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Powering up Sustainable Development for Asia: The Future of Global and Regional Investment in Asia's Energy Sector¹

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Meeting the Challenge



This was an intense, in-depth discussion that brought together regional experts from the public, private and civil society sectors of Asia under the leadership of Chatham House Asia-Pacific Programme (Britain), Faculty of Political Science Chulalongkorn University (Thailand) and the Konrad-Adenauer-Stiftung Project Energy Security and Climate Change Asia-Pacific (RECAP) (Hong Kong).

The event was conceived during prior discussions about the political economy of low carbon transitions in China and Kenya. Building on that, there was room for assessing the role of renewables in the context of energy security in Asia and how lack of such security affects the most vulnerable. Thus, the purpose of the discussion was not only to tap on the best thinking from individuals who were willing to share knowledge in a friendly yet critical environment, but also to set a clear direction on the future role of clean energy in Asia. Presentations focused on the potential for having investment strategies centered around renewables, on the lessons that other regions outside Asia may provide, and on the necessity to develop a network of like-minded individuals and organizations committed to the low carbon transition.

Discussions began with an evening discussion at the Bangkok Foreign Correspondents Club (FCCT) on *Sustainable Energy Transformations in Asia*. At the center of the opening remarks was the recognition that while the geopolitics of the 20th century had largely rested on access to fossil fuels to power ever growing economies and populations, the first two decades of the 21st century had brought home a clear message that the burning of fossil fuels to power life on Earth is unsustainable. As frequently demonstrated by best scientific thinking, burning fossil fuels is not only warming the planet and causing irreversible changes to natural and human habitats but also underestimating trends that are increasingly profitable: digitalization, decarbonization and decentralization.

And it was these *three key notions* that set the tone for subsequent discussions on the future of investments in Asia's energy sector. The fact that trends indicate that economies have a better prospect of being sustainable through *digitalization*, the use of big data and artificial intelligence (AI) in managing energy; *decarbonization*, the stopping of the use of carbon as basis for economies; and *decentralization*, the downscaling and transferring of the power to generate electricity from a few to multiple sources and players, was clearly acknowl-

edged. A lively discussion then followed between China and Thailand experts and the audience - a diverse group of foreign correspondents and professionals that had signed up for the event.

The China experts took a realistic view to their remarks, with one posing the poignant question as to whether China could lead on climate change mitigation through the uptake of renewables. The arguments subsequently advanced were equally poignant. China, just like every other signatory to the Paris Agreement, had met with two challenges. First, the Paris Agreement pledges were not ambitious enough to cap world temperatures to +2°C and, second, the election of Donald Trump as USA president had stalled unconditional commitments that had otherwise been made by the Global North. More got to be done.

Despite this, the argument went, it was in China's best interest to diversify its economy and move out of a manufacturing-based economy to one in which innovation and technological play a bigger role. This would not only provide greater energy security and resilience to the country but also reaffirm its leadership. Yet, there is the potential that such transformation is confined to China leading in the manufacturing of renewables hardware rather than in the low carbon economic transformation. Such doubt was partially dispelled by another China expert who not only confirm that renewables had achieved 'grid parity' with non-renewable sources of electricity but that there was more than just the government story to tell about China. He emphasized on Chinese private enterprise with regards renewables. Private entrepreneurship is not only serving overseas markets but, increasingly, the Chinese market. According to recent research on the overall electricity mix available in China, while coal-based enterprises are capable of generating 77 Gigawatts (GW) and nuclear supports 95 GW, hydroelectric, wind and solar, are able to support 153, 427 and 620 GW, respectively. Clearly, nuclear and renewables are 'crowding out' traditional sources which, to the dismay of many, may find markets elsewhere outside China!

The discussion then moved on to Thailand's electricity sector that has built excess capacity and, consequentially, a high reserve margin but not actually experiencing any significant increase in demand. Such excess capacity, was argued, has come from regular imports of liquefied natural gas (LNG) hampering the uptake of renewables despite the aspiration of many civil society actors to be 'prosumers' of electricity. There was a call for 'energy democracy' in Thailand in order to break vested interests, bring power – literally- to the

hands of people, and invest in what was necessary for people's livelihoods and for the country's contribution to climate mitigation.

A statement from a participant reminded speakers of the need to focus on the 'urgency' of these transitions and on the social and environmental impacts such low carbon transformations may bring about. This thought would often be picked on during next day's sessions.

Trends and Emerging Opportunities in Asia's Energy Transformation

The first session began by setting the scene on trends and opportunities. Thus, the big vision on Agenda 2030² and how it plays out in energy transitions' pathways in Asia and the Pacific was discussed. For Asia-Pacific, it was argued, the challenge is how to meet energy demand, how to rationalize supply, and how sustainably balance between supply and demand in times of climate change.

Focusing on Sustainable Development Goal 7 (SDG)³, a stark realization was that 420 million of the Asia-Pacific population has no access to electricity and in a country such as China 400 million people have no access to clean cooking technology. Research was necessary to compare different scenarios and how in each of them access to electricity via renewables may be possible. Results of the research were shared by which in the current scenario (business as usual), renewables in Asia-Pacific could be 7% of the fuel mix by 2030, while if the SDGs were to be applied the proportion of renewables would be up to 22% with this going up to 35% of the total final energy consumption if the national determined contributions (NDCs) were applied. This, a contributor commented, was not only a big challenge but would still leave 1.26% of the population with no access to electricity. Neither decentralization nor policy incentives were encouraging greater renewables investments, so far, it was concluded.

But despite the big vision being a challenge in its implementation, new technologies such as blockchain have the capacity to follow consumer behavior by collecting and analyzing big data. This 'democratization of power' had the potential of not only empowering consumers but also allowing them to access clean, resilient and affordable energy. Thus, the discussion should not be on the 'fossil fuel versus renewables' dichotomy but on *where* energy is placed

² Agenda 2030 in Asia Pacific <http://unaprcm.org/2030-agenda>

³ SDG 7 states: 'ensure access to affordable, reliable, sustainable and modern energy for all' <http://unaprcm.org/2030-agenda>

and *who* owns it. Blockchain technology allows putting energy where it is needed and transferring it from peer-to-peer depending on hourly needs, peaks of demand, etc.

These thoughts lead to a discussion on a power sector vision for the Greater Mekong Region where countries such as Lao, Myanmar and Cambodia have access only to very expensive electricity. A study had tried to find solutions to this scarcity by looking at three scenarios where the application of technology is not only technically feasible but also financially viable. The study found that in the business as usual scenario (BAU), an increase in energy demand where coal, hydro and gas continue to grow and which would result in a 68% of fossil fuels by 2050 is assumed. In the sustainable energy sector scenario, the assumption is that energy demand is reduced, solar and wind dominates as prices go down resulting in an 86% penetration of renewables by 2050. Finally, in the advanced sustainable energy sector scenario the situation would be off-grid solar, 100% renewables by 2050 and zero GHG emissions. A lively discussion followed in which participants were wondering where the solution lies between two competing aspirations: the low carbon economy and the entrenched practices of traditional energy players. This dilemma became more apparent as the next speaker discussed energy transformations and the role of civil society in Thailand.

Energy transitions in Thailand such as discussions about the uptake of renewables and the communication about energy efficiency has been taken up by civil society via social media. This in the context where official policy seems to revolve around the continuing building of excess capacity through LNG and hydro projects, especially in the Northeast bordering with Lao. A call was again made for 'energy democracy' and for the realization that the low carbon transition is not simply from fossil fuels to renewables but for transformations in social behavior and in markets.

Aid and Investment Agendas Supporting Asia's Energy Transition

Having set the scene on trends and opportunities by discussing several regional developments, the next session focused on the role of aid and investment in driving and enabling energy transitions in Asia-Pacific. There was a detailed discussion on the role of the European Union through its cooperation programme. Besides the informative facts and figures that were shared, what was significant about this discussion was the spelling out of the principles on which an EU-enabling transformation rests, namely, transparency and region-

al integration. These two principles go beyond the provision of funds for the electrification of the region by enabling an environment in which stakeholder participation and improved livelihoods is the ultimate goal.

Besides EU's aid, China's private enterprise is proving a powerful driver in potentially supporting Asia's energy transition. This is often overlooked by commentators tending to simplistically attribute transformations in China and elsewhere in Asia to Chinese government policy and the role of state-owned-enterprises (SOEs). Such attributions, was argued, are too crude, missing out a whole array of private investment initiatives. Yet, such initiatives could make more positive contributions to the energy transformation if there was recognition of the embeddedness of private firms, that is, their having ties with state authorities; of the need to establish a disciplined investment regime to avoid free riding; and of setting transparency practices. Nuances also have to be recognized among different SOEs as these are not monolithic institutions beholden to the State. Even within the State Grid⁴ one can often find differences in practices and relationships with the State.

And it is the understanding of the adeptness of different investment tools available to aid agencies and investors that truly matters when making decisions. As such the role of Green Bonds' to be used to fund climate-friendly projects was discussed. Green Bonds are increasingly part and parcel of investment portfolios being put together by firms committed to environment, social and governance assessments of their operations and of the projects they support. Currently 2% of the global fixed issuance is in green bonds.

Assessing Asia's Energy Sector Investments: inclusive and safe decision-making

If identifying trends and opportunities as well as the investment agendas driving the energy transformation in Asia-Pacific is important, assessing whether these bring co-benefits, are inclusive, and contribute to strengthening the environmental and social safeguards of such a transformation, is critical.

Thus, discussions moved to the use of tools such as environmental impact assessments (EIAs) and whether these are fulfilling their intended role of assessing environmental but also inter-related socio-economic, cultural and human-health impacts. The case of the damning and management of the Pak

⁴ The State Grid Corporation invests in, constructs and operates the Chinese power grid supplying power to 1.1 billion people in 26 provinces. <http://www.sgcc.com.cn/ywlm/index.shtml>

Mun River in Thailand as a hydroelectricity project⁵ was used to illustrate the fact that the health impacts on riparian populations are not confined to simply checking the presence of the 'fluke parasite' in its waters but also to the ability of these populations to stay put in their land and have access to food. Thus, a community-based impact assessment was proposed as the most inclusive and safe decision-making tool that got to be part of a power development plan.

And it is the goal of strengthening the environmental and social safeguards that has to be the cornerstone of any EIA, was argued. Simply put, people have to be listened to. This is because policy tools such as EIAs cannot be deployed in a sterile vacuum, they got to be attuned to peoples' problems they are intended to mitigate and provide viable solutions to these problems. Given the fact that EIAs are not legally binding in countries that are part of the Association of the Southeast Asian Nations (ASEAN), care should be taken from a framework agreement (FA) that spells the key principles and procedures for EIA in ASEAN, especially when it comes to solving transboundary problems such as climate change. Under a FA, specific guidelines that would require minimum standards for public participation processes could be set.

And the same would apply to when deploying environmental assessments to energy projects in Myanmar. These got to take account of communities' experiences and recommendations. While 35 million people in Myanmar do not have access to electricity, they have been resourceful to cope with scarcity. When providing them with access to electricity, this should not be done by imposing it on them by any ways and means but by listening to their needs. Overcoming barriers such as permissions from government before electrifying as well as empowering people through the ownership and management of small grids, capacity building and energy transfers, are preferred options.

What does the future hold? How can opportunities and trends be realized?

An enabling policy, technical, financial, and social environment can only result in success if the process is well-managed. Thus, finally, case studies on successes and failures of energy projects were shared.

While the Greater Mekong region has relied on hydropower in its transition, this has resulted in sinking deltas and diminishing fisheries on which riparian

⁵ Pak Mun Dam, Thailand, <https://www.internationalrivers.org/resources/8483>

states rely for food. And it is in deltas where cities have been established since time immemorial and where the greatest accumulation of GDP happens. A lot is to be lost if deltas sink.

But the transition has to bring about not only existential survival but also sustainable survival like offering the jobs that are lost to traditional energy outlets. A labour structure in Southeast Asia got to be created by which the construction, operation and maintenance of the clean energy is put into the hands of local people who are trained as engineers, technicians, managers and general workers. Surveys to check if this just transition is happening got to be evaluated, a study recommended.

Other lessons can also be learned from the solar boom in China and its implications for the rest of Asia. China has used solar power as a means for poverty alleviation with two key state institutions dedicated to energy and poverty working in parallel. Through a pilot in Qinhai in the Tibetan Autonomous Prefecture, it was found that large solar farms installed in the steps were not benefitting the local population who, being pastoralists, suffer the consequences of their grazing pastures being covered with PV panels. So one got to ask what really drives the solar boom: a new industry base which relates to the economy, changes in the fuel mix which relates both to the economy and the environment, low carbon transitions that often addresses social issues and poverty alleviation, or energy security which also has environmental and economic implications.

Finally, Myanmar micro grid solar projects are being developed by private enterprise. This is not only bringing in the technology and management of such small-scale, close-to-home projects but it is empowering users to take control of their destiny in a setting that is sensible to cultural and conservation mores.

In conclusion, it was acknowledged that despite the enormity of the task, a new social contract is emerging by which energy transformations in Asia would be inevitable for its survival and for its younger generations, who find fossil fuel-based economies unacceptable, to take the lead. What matters now it to have the vision and deploy the tools to manage this transformation *with the people* so that it fulfills its purpose for the majority while protecting the most vulnerable.

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