



Session Sketch

The Geopolitics of Energy and Environmental Management in Asia

Session Four

Introduction

Energy production is the single largest contributor to global reform. Sustainable climate financing is critical to meet the growing energy needs of Asia and elsewhere, to help balance the needs of developing countries with investment in renewable sources. In Israel, the discovery of natural gas has made energy resources a useful diplomatic tool. The transition to sustainable and renewable energy has the potential to cause greater competition or interdependence, and currently the trend seems to be towards increasing competition, especially between China and the US, and China and the EU.

The need for greater energy infrastructure and awareness of its implications on the environment are more paramount than ever in enhancing human capacity and development. Many countries in the EU and Asia face challenges in transcending from national interests for global ones. China plays an interesting role in institutionalizing innovative mechanisms for sustainable energy production and growth when supporting infrastructure projects throughout Asia. We can observe how countries like Israel, Poland, and Korea grapple with these issues, and suggest that a constructive and comprehensive strategy must be produced to close gaps in resources for greater interdependence between countries.

Opening Comments:

Yesterday we had a significant report on the urgency of addressing the issue of climate change and on keeping the temperature under a 1.5 degree Celsius rise. If we look at the economics Nobel prizes awarded yesterday, both were awarded to economists focusing on green energy. This is a very significant topic and it's critical to keep it on the Agenda.

Today we will address the guiding questions we had on the management of smart technology and energy infrastructure and energy, and whether the world needs more global governance to promote the sharing of clean energy technologies, and how the growing energy needs of developing countries can be met. One key issue I hope we will address is the rising role of China. This is one particular area where China is truly an innovator and an important player in terms of the financing of infrastructure, primarily in the BRI. As we are in Seoul, we have a lot to say about how China is likely to be a pioneer country in this area. We will also share the under-recognized story of Israel, which has gone from being completely dependent on importing energy sources to being a very significant player in gas, exporting to the EU and others.

Presentations

1) Presentation 1

Better Coordinating the Management of Smart Energy Infrastructure

- Traditional energy and national security concepts should be reframed as transboundary energy projects because initiatives such as the Northeast Asia super grid cannot be implemented within the current national energy security framework.
- Innovative governance and institutional arrangements are necessary to manage new types of energy systems at the regional and global level. As long as end-use energy services are considered public utilities, new and innovative institutions with advanced technology options cannot function properly.
- Countries should design practical and operational structures for implementing public-private partnerships that promote the installation of smart energy systems across borders. Better coordination among private sector actors beyond domestic markets could lead to the broadening of the energy business.
- To facilitate smart energy infrastructure beyond the national level, countries should standardize the processes of energy devices and systems.

Creating a New Clean Technology Sharing Institution

- New mechanisms or institutions that efficiently promote sharing clean technologies should be considered more seriously to manage global public goods such as climate change. Unfortunately, most clean energy intellectual property rights belong to the private sector. New and innovative mechanisms are necessary to provide new types of energy more efficiently.
- Under the UN Framework Convention on Climate Change (UNFCCC), the Technology Executive Committee and the Climate Technology Center and Network are the main bodies for identifying policies and technologies that accelerate low-carbon development. However, the UNFCCC arrangements are not functioning effectively, and combating climate change requires more innovative and practical global clean technology institutions.
- Better integrating the UNFCCC with public and private financial institutions could be a better way to implement clean technology at a project level. Alternatively, a new mechanism to invite more private financial resources should be considered at regional or global level.

Matching Growing Energy Needs as Standards of Living Rise

- Securing and allocating available financial resources and appropriate technology options with proper institutional arrangements is crucial to expanding affordable and modern energy systems in developing nations.
- Enhancing human capacity and developing the necessary human capital in energy sectors are essential to best management practices in advanced energy systems and infrastructure in developed nations.
- To better mobilize financial resources from both global public and private sectors, it is critical to adopt global practices and standards in the energy sector.

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- Developing nations should provide a business-friendly environment to encourage foreign direct investment in energy sectors as well as smart energy options and packages.
 - Developing nations should prioritize leapfrog energy systems—focusing on transformative innovation and major technological breakthroughs rather than using old technology—to achieve high living standards and energy access.

Implications of Chinese Infrastructure Investment

- Chinese financial support for infrastructure development in other countries is a new type of bilateral support from a country that has also been a recipient of financial aid. China is also leading the Asian Infrastructure Investment Bank (AIIB) to support infrastructure projects throughout Asia. These initiatives are changing the landscape of international economic cooperation among traditional donor communities, most of which are Western countries.
- These initiatives may also contribute to the expansion of financial resources for infrastructure development in developing countries. However, this new form of Chinese lending, including the AIIB, requires tied loans, or loans that require the borrower to spend either a percentage or all the money received on goods or services from the lending country. Such loans may not be an optimal choice for developing countries.
- The funding mechanism at the AIIB is basically investment on infrastructure, which is different from conventional concessional loans from multilateral development institutions such as the World Bank. Under such circumstances, and in the absence of further political considerations, loans from the AIIB—relative to those associated with multilateral development banks—are not favorable to developing countries.
- Relatively cost-effective options and technologies for energy projects do not necessarily imply that the projects are environmentally friendly. Most Chinese-driven projects emphasize fewer financial burdens and less advanced technology options, which may not be a good choice in the long run for developing countries.
- Overall, the new financial support systems from former recipient countries such as China have both positive and negative effects on infrastructure expansion in developing countries.

Balancing Energy Demand with Environmental Concerns

- In most cases, emerging economies are vulnerable to the harmful effects of climate change, which include extreme weather events. However, investment on infrastructure that is low carbon, efficient, and resilient to climate change is a low priority in many developing countries as they struggle to meet immediate energy demands.
- Furthermore, low-carbon technology options are not available in most developing countries because the upfront costs are usually high. Those conditions unfavorable to implementing environment-friendly policies prevent developing countries from developing proactive climate policies.
- With strong global ties, developing countries should attempt to tackle their domestic energy issues and global environmental challenges simultaneously.
- The knowledge, best management practices, and strategies from developed countries should be transferred to developing countries. Developed countries should also provide financial support for advanced technology options to developing countries.

2) Presentation 2

A Global Outlook

Energy production and use is the single biggest contributor to global warming. The energy sector account for about two-thirds of global greenhouse gas emissions attributed to human activity. Energy security issues have come to dominate the global agenda and national debates in many countries in recent years. Geopolitical competition among the world's major powers for secure energy supplies is bound to reshape the security architecture of the international system. Considering these developments, it is imperative to remember that energy security dramatically affects relations among nations and how they interact with one another.

International Institutions

Institutions increasingly promote clean-technology sharing. The UN Environment Program is one such institution; its mission is to provide leadership and encourage caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations. This is a far cry from what is needed to address growing concerns. In November 2016, the World Alliance for Clean Technologies was launched to federate the main actors in the field of clean technology, bolster cooperation, promote profitable solutions to the world's most pressing environmental and health challenges, and give credible advice to governments. It has entered into close collaborations with several international institutions, states, and cities around the world to facilitate the selection, funding, and implementation of clean technology solutions. Until 2016, no such organization, gathering the clean technologies stakeholders around the world; hence the Alliance is bringing together startups, companies, institutions and organizations that are producing, implementing or supporting the use of clean technologies. Together, World Alliance members are sharing experiences and collaborating to improve the value chain and demonstrate concrete solutions to support governments, corporations, and institutions in reaching their environmental and health targets.

One of the significant steps made in the field of clean energy and environment (some experts will say the most significant one in the past twenty years) is the Paris Agreement. Signed in 2015, it brought nations together for the common cause of undertaking ambitious efforts to combat climate change and adapt to its effects, and offered enhanced support to assist developing countries to do so. The agreement aims to strengthen the ability of countries to deal with the consequences of climate change.

Chinese Investment and Developing Economies

One of the parties to the Paris Agreement is China, the world largest emitter of greenhouse gases. Although China has embraced a green agenda domestically, it is still the world's factory, and, increasingly, the world's innovator (building a new coal power station nearly every week, for example). China's endeavors overseas can significantly influence global emissions. Success at home in renewable energy capacity and improving energy efficiency in infrastructure and public transportation can be replicated abroad (China emits 73 percent less carbon dioxide per unit of real gross domestic product today than it did thirty-five years ago). In addition, China's domestic infrastructure building, its economic growth, and its vast foreign exchange reserves (about \$3 trillion) give it an

excess supply of capital for financing global infrastructure. It is doing so through its Belt and Road Initiative (BRI), which aims to catalyze an infrastructure boom through countries along ancient land and sea trading routes that link China to Central and South Asia and the Middle East.

Although it has big potential, BRI is technology-agnostic and drives investment in coal. China-based firms and investors are well positioned to take green energy technologies to developing countries along the BRI. But, in line with demand from BRI countries, power projects in which China has invested have been dominated by coal and large-scale hydropower plants—the latter arguably the least green of the low-carbon energy options.

Although BRI countries want Chinese infrastructure in their territories, they are unable to pay the costs of sustainable smart energy solutions, which leads them to choose the more affordable—and polluting—option. China's state-owned grid corporations have ambitions to provide regionally connected smart grids, which could facilitate a transition to a distributed and mostly renewable energy system in Asia and beyond. However, coal still dominates the BRI power projects in terms of generating capacity, thus creating a vicious cycle.

Green Financing and Margin Economies

Historically, high-carbon investments were lower risk, yielding higher rewards than low-carbon investments. However, a growing trend among financial institutions has been to favor lower-carbon investments, thus promoting green energy projects. For example, the World Bank will stop funding oil and gas exploration after 2019. Green financing has an important role to play in realizing a lower-carbon future. Seeing this, some Chinese banks are beginning to issue BRI-focused green bonds, the proceeds of which finance green projects.

Why, then, do the least green forms of power generation still dominate in Asia? Domestically, China has been discouraging coal power and encouraging wind and solar, which has led Chinese coal power firms to more aggressively seek foreign business opportunities. However, given that Chinese overseas investment is traditionally technology-agnostic, the question largely comes down to domestic policy and national resources in the host countries. Coal and large-scale hydropower are the only realistic options for developing countries seeking rapid, large-scale increases in electricity supply. Among the top Asian recipients of Chinese power investments, only Pakistan has a relatively diverse energy pipeline featuring nuclear, hydropower, solar, and wind. India, the Philippines, and Vietnam, each with significant domestic coal reserves, are still focusing on new coal-fired power plants; mountainous Laos is focusing on hydropower. Reduced Chinese involvement in coal power can usually be traced to a domestic agenda: for instance, India banned foreign participation in major thermal power projects in 2009. Unfortunate as it is, emerging economies usually prefer to attract investors rather than pay independently on green energy projects, thus ignoring environmental concerns.

The Israeli Case

For decades, Israel was subjected to severe political manipulations, boycotts, and sanctions by the oil giants and the Organization of the Petroleum Exporting Countries. The cartel used oil as a weapon and quadrupled the price of oil after the 1973 Yom Kippur War. Because Israel has practically no natural resources, its fate changed when it discovered natural gas in the Tamar and Leviathan fields in the eastern Mediterranean, an economic and geopolitical asset.

Natural gas is emerging as a favorite source of energy because of its abundance and relative cleanliness. The

global liquefied natural gas market is growing by 4 to 6 percent per year, and demand stands at about 265 million tons per year.

The Tamar and Leviathan fields are estimated to contain seven hundred billion cubic meters of natural gas—representing more than half of the European Union’s annual gas use. This dramatic increase in supply is expected to provide Israel enough natural gas for decades and to transform the country into an energy exporter. It has already transformed Israel’s international position and its relations with Egypt, Jordan, and Turkey. Natural gas resources have also helped improve Israel’s relations with Greece. In June 2017, for example, Cyprus, Greece, and Israel announced that they would cooperate in the construction of a pipeline linking the three countries, which will deliver natural gas to the EU.

Unlike superpowers such as China and the United States, Israel cannot compete with a massive production of biofuels. Israel’s comparative advantage lies in its technological edge: it has world-renowned researchers who specialize in second-generation biofuels and other technologies that can produce alternatives to petroleum. In addition, the Israeli government decided in January 2011 to launch a multiyear program to promote technologies to reduce the global use of oil in transportation. Technology was developed to make the energy transition required by the Paris Agreement. Israel is also promoting further research and development to expand the share of renewable resources in electricity production.

The transition of the energy factor from a liability to an asset in Israel’s foreign policy is revolutionary. Despite the uncertainties inherent to the global energy market and regional instabilities, Israel’s status as a powerful player in the global gas market is now recognized.

Policy Recommendations

The seventh UN Sustainable Development Goal is dedicated to ensuring “access to affordable, reliable, sustainable, and modern energy for all.” However, to meet the targets in Asia and elsewhere by 2030, several steps should be taken:

- National priorities and constraints should be addressed institutionally, systemically and within international context and forums, i.e. world powers and international organizations.
- A tighter interface and, consequently, coherent regulation and allocation of funds are required both domestically and globally between the geopolitics of energy and public and individual health as well as welfare.
- Labeling of green finance should be improved and enhanced to raise awareness among investors and to encourage them to consider the environmental sustainability of their investments.

3) Presentation 3

As the global economy has rebounded and is expected to continue to grow, the demand for energy rises, which leads to an increase in the power generation sector’s carbon dioxide emissions (contributing to 80 percent of carbon dioxide emissions worldwide). While the Group of Twenty (G20) economies grew by 3.5 percent (in terms of gross domestic product [GDP] measured by power purchasing parity) between 2005 and 2015, economic growth in 2016 stood at 3.1 percent and rose to 3.7 percent in 2017. Energy consumption increased twofold between 2016 and 2017, especially in China and India, all while the reductions of energy intensity (the amount of primary energy demand needed to produce one unit of GDP) have leveled off. While the improvements in energy intensity had been at an all-time high from 2014 to 2016, owing to a large extent to the introduction of efficiency policies and

leading the bulk of global greenhouse gas emissions to decrease (more profound than the introduction of renewable energy sources [RES]), this trend slowed in 2017, returning to historical averages. This led to a 2 percent increase in carbon dioxide emissions in G20 countries in 2017.

Decarbonization, Coal-to-Gas Switch, Electromobility

Although decarbonization is progressing unevenly, it has been an undisputable success story in the power sector. Electricity generation from RES accounted for an estimated quarter of total global power generation in 2017 (with hydropower delivering over two-thirds of RES power generation). Net additional power generation capacity of RES exceeded that of conventional sources for the sixth successive year. Costs of the most dynamic RES technologies (solar and wind costs increased sevenfold between 2000 and 2017) are now declining, in no small part because of the innovations which are expected to halve the cost of wind and solar technologies by 2020.

However, this altogether positive picture is blurred. First, the share of coal in power generation has declined only marginally (by 1 percent between 2000 and 2017), which, when coupled with the rapid increase of energy consumption in absolute terms, means that the amount of coal consumed has actually increased. In 2017, a slight increase in coal consumption in China (accounting for about 50 percent of all G20 consumption) and steady coal consumption growth in India (nearly 25 percent of newly installed coal-fired capacities were in India) were enough to offset the decline of coal consumption elsewhere. Coal consumption decreased in the United States, Germany, and the United Kingdom. In the UK, coal was completely eliminated from electricity generation. In the United States, almost 30 gigawatt of coal capacity shut down between 2015 and 2017; moreover, electricity generation from coal fell from 44 percent to 31 percent between 2010 and 2017, while the share of natural gas grew from 24 percent to 32 percent. All in all, coal reigns supreme despite the constructive developments.

Second, decarbonization has an even longer way to go outside the power sector. Electricity accounts for 20 percent of the total final energy consumption in end-use sectors of building, industry, and transport. The rest is obtained from fossil fuels. Growth in availability and popularity of electric vehicles (EVs)—and electrification of transport in general—holds the biggest promise here. Already, annual growth rate of sales of EVs exceeds 50 percent, and it is estimated that by 2050 the number of EVs will exceed one billion, while the total number of vehicles—most of which will likely be autonomous— will reach three billion. A tripling of the number of cars currently in use to 9.5 billion would be driven largely by sheer population growth. The International Renewable Energy Agency estimates that the share of electricity in final energy use in transport (i.e., including not just cars but also planes or ships, both freight and passenger, with EVs still making up a dominant share) will rise from 1 percent in 2015 to 33 percent in 2050. The share of renewables in final energy consumption of the transport sector in this period would rise from 4 percent to 58 percent alongside the expansion of hydrogen technologies and biofuels, including biogas.

This means that the transportation sector could continue to depend on fossil fuels for 42 percent of its energy needs. Apart from oil and natural gas, EVs also rely on fossil fuels to recharge their batteries. Even taking into account likely advances in fuel economy, the demand for fossil fuels would continue. Major oil and gas companies differ in their predictions about the future demand for oil, and are uncertain about the effectiveness of the limitations imposed on fossil fuel use by climate change regulations or simply the durability of the Paris Agreement in light of the Donald J. Trump administration's announcement to pull out of the deal. For example, British Petroleum (BP) forecasts the net daily oil consumption to increase from 93 million barrels (MMB) to 110 MMB in

the mid-2030s. In a “climate positive” scenario, ExxonMobil does not rule out an actual decrease by as much as 15 to 20 MMB in 2040s. However, this trend would be accompanied by a noticeable increase in the demand for natural gas, especially liquefied natural gas, as it becomes more readily available and its use becomes more widespread in transportation and power generation sectors. In a “base” scenario, Exxon’s predictions do not vary fundamentally from those of BP. Oil will remain an important part of the global energy landscape even as the energy transition—driven by decarbonization and energy efficiency in all sub sectors—progresses.

Outlook and Consequences in the Asia-Pacific

All of these energy trends are bound to play a significant role in Asia. For example, China is already the largest manufacturer of EVs and a global leader in installing new power generation capacity from RES. It is adding wind power to its electricity generation mix at the highest pace worldwide (a 26 percent increase in 2017, compared with 18 percent in the European Union [EU]), and already accounts for 30 percent of installed wind capacity of the whole G20. Between 2015 and 2017, China also outpaced both the United States and the EU in installing new solar power capacities, allowing it to become the largest solar electricity economy. India’s solar power output stands only at 15 percent of China’s and Japan’s at 40 percent.

The future pace at which new RES capacities are installed will encounter natural barriers and decision points. The Chinese case can serve as a benchmark. Despite the overall dramatic growth in total energy consumption, China’s utilization of renewables and nuclear power helped it decrease its share of coal in its power generation mix from 78 percent in 2000 to 67 percent in 2017. Unfortunately, it was unable to avert the harmful effects of increased combustion of coal in general, as seen in the deterioration of its air quality. The share of RES in the power mix grew from almost nothing in 2000 to 8 percent in 2017. Given their intermittent nature, wind and solar power need sufficient backing from flexible power generation sources working as a baseload capacity. Natural gas remains the resource of choice in this context, provided that the economy is able to maintain a steady pace of coal-to-gas switching. This process holds the biggest promise and is potentially the most consequential in the geopolitical picture.

Switching from coal to gas leads to a spike in demand for natural gas, which in the short term can only be addressed with increased liquid natural gas imports. However, importing piped gas and bringing domestic production into the market takes time, and the utilization rate of Chinese regasification facilities allowed for increased inflow (in 2017 alone, the annual utilization rate grew by 48 percent). The growth in electromobility—and share of electricity in final energy consumption in general, as forecasted by the International Energy Agency—also means a growth in the prominence of gas-fired power, putting additional pressure on imports. Such are the dominant power consuming patterns: demand for electricity is subject to spikes and periods of lower intake, translating into a need for greater flexibility in power generation. Gas-fired plants are best fitted for this purpose, while allowing the safe integration of RES into the system.

Given the geographical proximity and residual liquid natural gas export capacity, Australia will be best positioned to take advantage of these tendencies. In turn, trade tensions between the United States and China could translate into lower gains for U.S. traders in the lucrative East Asian markets. Even so, Japan and South Korea will dominate liquid natural gas imports and continue to define the pulse of this industry. Other producers such as Qatar will struggle to maintain the market share. In general, the prominence of liquid natural gas trade would grow, in turn leading to greater stakes for both importers and exporters in maritime safety and security, and cause greater

interdependence among both traditional and emerging energy supplying regions and countries (Middle East, East Africa, North America). Continued reliance of the global (and, by extension, Asian) economy on oil—especially in the transport sector, as well as for industrial applications—will reinforce this trend.

In other words, the energy transition, regardless of the undisputable gains in the past fifteen to twenty years, will continue at a steady pace and will lead to only gradual and limited changes in foreign policy, both in terms of goals and tools used to advance them. If anything, the growing interdependence—in line with the classical definition of the concept—ought to diminish the risk of resorting to violent confrontation while at the same time augmenting the possibility of trade disputes and clashes of economic interests, especially if the stake will be the access to more scarce energy resources.

Q&A and Discussion

Moderator

I have a question for each panelist. Presenter 1, you mentioned that Asian countries are currently facing the interesting dilemma of having to sustain economic development while also being expected to contribute more to reduce climate change. At the moment, most developing countries in Asia have few low carbon technology options available. Do you see immediate Asian leaders in this area? Is China in particular a potential leader in trying to finance environmentally friendly energy projects in the region? Your paper seems to indicate that this is not the case, but do you think there is a shift in mindset in Beijing?

For the second presenter, let's talk a bit more about the geopolitical question. Israel has for a very long time been an economic, military and IT superpower in the Middle East. It's how also becoming an energy superpower especially in gas, which is an energy for the future in contrast to oil. How is this changing Israel's diplomatic negotiation position vis a vis two countries with which it already has peace treaties, Egypt and Jordan, but the peace remains a cold peace predominantly? How could this change Israel's position vis a vis countries with which it is still at war, especially Syria and Lebanon? Lebanon also used to be completely dependent on energy imports. Do you see this as an opportunity for Israel to establish relations with Beirut?

Finally presenter 3, there was a piece in *The Economist* saying the EU is finally waking up to China. The EU has been very naive for a long time when it comes to Chinese investments in Europe, but it's now realizing a lot of good can come from those investments but also these investments could be a source of division within the EU. How is this perceived in the EU? It is remarkable how China has been able to organize the China + 16 summits on a regular basis. Are Central and Eastern European countries more likely to say that they haven't had sufficient access to investments for a long time, and now China is now providing the chance to develop their energy sector? Will they ask Brussels to back off, saying China is giving us money on very favorable terms? How will this play out in light of rising populism in these countries?

Presenter:

The role of China in terms of financing and the technologies and so on. If you see recent figures of the renewable market, renewable solar, wind, etc., the Chinese market is number one in the world. This doesn't mean that China will remain on top, because the underlying reason is that the cost of production is much cheaper, manufacturing solar panels is much cheaper. But emerging markets will likely take over at some point.

Second, the Chinese have increased bilateral support as an ODA donor country and by creating the Asia Infrastructure Investment Bank. But the problem with using Chinese ODA is that it is tied. If you use Chinese money, you have to use Chinese workers and manufacturers. In the beginning, it was okay, but now countries are realizing that there is something wrong. They are more reluctant now. On the other hand, we cannot ignore the knowledge and experience of conventional multilateral institutions such as the World Bank and ADB. For the last 60 years, the ADB has operated in Asia. But in China, the operations of AIIB total less than 10 billion USD. They are co-financing with other world organizations. I don't say that Chinese's contributions are small, it offers diversified resources, but the sustainability of AIIB without Western powers, the US and Japan and others, as members is questionable.

While China is the world's largest renewable energy market, renewable energies are struggling to increase their portion there. Around 70-80% of Chinese power generation is coming from fossil fuels. That's why China is the world's largest CO2 emitter. Asia is a diverse region, so we cannot compare Asian development countries to advanced Asian countries, like Japan, Australia, etc. If compare we compare per capita KW hour consumption, in Korea the per capita consumption is more than 10,000 KW hours per person, vs. less than 1,000 or 500 KW hour countries. We can't really compare these two countries, unlike in the EU or other regions. Asia's challenge and the Chinese role, is that right now there is not enough to meet the financial requirements, to meet diversified tech options, so we have to look for other sources. We have to promote a more active role for GCF and other multi or bilateral financial resources; otherwise we cannot meet the very basic needs in Asia.

Presenter:

First, in general from a negotiator's perspective, cold peace is ten times better than hot war. What we have in Egypt and Jordan is a cold to lukewarm peace. In Egypt, there is a reciprocal supply agreement with Israel, and it is used as a leverage and pressure point for political objectives from time to time. Jordan right now is in big trouble because of the impact the huge number of refugees from Iraq and Syria has had and still has on the very volatile socio-economic fabric of Jordan. Jordan is dependent on others, and Israel is helping Jordan in more than just one dimension, but energy is not one of them.

The dependency that Israel was so deeply concerned with in the past was a liability in the geopolitical context. Lebanon is a country that is governed by Iran proxies, Hezbollah, which is one of Israel's most problematic non-state enemies. This does not exclude the current status of matters between Israel and Lebanon because economically, we have an implicit status-quo ante in terms of using, exploring, and looking for sea resources. Obviously, I believe that the opportunities in the geopolitical arena are far more important than the liabilities, constraints and threats, and we will probably see in the future some potential alliances that we cannot even consider now if things change for the good in the future. Right now, we have some incidents of friction of international law, disputes, but not major ones.

Presenter:

The 16 + 1 initiative does not only include members in the EU. The 16 + 1 is a format that the Chinese came up with five or six years ago to communicate with former socialist and communist countries in Central Eastern Europe and the Balkans. However, it is oblivious to the fact that the entire region is part of the EU. When it comes to Central European and European attitudes towards the rise of Chinese prominence, economically and politically, if it wasn't for Germany and German concern of attempted acquisitions of high-tech German companies, the EU

would not wake up to the challenge.

For the Polish case, the problem isn't that China is trying to buy out key industries, because there isn't much to be bought from the Chinese perspective. For most countries in the region, the problem is that there are trade deficits with China. This is difficult to understand in the midst of the love fest that China has been displaying over the last few years. But I would also not exclude that central Europe will become an arena for a clash between the US and China. There are some regional cooperative initiatives that the US is engaged in, and that is increasingly looked upon by China as a possible interface for working in the region. I don't think the Chinese penetration of the region is as aggressive as it is elsewhere because the EU carries a certain weight, and local laws prevent predatory procurement.

Comment 1

It goes too far to use economic penetration to describe BRI because to my understanding the beginning of the proposal is the difficulty economically in China. The reason why the initiative was proposed was because of economic difficulties. During the 2008 financial crisis, at the time, China faced a huge problem because the US and EU faced great problems and thus, China had to adjust its economic arrangements. If you look the map of China, the rich developed part is in the East. China is a large country with a huge Western and Inner part. China tried to move the industrial production from the East to the West. The problem for the West is that they are very far from transportation. The East has the sea and is able to ship goods. So the problem for the production in the West was the need for roads. This is why China decided to invest in infrastructure in Central Asia, South and Southeast Asia. When China began to talk about sending goods to Central Asia, they thought why not extend the route to Europe, and of course the first stop on the way is Eastern Europe. We shouldn't overestimate the implications of the BRI.

Secondly, China believes that infrastructure and construction are good for developing countries. In China's own experience, when they wanted to develop, the first step was to pave the roads and trade outside. Many Chinese diplomats, especially in developing countries, think that the reason those countries cannot develop fast is because of poor infrastructure. Foreign companies do not have the responsibility to build that kind of local infrastructure. So, basically, when companies invest, they first consider the conditions for business.

Third, China tries to be friends with the local people, and the way they do that is to ask locals what they want and what China can offer, and then they make a deal. Perhaps there is a problem in doing this, and so maybe they should learn from European countries to set the standard first, to invest in low carbon and green finance prior to doing business.

Comment 2

I have three brief points and three questions. First, we have three main producers of fossil fuels; Russia, Saudi Arabia, and the US. We have three main consumers; the EU, India, and China. I want to ask about the relations between these six actors.

Secondly, when we talk about Saudi Arabia, we are thinking about Iran. What sort of consequences do you expect the Trump administration's withdrawal from the JCPOA to have in the medium term? The next big change that will happen by 2030 is that approximately fifty percent of all production will be done by India and China. Something else that has not been mentioned is nuclear power. China has set up the first EPR, which reflects its investment in nuclear power. I will be interested in the views of panelists on what that means.

Third, the UK invested massively on nuclear power, supported by China and France. When we observe the

situation in Europe, we are facing a strong inertia regarding the energy mix. Some countries continue to use coal, and now the EU emission of CO₂ is worse than the US. The only country that made real progressive steps in renewable energy is Italy. The question is for Europeans, what sort of attitude could we expect? Some of the countries decided to stop with nuclear power, but others like France have decided to continue. Do you see any analogies between the EU and China?

Comment 3

I just want to mention two lessons from 2008 March 11, the earthquake in Japan that caused Fukushima. Japan has decision making processes at national level on its energy mixture. In the long-term, the government decides on the energy mix, including renewable energy resources. It also secures stable energy to maintain an appropriate price level for the consumers.

Let me also talk about Japan's effort to deal with China. The G20 will be hosted in Japan next year, and it will discuss how to conduct diplomatic cooperation with China, which still has problems related to overcapacity and the environmental context. A few years ago, the government announced a program to export high quality infrastructure projects to emerging countries, and it's still working on how to cooperate with them, especially China. Japan has yet to join AIIB because of governance issues and transparency. High quality means a project creates jobs, is within budget, and is environmentally friendly. So through these projects, the Japanese government aims to promote better governance and transparency without directly discussing the framework of AIIB with China. What should be discussed at the G20 next year?

Comment 4

I do have a question, provoked by the statement about on one hand, the need and the understanding about things that the latest report on the need to act regarding the 1.5 degrees, and what's going on in Asia. And on the other hand, the myopia under which the governments seem to be acting. I've been listening to this same conversation for years. Governments know and understand, but are myopic and tend to act on national interest. How would you change that? What would be the recommendation to switch to an alternative way of thinking about this problem? Otherwise we will spend the next 10-15 years discussing the same thing.

Presenter

There is always inertia from decision makers because of society, practice, law, institutions, and so on. Those social factors delay those decisions more than the development of new technology. Israel is a typical example of combining technological innovation with their social arrangement. But in most countries, there is inertia. It takes time to change our roles and practice, our legal systems, and so on.

In the area of energy, because it involves large scale infrastructure, that decision should be made by the government and public sector in individual territories. So that kind of mindset makes our decision more myopic. If we combine this new innovative technology progress plus changing of mindset, and make our decision more proactively and in the longer term, maybe this will help.

Second, since the 19th century, the energy area has been driven by public and supply sectors. If energy power and transmission lines are not constructed, we cannot provide that. It's very much supply driven options for more than 100 years. But these days, smart technology and ICT have created a more demand-driven structure. We can go beyond the national territory, make a decision together with other countries. Decision makers from both the

public and private sectors take time to change their mindsets. They have options, but they aren't usually risk takers, so they hesitate.

Presenter

We have no choice but to go beyond national interests to tackle inequality and other challenges we have. BRI is kind of a technology agnostic project. It drives investment in coal rather than clean energy because of this asymmetry. Chinese firms and companies are well-positioned to take green technologies to other countries, but on the route to the BRI, we have countries that are not capable of matching the investments, and this is why the BRI countries have been dominated by coal and hydropower projects that are arguably the least green of the low - carbon options. Although BRI countries want Chinese investment and infrastructure in their territory, they are incapable of affording sustainable smart energy solutions, which makes this a big vicious circle.

After the Paris agreement, we have the green technology initiative launched in 2016, to facilitate the interaction and cooperation and collaboration of bringing together start-ups and entrepreneurs in a way that would support clean technologies. This is the direction we need to go for, for that kind of alliance, to somehow close the gap of asymmetry of resources.

Presenter

I'm optimistic because of technological progress, and renewables are getting cheaper. It's been a huge success. The pace at which it's been developing in China is the success story of the past 20 years. If you look at the relative vs. hard numbers, nuclear is flat while renewables are booming. Renewables are becoming increasingly able to compete with fossil fuels, especially when we bear in mind that coal remains heavily subsidized in many places. These are hidden subsidies- you don't hear about it, but you pay for it.

Back to the nuclear question, Hinkley Point C is already the most expensive power plant in history. The EDF signed a contract two years ago for 18 billion British pounds. Right now the price tag on the plant is 20.5 billion, so the price is already sky high. The ROI is abnormal in European circumstances because financing such big energy utilities these days in the EU has become very difficult. So, Poland is one of the few considering nuclear power plants, but the uncertainty is on how to find funding for such a big investment. It requires finding a loophole in the public procurement law. The Chinese are building nuclear plants on time and on budget, which is remarkable. The traditionally advanced nuclear states were not able to do that. What are still unclear are the safety standards. But the future of the Chinese nuclear power sector is the ability to move beyond China and to expand; much like the Russian nuclear sector was at a certain point very successful at competing in the Gulf.

Comment 5

China definitely has a problem with carbon emissions. It needs to change dramatically, although the Chinese government seems like it's doing their best. As far as AIIB, anyone is welcome to join. For my third point, regarding financing a low carbon model of development as China builds the BRI, well, to put it simply, when people are hungry, we should first give them something to eat like bread, meat, or milk. After that, we can think about the balance of eating. It's too hard to say that you need to have low carbon development model as the first step. It's not honest.

Comment 6

I was surprised by the categorical statement that there would be nothing of interest for the Chinese to buy up in

Central and Eastern Europe. Certainly in the nuclear field, Chinese backed companies have tried in the Czech Republic to smear the president in offering contracts for the modernization of a nuclear power plant. The 16 + 1 format gives special emphasis to central and Eastern Europe from a Chinese perspective.

My question refers the document that connects Europe and Asia that was a joint communication offering building blocks for a future connectivity strategy between the EU and Asia. It was dubbed as a European way of connecting the two continents, an implicit contrast to the Beijing-backed projects that have loaded countries with debt and have offered poor value for money not everywhere, but there has been emphasis in European press about that. You've characterized this document as a roadblock, emphasizing the legalistic attitudes that are espoused within it, and of course, there is an emphasis on consistent application of rules and standards, protection of IPR and investment. The EU hopes to use its sustainable connectivity plan to work with all Asian countries in projects in Central Asia and further afield to plug the 26 trillion dollar gap that the ADB identified last year for the region.

Critics have said that this document is too cautious, too unrealistic, there's no match to the BRI, and it's more of status report than an attractive narrative and certainly not the budget which is needed to match the BRI. I wonder if you would revise that position in light of these elements, and see that the EU's strategy is not up to task to deal with the BRI, and I wonder if you have seen any reactions from China or other Asian countries to this document.

Comment 7

I'd like to say something from the health point of view. Given that providing electricity to people provides an added 20-25 years of life expectancy, the costs of climate change today are very low- I mean today, not in the future- in terms of health care. The balance between not providing electricity and taking care of the environment, today you need to provide electricity if you want to save lives. Today we are talking about 2 billion people who because of a lack of electricity have 20 years less of life awaiting them. When you are talking about energy, there is a balance between production, demand, and the protection of the environment. Today the problem is on the demand side. Demand is what is unsustainable. Production is not a problem if you can correct demand. All the projections talk about lowering demand. There is no sustainable clean energy today, we cannot sustain the cars, electric cars or not, or mixed- there is no technological solution. The solution comes from behavior. Walkable cities are between 3-5 years of increased life expectancy, and that would be very easy to develop in Asia.

Comment 8

The last paragraph of the last paper states that energy transition will lead only to gradual changes in foreign policy. But I want to offer the opposite view. If there is a change in foreign policy, it will have an impact on energy policy and the priority of energy. For example, the Russian entry to the Chinese market has an impact on the renewables market. The EU has lost the renewables market in Russia for a long period of time although we had an agreement until 2030. Despite the tech advances in China we will have already signed a contract with China.

When you are talking about BRI or just EU policy towards China and the energy transition, you shouldn't forget there is a Eurasian economic union. A trade agreement was signed with China recently. The EEU is moving under the umbrella of China to put it bluntly. There could be a lot of difficulties and barriers for the EU to have conflicting plans with China in central Asia, particularly taking into account the policy of Kazakhstan, which longs to cooperate more on with the EU.

Presenter

My final point is about finance. According to the OECD, the investment requirement for infrastructure in developing countries in this decade is about one trillion per year in developing countries. Most environmentally friendly investment from public sector, including ADB, AIIB, and bilateral investment it's a hundred billion dollars. We are talking about 70-80% being required from private sector to meet the investment requirement for developing countries. Most private sectors are economically driven investors, but we are dealing with global public interest. We have to figure out how to deal with this.

Presenter

Of the top Asian recipients of Chinese power investments, only Pakistan has a diverse mixture of power including hydro, solar, and wind, while the Philippines, India, and Vietnam each with significant domestic cores are still focusing on coal fired power plants. Much like in other areas we've discussed, we urgently need an international concerted action.

Final Words

Maybe I was too cynical by emphasizing how great the EU is at adopting documents. Of course it's about how much money you have and not about how great your documents are. The key takeaway is that these approaches are going to compete.

I wanted to go back to the question about Iran Saudi Arabia, Russia, and so on. The last meeting in NYC and the adoption of the special purpose vehicle. Not a very elaborate, but still in the making mechanism to allow financing for energy related projects and deals with Iran after Nov. 4. It's had a very nervous reaction from the US and there was an interesting collection of states that participating in drafting this special purpose vehicle. Russia and China are on board, Russia is subject to sanctions which are exactly why the EU has lost the Russian market for renewables, and it's the price being paid for the sanctions regime. But the special purpose vehicle is another iteration of the ongoing argument between the EU and the US over what to do with Iran. So I agree that foreign policy can influence energy choices and much more than that. Right now we're talking about international financing of this industry and fairly small in terms of scale because it's not going to be- 100s of millions of dollars, not billions- but it might create a precedent for how to find loopholes in the existing sanctions regimes with elaborate financial mechanisms. The fallout from the JCPOA and Trump pulling away is going to stay with us for quite some time. ■

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