energy-nexus/>.

⁴⁷ Melnikovová, “China’s Interests in Central Asian Economies”, 245–246.

⁴⁸ Invest Foresight, “Foreign Business Penetrates Turkmenistan”, *Invest Foresight*, accessed July 5, 2023, <https://investforesight.com/foreign-business-penetrates-turkmenistan/>.

Figure 2. China Pipeline Gas Import Volumes



Source: Carnegie Endowment, 2023

of a loan-for-resources arrangement⁴⁹. The exact price of the gas however remains undisclosed due to a lack of transparency⁵⁰. Given the higher cost of Turkmen gas at the time of the agreement, there exists a persistent risk of fluctuating prices and the need to provide additional gas to China to satisfy the debt's value. This excessive reliance on China has therefore prompted Turkmenistan to seek alternative energy supply routes such as the TAPI pipeline⁵¹ and the Trans-Caspian pipeline⁵².

China's significant contribution to energy cooperation with Turkmenistan is also evident through its infrastructure projects in the country. China has been offering funding to the Caspian states to aid in the development of energy reservoirs and build up the necessary infrastructure to ensure stable prices for gas imports within the context of oil/gas loan agreements. In 2006, China became a major importer of natural gas, and its demand for the resource continued to rise exponentially, which resulted in an agreement signed between China and Turkmenistan under which China was obliged to provide \$29 million in exchange for 30 bcm of gas each year over the next 30 years. Natural gas supplies were then delivered to China via the Central Asia-China gas pipeline launched in 2009. Furthermore, the two sides agreed to develop the Amu Darya River's neighbouring gas deposits from which the Central Asia-China Gas Pipeline derives its main resources as part of their collaboration in the upstream bu-

ness. The agreement resulted in initiatives to expand the Central Asia-China Gas Pipeline's capacity, which included the construction of Line B and Line C. With the completion of Line B in 2010, the feasibility of the 30 bcm/year became evident towards the end of 2011. After the completion of Line C in 2015, the pipeline was able to transport 55 bcm/year to China, which accounted for around 20 percent of the nation's annual gas consumption. Since these gas supplies allowed China to reduce its dependence on standard coal by around 73 million tonnes, China agreed to the subsequent construction of Line D as shown in Figure 3⁵³. Line D is intended to transfer gas from Turkmenistan's Galkynysh or South Yolotan fields by passing through Uzbekistan, Tajikistan and Kyrgyzstan before finally arriving in Xinjiang's Wuqia County in China⁵⁴. Currently, the project remains mired in setbacks and postponements over the past few years. However, once this phase is completed, it is forecast to boost the Central Asia-China Gas Pipeline's overall capacity to 85 bcm/year⁵⁵.

Figure 3. Existing and Proposed Gas Pipelines in Turkmenistan



Source: Gis Reports, 2019

The most important development in relation to investments in the context of Sino-Turkmen energy cooperation in recent years is reflected in a 30-year production sharing agreement (PSA) signed between the two countries in mid-2017. The initiative encompasses significant areas such as the Samantepe gas field, which holds around 5 million tons of gas condensate and 100 bcm of gas. As part of the initiative, Chinese firms quickly worked on activating both old and new production wells located in the Samantepe region, so as to secure and increase the flow of natural gas from the area. Thus far, CNPC has reportedly allocated up to \$4 billion in the project⁵⁶.

⁴⁹ Jakub Jakóbowski and Mariusz Marszewski, "Crisis in Turkmenistan. A Test for China's Policy in the Region". *OSW Centre for Eastern Studies*. August 31, 2018. <https://www.osw.waw.pl/en/publikacje/osw-commentary/2018-08-31/crisis-turkmenistan-a-test-chinas-policy-region-0>.

⁵⁰ Jakóbowski and Marszewski, "Crisis in Turkmenistan".

⁵¹ Marat Gurt, "UPDATE 1-Turkmenistan to Start Work on TAPI Pipeline in December", *Reuters*, September 15, 2015. <https://www.reuters.com/article/turkmenistan-pipeline-idUKL5N11L0RE20150915>.

⁵² Shahnar Hajiev, "Turkmenistan Should Promote the Trans-Caspian Pipeline More Actively", *Euractiv*, September 3, 2019. <https://www.euractiv.com/section/azerbaijan/opinion/turkmenistan-should-promote-the-trans-caspian-pipeline-more-actively/>.

⁵³ Stylianos A Sotiriou, "From Monopsony to Monopoly: Russia's Opening to China as a Stabilising Factor in the Eurasian Energy Trade", *Europe-Asia Studies* 75, no. 1 (2023): 37–38.

⁵⁴ Tang and Joldybayeva, "Pipelines and Power Lines", 16.

⁵⁵ Sotiriou, "From Monopsony to Monopoly", 37–38.

⁵⁶ Anil Çağlar Erkan, "The West Alternative in Turkmenistan's Energy Security", *MANAS Sosyal Araştırmalar Dergisi* 12, no. 2 (2023): 707.

Prospects of Sino-Turkmen Energy Cooperation

Although Turkmenistan aims to expand its natural gas export markets beyond China in order to reduce its reliance on the country, China is expected to remain its primary customer in the foreseeable future. China's importance as an energy trade partner was reinforced in June of 2022 when President Serdar Berdymukhamedov highlighted the critical value of the Central Asia-China gas pipeline⁵⁷. This reality is further demonstrated by the recent opening of the gas-storage facility in the Gadyń field in 2022, which forms a section of the vast Bagtyyarlyk oil field currently undergoing development as part of production-sharing pact with CNPC. Berdymukhamedov points to the facility as a significant accomplishment in his efforts to create employment in the country, as it will process 5.5 mcm of gas per day to be delivered to China⁵⁸. Furthermore, Moscow's efforts to secure the proposed Power of Siberia-2 pipeline (PoS-2) to compensate for reduced gas sales to Europe due to Russia's operation in Ukraine⁵⁹ have given Beijing added leverage over Turkmenistan and its Central Asian counterparts for the prolonged 'Line D' project. As Chinese state officials have pointed out, the 'Line D' project has been undermined by issues arising from discussions on pricing and technical obstacles⁶⁰. Keen on maintaining economic stability and the flow of revenue from gas sales, Turkmenistan may be more inclined to accelerate negotiations with China by offering more favourable terms in the 'Line D' project to ensure that China continues to prioritise it over PoS-2. The Chinese leadership's eagerness to complete Line D could also be witnessed at the in-person summit of Central Asian leaders held in Xi'an in May during which President Xi Jinping hailed the need to advance the project⁶¹. China's willingness to bolster energy ties with Central Asian state as part of the BRI in recent months and its increased leverage to advance Line D due to Moscow's push to construct its second Siberian pipeline suggest a more robust energy trade relationship between China and Turkmenistan in the long-run.

On the other hand, regular disruptions in the transfer of Turkmen gas in recent years have called the stability of Sino-Turkmen energy relations into question. In the winter of 2017–18, gas delivered via the Central Asia-China gas pipeline to China was reduced by 50% as a result of frequent equipment malfunctions in Turkmenistan. This compelled China to significantly increase its imports of LNG from other countries, causing an unprecedented spike in global LNG prices⁶². Turkmenistan once again halted its gas exports to

China due to extreme weather conditions in January of 2023, prompting Ashgabat to implement a new round of constitutional revisions which reinstated former President Gurbanguly Berdymukhamedov and demoted his son⁶³. This further fuelled uncertainty regarding the stability of the secretive nation. China's maritime LNG import capacity may drive competition with land-based pipeline routes, such as those in Central Asian countries, and provide Beijing with a lever over both its gas suppliers and Ashgabat and Moscow. This scenario may likewise prompt Beijing's partners in the West to push China into making more significant commitments to LNG purchases, in order to give them leverage in their energy dealings with Beijing and deprive Moscow of its revenues amid the Ukraine conflict. These developments could indirectly impact China's commitment to Turkmen gas imports. While the construction of Line D is increasingly likely, it all hinges on whether Ashgabat has the necessary governance capabilities to deliver the agreed-upon gas volumes. The future trajectory of bilateral trade between China and Turkmenistan will depend on how these challenges are navigated and resolved.

Conclusion

In analysing energy cooperation between China and Kazakhstan, as well as China and Turkmenistan, it becomes evident that China's role in the Caspian region is poised to endure. This enduring role can be attributed to the contribution that both countries make in partially supplying China's energy needs, further reinforced by their strategic partnerships within the framework of China's Belt and Road Initiative. One defining aspect of Sino-Kazakh energy cooperation is petroleum trade. China has been steadily purchasing more oil from Kazakhstan since the early 2000s despite an apparent decline of oil imports in the 2010s. The imbalance of this trade relationship is exhibited by Kazakhstan's higher level of dependence on oil exports to China than the latter is from Kazakh oil imports.

Another aspect of their partnership is China's many infrastructure and investment projects in Kazakhstan, which not only developed Kazakhstan's oil refineries and pipelines, but also enhanced its power line infrastructure. However, China's share of oil production and its cumulative investments have both declined dramatically in recent years. Despite the positive impact of this energy partnership, China's preference for Russian oil, and Kazakhstan's increasing indebtedness pose some political and economic challenges to the Kazakh government. Nevertheless, prospects of Sino-Kazakh energy cooperation remain hopeful due to increased collaboration of Chinese financial institutions with multilateral development banks, especially in the financing of new renewable energy initiatives in Kazakhstan. Moreover, China's growing interest in developing renewable energy in Kazakhstan po-

⁵⁷ Eurasianet, "Turkmenistan: The Beijing Conundrum", *Eurasianet*, June 21, 2022. <https://eurasianet.org/turkmenistan-the-beijing-conundrum>.

⁵⁸ Eurasianet, "Turkmenistan: The Beijing Conundrum".

⁵⁹ Chen Aizhu and Marat Gurt, "China Prioritising Turkmenistan", *Reuters*, May 24, 2023. <https://www.reuters.com/markets/commodities/china-prioritising-turkmenistan-over-russia-next-big-pipeline-project-2023-05-24/>.

⁶⁰ Aizhu and Gurt, "China Prioritising Turkmenistan".

⁶¹ Aizhu and Gurt, "China Prioritising Turkmenistan".

⁶² Xuanli Liao, "China's Energy Diplomacy towards Central Asia and the Implications on its "Belt and Road Initiative", 510.

⁶³ Job Webster, "Perspectives. China Wants the Line D Pipeline. Can Central Asia Deliver?" *Eurasianet*, February 28, 2023. <https://eurasianet.org/perspectives-china-wants-the-line-d-pipeline-can-central-asia-deliver>.

sitions it as a crucial partner for Kazakhstan's energy trade, especially as it seeks to navigate geopolitical pressures from Russia.

In terms of Sino-Turkmen energy cooperation, China has gone from being a minor importer of Turkmen gas to becoming Turkmenistan's main customer in 2011. Due to Turkmenistan's indebtedness to China, some of the natural gas exported to China is used to fulfil Turkmenistan's debt obligations. This has prompted Turkmenistan to look to alternative markets. Another aspect of Sino-Turkmen energy cooperation is infrastructure projects. As a result of China's construction of the Central Asia-China gas pipeline, along with its Line B and C extensions, Turkmenistan was able to deliver large amount of gas to China. While the construction of Line D is increasingly likely, the relationship is not without challenges, as disruptions in gas supply and the need for political stability in Turkmenistan create uncertainties in this energy partnership.

About Rohan Nest

Rohan Nest is a graduate student of Middle Eastern and Central Asian studies at the Australian National University (ANU). His areas of interest include Iran-GCC relations, development studies and regional security issues.

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SHIPPING AND ENERGY TRADE FLOWS

*Interview with Nicholas Watt
Held by Irina Mironova and Frederik Boumeester*

Abstract:

What aspects of ENERPO education were helpful in building a career at a price reporting agency? What is the role of shipping in energy trade flows? How has the shipping landscape changed in the view of the shifting geopolitical situation post-2022? Is it affected by the Energy Transition? These questions are covered by Nicholas Watt, Editorial Manager, Freight at Argus Media.

Keywords: freight, shipping, energy trade, ENERPO

Морские грузоперевозки и энергетические торговые потоки

Аннотация: Какие аспекты образовательной программы ЭНЕРПО помогли построить карьеру в ценовом агентстве? Какова роль морских грузоперевозок в энергетических торговых потоках? Как изменилась ситуация на рынке морских грузоперевозок с учётом меняющейся геополитической ситуации после 2022 года? Повлияет ли на это энергетический переход? Ответы на эти вопросы даёт Николас Уотт, руководитель редакционного отдела по фрахтованию Argus Media.

Ключевые слова: морские перевозки, торговля энергоресурсами, фрахтование, ЭНЕРПО

ENERPO: *Today we are happy to interview one of the founders of the ENERPO Journal – Nicholas Watt. Nick, can you talk about your current position at Argus and your duties in general? What experience from your ENERPO studies was relevant for you in this position?*

NICHOLAS: I'm Nick Watt, and I'm the editorial manager for freight at Argus, a price assessment agency. About ten years ago I was a student at the ENERPO Program and helped start up this journal: the ENERPO Journal. And it's exciting to see that it's continuing! The program got me into energy studies. It got me interested in how markets function and, specifically, how energy markets function. What we do at Argus, as a price assessment agency largely in the energy space, is assess markets. So, in that way ENERPO was very good preparation. It was a great introduction to supply and demand fundamentals. And I think what the ENERPO program did for me was really show how important the political side is in markets. And I guess 'geopolitical' would maybe even be a better word to use for that. So, once a regulation changes or when some sanctions kick in, then supply and demand kind of goes out the window a little bit. So, I think an appreciation for that, which started at ENERPO, has been beneficial to me in this job.

ENERPO: *How does Argus collect and analyze data on shipping and energy trade flows, and what role does your team play in providing insights to market participants?*

NICHOLAS: Essentially, we are journalists here at Argus. It is a little bit different, though, from standard journalism in which you're talking to contacts and looking to get a nice story out of it. While we do that, a lot of the information that we're gathering is market information. Maybe not so much the quotes, although we do that, but we're after the *deals* that move the markets. So, for freight, my team talks to the various players who are in the shipping world. When I say 'players', those would largely be the ship owners or ship operators, and the people on the chartering side, and then the ship brokers who set up these deals.

Generally, our assessments are in the spot market, which in the shipping world means deals for a single journey. Let's say you've got some charterer that's looking to move a cargo from A to B. They're going to be trying to find a ship if they don't have one in their internal fleet to carry that cargo, and they're going to use a ship broker to make the deal happen. So we talk to all of these players and collect that commercial information as much as we can. I think we do it in the way

other journalists approach their jobs too: it's about trading information and trying to understand what the people you're talking to are seeking. You can help fill their needs. If we aren't good at sharing information, then we're not going to get very good information back and then our price assessments will suffer. We make sure that we do a good job of that. That's how we collect the data.

And then in terms of analysing it... maybe the best way to talk about that is to mention that we have a very strong methodology for how we synthesize this data and generate the price assessments that we publish and that our subscribers buy.

Each report has its own methodology and that really forms the backbone of Argus' editorial side. And it's really important to have that and have that publicly available so everyone understands the rules that we are following when we produce those assessments. I mean the actual data is not publicly available, that's only for subscribers, but the way that we assess it is publicly available.

ENERPO: *Is it the correct understanding that you don't just collect the data but it's rather a mutual process? Do you exchange information?*

NICHOLAS: Yes, but it depends on the market. Some markets are much more transparent than others. In some markets people send across deal sheets and then it almost becomes a very straightforward data exchange. And some markets, it's very much like a phone call market, so if you want to know what's happening, you really have to call this person at 3 PM every Thursday because that's when he finishes up lunch. I mean it really depends on the market. And so, in the freight market a lot of it is over a chat platform. Sometimes people use various chat platforms, sometimes it's over email, and sometimes it's a phone call, but I would say freight is largely text message style.

ENERPO: *What share of this freight market is spot based? For example, in the natural gas market, you have a long-term segment of the market (long-term contracts), then something in between, and then a spot market. And 'spot' has had the tendency of growing particularly in Europe, but also in Asia-Pacific. So, what does it look like in freight?*

NICHOLAS: That's a good question. Again, it depends on the market. But if we're talking about crude oil tankers, a large share of total crude production is loaded onto ships. The majority of the deals that underpin those cargo movements are spot. That's just for a single voyage, right? And then the rest could be under a time charter in which someone leases a vessel out for one, two, five, ten years. And then there's another kind of charter – a bare boat charter, but that is a little bit different and not super important to what we're talking about.

However, one thing that's interesting is that these are not mutually exclusive. You have a lot of players who will take an oil tanker out on a time charter for five years and they don't

need it, so then they relet it back out onto the spot market. That'll comprise a lot of the spot market and then there's some people who don't take any vessels out on time charter and are always just looking on the spot market for tonnage. And you have some ship owners that only operate on the spot market. You have some ship owners that are much more balanced, "We do half and half for our fleet". And then some ship owners will time charter in more vessels because they think they can make more money on the spot market, if they think, "Okay, spot rates are going to rise in the next year, let's go ahead and try to take more vessels in on time charter and then lease them out on spot charter". And then when you get into other segments, it gets smaller.

If you're talking about clean tankers and refined products... A clean tanker is a type of vessel that carries refined products and it's got a special lining. Those are more likely to be on a longer term charters. The smaller the vessels, generally the more opaque the spot market gets because there's just not as much happening. And, yeah, you have less trade, which discourages faith in the spot market, so people think, "I don't want to dip my toes into that too much".

And then if you're talking about LNG carriers, that's going to be largely time charter – pretty long term deals.

ENERPO: *Maybe we won't even include it in the interview, but I have to ask. Besides ENERPO, my day job for the past couple of years was actually at Gazprom strategy department. And we calculated the costs of our main competitor at that time – it was before 2022 – for the European market. It was the US LNG. And when we were calculating the costs of US LNG, we added up the Henry Hub price plus the transportation and regasification cost. We added the transportation cost based on spot charter rates, but we used the return trip in our model. So you would book the vessel to bring LNG to Europe but then calculate as if it would have to go to Europe and back to the Gulf of Mexico or to the Asia-Pacific and back. Was it the correct approach for the model or was it wrong?*

NICHOLAS: That sounds right. That makes sense because if you wanted to make a similar kind of calculation in other markets, you include the ballast leg. Because those are the economics that someone who's got a ship under time charter would be looking at. He would think, "alright, if I lease my vessel out to this other person, what is the equivalent amount of money that I would want to get back out for this voyage that I'm paying into this time charter"? And they would be looking for a round trip voyage because they've got to think about where they are going to position their vessel next.

ENERPO: *Since February 2022, there have been very significant changes in energy trade flows because there were sanctions introduced against Russia. There was a big reorientation of at least Russian foreign flows toward the eastern markets. Europe had to make up for the differences, to balance the missing amounts from elsewhere. So that must have led to big changes in freight markets.*

NICHOLAS: It did.

ENERPO: *What trends could you highlight in that respect?*

NICHOLAS: Speaking about the oil market, you're exactly right, that situation led to major changes. Russian crude oil was largely going to China and India instead of to Europe. And you're right, European refiners had to replace those lost barrels with similar grade barrels from elsewhere. That was largely from the Americas, especially the US Gulf Coast and to some extent Brazil and Guyana. If you think about it, on the shipping side, that means longer voyages. A lot of that Russian crude that was coming to European refiners from the Baltic region, that's a pretty short trip. Maybe four or five days or so? But now, that cargo is moving to India instead of Rotterdam. That's going to be twenty or so days – quite a lot longer. And those European refiners are taking in barrels from farther away. They're not taking it from the Baltic or the Black Sea, but instead from shipments out of Houston or out of Corpus Christi in the US Gulf Coast or Latin America. Those will also be fifteen to twenty five day voyages.

What that means is that it stretches the oil tanker fleet. When you have a tighter oil tanker fleet, that's reducing the supply available for cargoes and that puts upward pressure on prices. We saw it in November of 2022, when freight rates were record high on a few routes, and that was right before Europe banned Russian crude oil – it was before the products ban. European refiners scrambled to charter vessels from the US Gulf Coast or Latin America and that tightened the market. And shipping was able to command very high freight rates, all-time highs on some routes.

The situation calmed down since then – hit a bit of a slow period this summer. Chinese crude oil demand has been a little underwhelming from a lot of people's point of view, so that's loosened the market. And OPEC has continued to constrain supply, which has also put downward pressure on tanker rates since fewer cargoes have to move. To be honest, I think the weakened rates are temporary. I think once you see a bit of an oil supply or demand increase, that stretched fleet is going to make itself apparent and rates will come back up, especially because there aren't too many new vessels coming online in the next couple years.

So the average distance that oil now travels to a refinery has increased, and it works for both Russian oil and oil that arrives in target markets like the European Union.

ENERPO: *We've looked at geopolitics and their influence on the shipping market and now this big trend of Energy Transition: has it affected the shipping markets in any way? Can you see from the shipping market developments that Energy Transition is or is not taking place? Or is it just something that we discussed a lot but it's not actually having an impact on the physical flows?*

NICHOLAS: That's a good question. There are a few ways to answer it. My main answer would be that Energy Transition

on does not right now affect the shipping market. The vast majority of vessels on the water still run on oil-based fuel. And if oil demand continues to climb, you still have vessels carrying oil. It's a strong demand. So I guess that would be the main answer there.

But there are some asterisks here. In terms of shipping supply, there are quite a few vessels on order, and this is not just in the oil tanker market but other segments as well. When the new ships are delivered from the shipyard, many will be equipped with the means to burn LNG or methanol. A lot of those haven't been delivered yet. It takes about two years or so to build a vessel. But on the order book right now is a large chunk – I'd hesitate to give it a figure – that will have the means to do that. Having the means to use LNG is different from actually doing that. A few years ago burning LNG was quite a lot cheaper than some of the oil-based fuel. But then the natural gas market got really tight, and any vessel that had the means to burn oil-based fuel, did that. So instead of using the cleaner fuel option (which in this case is LNG) everyone looks to burn the cheapest. I think that's the case right now.

ENERPO: *Aren't we running back into the steam engine based on coal, that's the cheapest?*

NICHOLAS: Well I don't know if we're going to go quite there but if it's cheaper...no, I still doubt it.

ENERPO: *Good to hear!*

NICHOLAS: You do have some ship owners that are testing out some biofuels blends because that can work pretty well with oil-based fuel. Some percentage of bunker fuel can be biodiesel-based. And one of the things that's happening in the shipping market that I should mention from a regulatory standpoint is, starting next year, shipping will be included in the EU's ETS – their emissions trading system. So, if you are a shipper and you're operating in the EU, you're going to have to buy allowances to burn the carbon on a voyage into, or out of, or within the EU. Argus Freight publications have assessments for exactly how much that cost will be. That's something I've been working on a lot lately. Most likely, shippers are going to pass along that cost. It's possible that, down the line, more efficient vessels are going to be the ones that will go into the EU, and the less efficient ones won't, because they have to pay more for compliance reasons. So, a lot of questions yet to be answered on that. But that regulation is coming into force and that's like the first carbon tax for shipping that we'll see.

ENERPO: *Interesting, thanks! That was very insightful. Can you provide examples of specific energy commodities that heavily rely on shipping? I mean here that there are two ways of relying on shipping. Firstly, for those commodities where a large share of production is exported and thus needs to be transported, and the second way is those where the large share of the final price is actually shipping, not the production costs but the transportation cost within the final cost.*

NICHOLAS: Saudi Arabia would be a good example of where most of that production is exported. So, the biggest oil shipping market is in the Mid-East Gulf and it's largely because of the Saudi barrels that are exported, mostly on VLCC's. Yeah, that would be a big example there. I think Russia would be one as well, and in a lot of ways. And Brazil for iron ore. That's a major iron ore exporter, so a lot of the dry bulk vessels will be taking those cargoes mostly to China. China is a big iron ore importer so that's a pretty long journey. But the dry bulk market has been very weak lately so it's not that shipping cost is taking up a huge chunk of that delivered cost.

In terms of where shipping is really important from a pricing standpoint, it depends on the markets both for the commodity and freight. There was that time back in early Covid when Saudi Arabia increased production significantly. It was in 2020 and oil prices went negative. And tanker rates just went through the roof because there's all that floating storage. There, you added just about on any route for at least a few days shipping comprising over half of the delivered cost of a barrel. But that's calmed down. The smaller the vessel you look at, generally the higher share of the cost it'll be. Not the highest share, but the higher freight cost will be. But if it's a really expensive commodity, then freight can be pretty small. But if you've got low oil prices and you're talking about oil and a niche route, then you might have a pretty high share. So one specific example is there are increasing export crude oil exports out of Argentina. And because of draft restrictions at that port, they can only handle Panamax size vessels, small ones compared to VLCC. A lot of these Argentinian barrels go to the US West Coast and that freight cost is about 11 dollars per barrel. And as you know, the crude market is very volatile, so crude can fall by twenty percent or so. It depends on how you do the calculation, but it very much varies. I wish I had an easier answer for you, but it varies quite a lot.

Freight is not usually high enough to completely change flows. It depends on the market, but if you're talking about oil, if there's high enough demand in some region for a certain kind of grade, it's probably going to go there and you'll just eat the freight cost. Maybe if it's too high, then traders won't find it economical. Freight can be very high, but it's generally not the deciding factor. It might change the margins a bit, but not the overall geography of flows.

About Nicholas Watt

Nicholas Watt is the Editorial Manager, Freight at Argus Media. He has previously worked as Americas freight editor and a market reporter for freight at the same agency. Prior to joining Argus, Nicholas was Editor-in-Chief of the ENERPO Journal and Student Facilitator at the European University at Saint Petersburg.

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NEW BOOK BY THE ENERPO RESEARCH CENTER: RUSSIAN COAL IN THE ERA OF CLIMATE CHANGE

Nikita Lomagin, Irina Mironova, Maxim Titov and Michael Oshchepkov

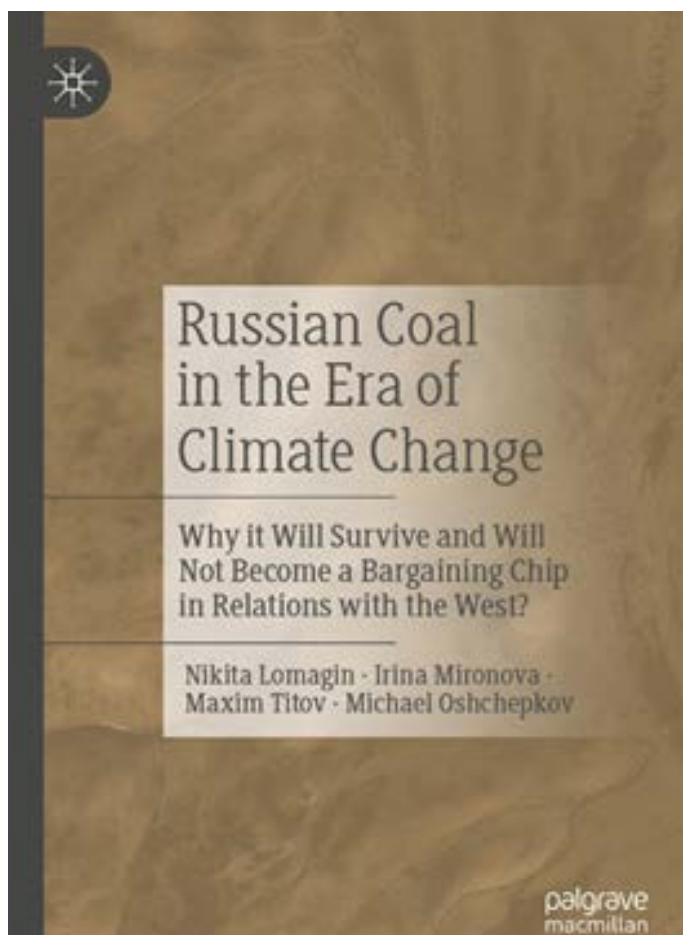
In 2023, a team of experts of the ENERPO Research Center including Nikita Lomagin, Irina Mironova, Maxim Titov and Michael Oshchepkov has completed a book on past, present and future of the Russian coal industry. The book was published by the Palgrave in November.

The book is unique for several reasons. First, it aims at interdisciplinary analysis of the oldest energy sector in Russia and addresses a series of questions that are relevant for experts in Russian studies, energy security, climate change, and global political economy. What does the coal sector mean for Russia? Will nostalgia for the Soviet legacy in Putin's Russia

be embodied, inter alia, in the USSR's superstar miner Alexei Stakhanov – a poster man for communism and a symbol of a new workers' movement dedicated to increasing production, does it translate into the state's support of miners today? Conversely, this support might stem from bitter lessons of the late 1980s and early 1990s when the overall economic crises in the Soviet Union fuelled miners' political activity that substantially contributed to the eventual collapse of the planned economy and the disintegration of the country. Besides its key role in providing energy security in more than a dozen Russian regions, in particular Eastern Siberia and the Far East, coal mining is still economically crucial for regions that are heavily dependent on coal production.

Second, the book sheds light on the political economy of doing business in Russia in coal and the nature of Russian dirigisme in energy politics. The fact that the export of coal brings Russia about \$15–17 billion USD per year implies not only the high degree of competitiveness of private coal mining companies but also assumes a great deal of potential for lobbying to obtain different types of support including new licenses, tax relief, and transport subsidies. Who are the main stakeholders in the coal business in Russia? What are the primary interests of miners at home and abroad? How do coal businesses and coal regions lobby their interests? Who are the main opponents of coal mining domestically and why? Which place does coal production occupy in the Russian energy security model and what is happening when Russian coal competes with Russian gas abroad, particularly in Asia?

Third, the book addresses some hard economic realities working against the world's shared climate goals. Global energy demand is steadily increasing as economies advance and nations develop, but the supply of renewable energy alternatives like wind and solar is not keeping pace. Simply put, there are severe supply constraints on rapidly expanding use of electric vehicles, wind turbines and other mainstays of sustainable renewable energy. Thus, absent green alternatives, the energy supply continues to be largely a competition between different fossil fuels and coal appears to be winning currently. Additionally, the price of energy has skyrocketed.



Finally, given the current crises in Russian relations with the West, some believe that the Kremlin could sacrifice its coal sector for the sake of rapprochement with the West, but how realistic is this hope? Will Russia instead work together with other potentially affected states and invoke WTO norms to protect its coal sector against the assertiveness of international 'Greens'?

The book is available on the website: <https://link.springer.com/book/10.1007/978-981-99-5370-7>.

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Volume 12, Issue 1

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THE ENERPO JOURNAL

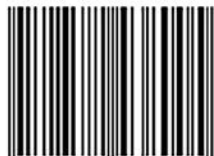
The ENERPO Journal brings you up to date with events in international energy. The journal's main premise is that energy is not a weapon, and this basic understanding allows for pragmatic and more productive cross-border cooperation in energy. The journal publishes articles on a number of energy sources and markets for various types of fuels, because the energy system is not confined to oil and gas. The ENERPO Journal addresses specifics of national energy policies, political relations between the key players in international energy markets, the functioning of these markets, the institutional structure of the markets and other issues.

The journal was established in 2013 and is a publication produced by the **Energy Politics and Energy Transition in Eurasia (ENERPO Program)** in cooperation with the **ENERPO Research Center** of the European University at St. Petersburg. The goal of the ENERPO Journal is to bring exposure to the activities held at the ENERPO program as well as give the most successful students and other young researchers an opportunity to have their work published.

The main types of articles published in the ENERPO Journal are analytical articles and viewpoints/commentaries. ENERPO quality standards for analysis and research are at a professional level, while young researchers are often the ones providing creative solutions for the existing challenges. Thus, the work produced by the students and other young academics will be useful for experts and industry professionals. The journal also sets out to bring exposure to the activities held at the ENERPO program. Most issues contain reviews of workshops and seminars held at ENERPO in a Workshop Review subsection, in which students relay and comment on the content of guest lectures within the Workshop Series. The ENERPO Workshop Series is a specialised cycle of meetings hosted by the European University, with lectures delivered by prominent experts in the field of energy policy, as well as representatives of the energy business in Russia and the CIS countries.

The content of each article is the author's opinion and does not necessarily reflect the views of European University at St. Petersburg.

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