

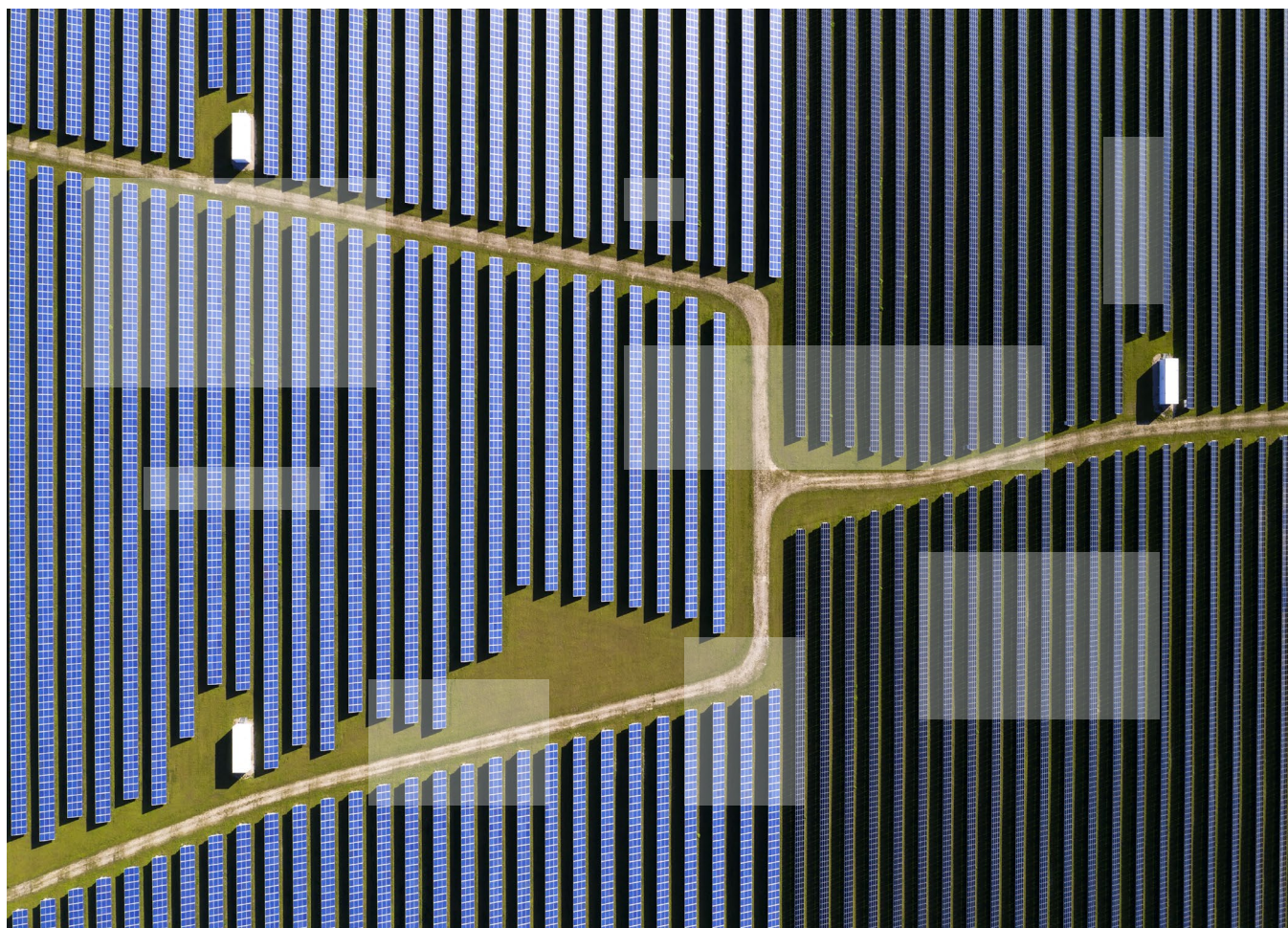
The top political risks for renewables in 2021



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Section 1: Introduction by Willis Towers Watson



By Stuart Ashworth

Managing Director, Financial Solutions,
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The logic appeared unassailable: emerging market countries in Asia, Africa, and Latin America were in desperate need of infrastructure, including power; foreign investors had access to the necessary financing and expertise. A 1990 US government report estimated that, over the course of that decade, developing countries would require a near-doubling of their power generation capacity, and thus an investment in power infrastructure of “more than 1 trillion nominal dollars.” The report concluded: “there is a vast gap between the demand for capital ... and its availability.”¹

The World Bank’s 1994 World Development Report, titled “Infrastructure for Development,” argued that foreign investment could plug this gap. Emerging-market governments had often run their power sectors inefficiently, the report noted – so inefficiently, in fact, that some 40% of generation capacity was estimated to be unused. Meanwhile, there was tremendous demand for electrical power, and a willingness to pay. The World Bank quoted surveys showing that 92% of Nigerian manufacturers owned their own generators; in Indonesia, almost a fifth of the capital expenditure of surveyed firms went for infrastructure the state had failed to provide.² Presumably, private investors could provide both the capital and the expertise to do things better.

Power companies from North America, Western Europe, and beyond rose to the challenge, racing to build energy projects in the emerging world. Over the course of the 1990s, at least \$755 billion was committed to emerging

markets infrastructure projects.³ There was a dramatic success case to fuel this enthusiasm: Chile had opened its electricity sector, inviting in foreign companies via Independent Power Producer (IPP) arrangements. Not only had these IPP projects thrived, but Chile had enjoyed rapid economic growth partly as a result.⁴

This surge in enthusiasm produced some of the greatest political risk disasters in history. Eventually, a staggering 40% of the emerging market power project agreements signed in the 1990s would be renegotiated, according to the World Bank. At least 160 power projects were canceled entirely or became distressed.⁵ Unsurprisingly, by the end of the 1990s, foreign investment in emerging market power had collapsed.⁶

The episode gave rise to some of history’s best-known cases in political risk. Argentina suffered a financial crisis and forcibly converted Independent Power Producer (IPP) contracts to pesos, leading to at least thirty arbitration claims against the government.⁷ Pakistan’s energy policy was hailed as the “best ... in the whole world” by the US secretary of energy in 1994; only a few years later, Pakistan’s government had unilaterally terminated 11 of 19 IPP projects, and four others had been abandoned by the investor.⁸ Indonesia’s power sector saw the World Bank’s Multilateral Investment Guarantee Agency pay its first-ever political risk insurance claim.⁹ And then there was Enron’s now-infamous \$2.9 billion Dabhol project in India, with its resulting high-profile political risk claim and legal disputes.¹⁰

¹ <https://www.annualreviews.org/doi/pdf/10.1146/annurev.eg.15.110190.002053>

² <http://documents1.worldbank.org/curated/en/535851468336642118/pdf/131840REPLACEMENTOWDR01994.pdf>

³ https://gpc.stanford.edu/sites/g/files/sbiybj8226/f/i005_0.pdf

⁴ <https://dspace.mit.edu/bitstream/handle/1721.1/45024/2004-016.pdf?sequence=1&isAllowed=y>

⁵ https://gpc.stanford.edu/sites/g/files/sbiybj8226/f/i005_0.pdf

⁶ https://nyujilp.org/wp-content/uploads/2013/02/381_2-Woodhouse.pdf

⁷ https://fsi-live.s3.us-west-1.amazonaws.com/s3fs-public/IPP_Study_-_Country_and_Project_Annex.pdf

⁸ <https://library.pppknowledgelab.org/documents/2320/download>

⁹ <https://www.miga.org/press-release/miga-resume-guarantees-indonesia>

¹⁰ https://edbodmer.com/wp-content/uploads/2018/07/Dabhol_InfrastructureJournal12_2005.pdf



Second time's a charm?

All of which raises the question: now that investors are rushing into the power sectors of the emerging world once again – this time in renewable energy – have we learned the lessons of history?

In 2019, global investment in renewables projects surged to a record high of \$32 billion, with a majority of those funds destined for the emerging world.¹¹ While investment slowed during the pandemic, enthusiasm for the sector remains high, and the stock prices of renewables companies have surged to such an extent that analysts have worried about a “green bubble.”¹²

Can renewables companies entering emerging markets manage the associated political risks? What risks will renewable energy companies face if China is increasingly seen as a strategic competitor to the US, UK and Europe? What risks might arise from pandemic-related economic turmoil? What political risk perils might be lurking “under the radar?”

We asked Oxford Analytica to conduct research into these questions. Oxford Analytica convened a panel of ten external affairs and risk management professionals, representing renewable energy companies, lenders to renewables projects, and traditional energy companies with major investments in renewables.

Oxford Analytica and Willis Towers Watson then conducted in-depth interviews with these professionals, to produce the risk radar that appears in the next section. For two of the top risks the executives identified, Oxford Analytica commissioned scholars in its global expert network to produce peer-reviewed essays. These essays cover “A supply shock scenario in renewables” and “How much “systemic risk” is there in emerging markets today?”

We hope you will find Oxford Analytica’s findings, which appear on the pages that follow, to be useful. We sincerely thank the Oxford Analytica contributors who authored the following essays, but most of all we thank the expert panel of renewables executives who guided the research for their time and insights.

¹¹ <https://www.forbes.com/sites/felicijackson/2020/12/09/solar-soars-as-emerging-markets-renewables-investment-hits-record-high/?sh=3ab889f77434>

¹² <https://www.businessinsider.com/stock-market-green-energy-bubble-good-world-climate-change-2021-1>

Evaluating political risk when entering new markets

One question Oxford Analytica posed to the executive panel was: “how do you assess political risk when entering new markets?” In this callout, Oxford Analytica presents a summary of the findings. The views expressed do not necessarily reflect those of Willis Towers Watson.

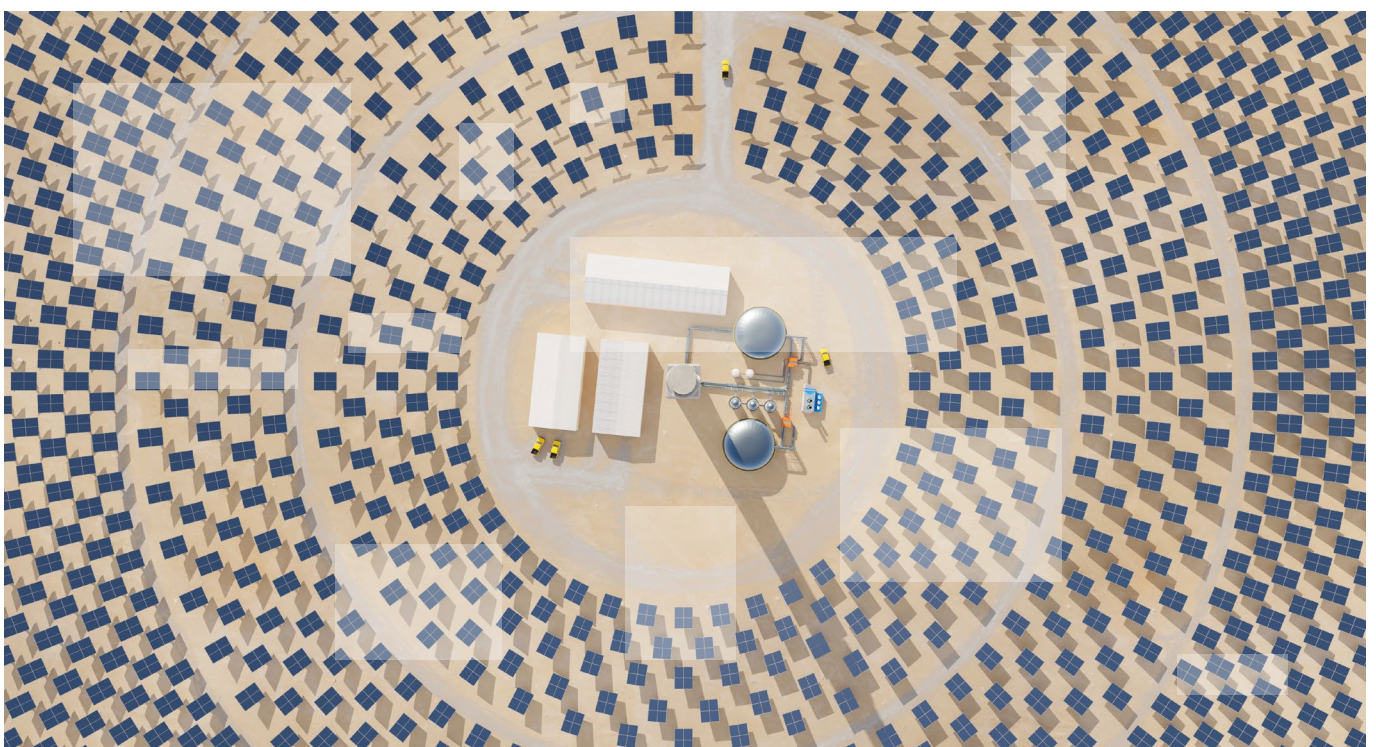
Any foreign investor in emerging markets is exposed to political risks – and any foreign investor that relies, directly or indirectly, on state support, doubly so. There are many factors that renewables investors must assess when entering a new market, including state stability, regulatory quality, the threat of corruption, the liquidity of the currency, and the enforceability of contracts. In our interviews, we asked for idiosyncratic tips: what had our panelists learned to look for that goes beyond the ordinary?

One external affairs professional in a renewables company said he focused on imagining a crisis, and how the country’s government might respond. Precedents can be a guide: have political leaders been held accountable in the past when things have gone wrong? Is there a credible political opposition if the government itself is discredited? Have state agencies proved competent responding to crises in the past? “Look at the fundamentals ... what would the government do, in a crisis,” he advised, noting that this approach had led his company to steer clear of investment in some countries where the business environment for renewables had subsequently deteriorated.

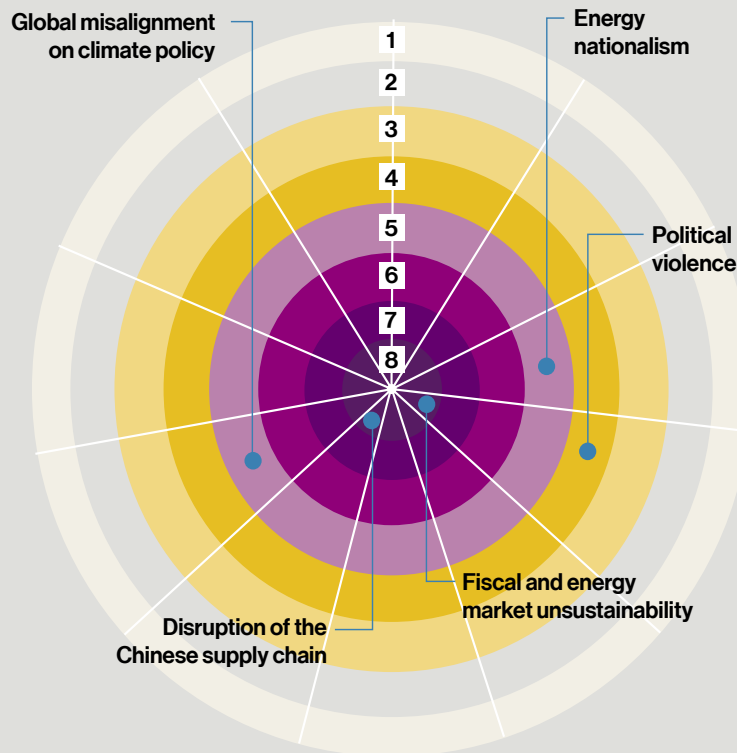
Other panelists focused on taking the political temperature of the public at large (as one put it, “the population and the things that could move them”). A lender to renewables projects said the most important question was whether environmental goals were seen as “meaningfully important” by the general public. Over the lifetime of a renewables project, a country’s government will surely face conflicting demands, or a project may suffer unanticipated setbacks. In that context, public views on the sector, and green goals in general, may determine how the government responds when difficult choices are required. In a similar but more short-term vein, two panelists pointed to the vital importance of assessing the serving government’s commitment to climate goals.

Several panelists pointed to the crucial importance of assessing the long-term viability of the energy market – noting that in a frontier market, a renewables investment could reshape that market (because of their scale, “hydro projects are almost always a game-changer,” as one panelist noted). Because many emerging markets are in the process of energy sector reform, the assessment needs to include the viability of proposed reforms, and whether these reforms are backed by multilateral bodies such as the World Bank, one interviewee contended.

Of course, even if the assessment for a particular market was negative, that did not mean a company should not invest. Rather, “you try to mitigate the risks,” said one panelist, “and get a risk premium to compensate you.”



Section 2: The political risk radar



Source: Oxford Analytica interviews with the executive panel. "Mentions" count the number of panelists who mentioned each risk topic.

Under the radar: Social license

To identify the top political risks facing the renewables sector in 2021, Oxford Analytica and Willis Towers Watson convened a panel of external affairs and risk management professionals at ten companies with a significant interest in renewables. Participants included project finance lenders, traditional energy firms with large renewables investments, and several of the world's largest renewables companies. Oxford Analytica and Willis Towers Watson then conducted in-depth interviews with this panel of executives, to produce the risk radar that appears above. Below, for each risk on the radar, Oxford Analytica summarizes some of the interview highlights. The views expressed do not necessarily reflect those of Willis Towers Watson.

Fiscal and energy market unsustainability

Following the 1990s wave of investment in emerging markets energy, governments tore up Power Purchase Agreements for many reasons (see the Introduction). Yet the most egregious cases, where nearly all power investments in a country were impacted, tended to follow fiscal crises – the East Asian financial crisis, the Argentine debt crisis, and Pakistan's serial IMF bailouts, for instance.

Given this history, and the fact that the pandemic has left many emerging economies in a precarious fiscal state, it is no wonder that potential conflicts between goals in renewable energy and fiscal stability were top of mind for nearly every executive we interviewed. This issue is perhaps even more acute for renewable energy because – as an executive at a traditional energy company contended – “renewables still depend on subsidies,” so “changes to renewable subsidies and the acceptance of subsidies is a key risk.”

As the experience of the 1990s suggests, functioning energy markets cannot be taken for granted in the emerging world. Maintaining functioning markets could be even more of a challenge for renewables. For instance, one panelist argued that a combination of market-driven tariffs and “government approaches and regulations that acknowledge ... scaling and the relative lack of cost competitiveness at the beginning” will be crucial to success.

Several panelists in renewables companies said they were already facing risk issues relating to emerging markets’ fiscal challenges. “Argentina can’t afford to pay for energy services,” said one expert. Another pointed to problems in the Middle East, where at least one country’s state-owned distributor had unilaterally decided to suspend payments during the pandemic.

Over the longer term, the trajectory of energy market development and reform was seen to be crucial to the success of the sector in a given country (see the callout: “Evaluating political risk when entering new markets”). If tariffs are insufficient to support producers’ costs, the government is likely to be called upon to backstop the market. If that backstop is unreliable, then support from multilateral institutions such as the World Bank becomes vital. As one panelist with extensive frontier market operations put it: “In many of our markets we have state guarantees. In some, we have those guarantees backed up via political risk insurance from MIGA [the political risk insurance arm of the World Bank].”

A panelist from a traditional energy company argued that, in renewables in particular, energy market viability can be a risk for even sophisticated emerging market governments. They pointed to trouble in India, including “policy uncertainty due to sudden transition from feed-in tariffs to tenders” and “efforts to renegotiate tariffs after awarding capacity even for operational projects.” While the Indian government’s efforts to promote investment in renewables were admirable, the panelists noted, the longevity of these efforts is “suspect.” Another panelist pointed out that strong political support for the sector could itself lead to risks. He cited the example of Uganda, which had arguably over-invested in energy, producing a debt burden that could threaten the government’s fiscal position.

Of course, renewables investors are not without defenses when it comes to such risks. Sound legal contracts can protect against policy changes made in response to adverse fiscal conditions. A panelist at a renewables

company pointed to some successes, even during the pandemic. “We have used a sort of diplomacy to resolve the issue,” he said, based on the company’s “leverage” via “sovereign warranties.” That said, once disputes move from diplomacy to outright legal confrontation, obtaining awards can take a long time and face limited success – as the dramatic early experience of renewables investment in Spain has demonstrated.¹³ Moreover, some legal environments are more favorable than others. One panelist noted that in Vietnam, “onerous” Power Purchase Agreement (PPA) terms can include “unilateral tariff revision with no take-or-pay term and no compensation on curtailment.” And, as an executive at another global renewables company pointed out, “even delays in payment can cause problems with our lenders.”

This risk is discussed in more detail in the essays section below.

Disruption of the Chinese supply chain

The second political risk to capture the attention of nearly every panelist was the dependence of industry supply chains on China. China is the source of the microchips on which many of the industry’s technologies depend. China is particularly dominant in solar, both as a source of rare earths and as a producer of generation technologies, as well as in wind. A panelist from a European oil and gas company noted that despite significant investments, his firm had been unable to compete with the cost efficiency of Chinese producers of renewable technologies. “It’s not a question of not wanting to,” he said, “it needs to be commercially viable.”

Against this backdrop, the growing tensions between China and the West are unnerving. To be sure, a focus on renewables as a “strategic industry” could encourage governments in Europe and elsewhere to subsidize the sector. But strategic competition between China and the West could lead to disruptions as well. For instance, efforts to shelter nascent industries behind tariff barriers could change the cost structure of the industry. “Solar is cheap because it’s mainly produced in China,” as one panelist put it. “What if tariffs undermined the status quo?” Other panelists worried that vital equipment could become a focus of retaliation in US-China trade tensions.

As of this writing, the geopolitical flashpoints between China and the West go well beyond strategic competition. The administration of US President Joe Biden has emphasized human rights concerns. A panelist from a

¹³ <https://infrastructureideas.com/2020/02/18/renewable-ppas-and-political-risk-spain-revisited/>

global renewables company commented: “we are also concerned about how forced labor issues could impact the supply chain.” Another panelist worried about Taiwan, a vital source of microchip production, becoming a flashpoint in geopolitical tensions.

Of course, there are political issues in production locations beyond China. One panelist from a bank that lends heavily to renewables projects worried about politicization of rare earths in Russia, Democratic Republic of Congo or Angola. A traditional energy executive thought along similar lines: “rare earths can be the next generation of crude oil, whereby a small number of producers enjoy disproportionate wealth and influence.”

That said, no country is as crucial as China. According to one panelist, China’s current dominance in the sector’s vital supply chains is so great that it rivals OPEC’s dominance of oil production in the 1970s. He advised companies to consider what might happen under a “supply shock” scenario in which Chinese production, or Western access to Chinese technologies, is disrupted. “The OPEC crisis in the 1970s, for example, spurred investment and discovery of resources elsewhere,” he pointed out. “We might need to relax some of our price and geographic assumptions.”

This risk is discussed in more detail in the essays section below.

Global misalignment on climate policy

In a sense, despite recent enthusiasm, investment in renewable energy is lagging badly. One panelist in a traditional energy company that has recently focused on renewables argued that “we have started one or two decades too late to meet this target [of limiting global temperature rises to 1.5°C].” As a result, “even in the best-case scenario we will need to claw our way backwards.” Another panelist agreed, pointing out that governments have made huge commitments on climate issues, but “there is a lack of alignment between declarations and investments.” If climate commitments are to be met, investment in renewables is only at the beginning of a meteoric rise.

Effective climate policy, however, requires global coordination, which will be a challenge despite some recent signs of progress. While concerns about US unilateralism have lessened, worries about China’s relationship with the West have increased. “More specifically, the US and China need to work together [to achieve climate and renewables objectives],” as one panelist put it. “The divide is serious and it’s not simple to solve.” As another stated simply: “the world order today is a significant risk.”

Without global agreement, policy on carbon credits and offsets could be hindered, threatening the industry’s growth. “Will the US, EU and China reach an agreement on carbon taxation?” an investor in the sector asked. “If this doesn’t happen, we will be forced to rely on regional agreements – and that will create scalability and cost challenges.” Another panelist worried that tensions between China and the West could “lessen commitments to treaties relating to renewables.” Such a shift could have impacts across the sector. Some governments might take the opportunity to backslide by prioritizing politically-influential traditional energy, or by shifting towards a regulatory environment that is unfavorable for renewables.

A failure to agree on global standards could also hamper the growth of energy demand. For instance, “electric vehicles are about to burst through,” as one panelist from a company that operates large solar projects put it, “but is there enough global standardization to support the development of the best technologies?”

Energy nationalism

This focus on uncertainties in energy transition policy was not limited to the international stage. Panelists expressed concern about an outbreak of energy nationalism in many countries. In the wake of the pandemic, economic nationalism has surged, with countries seeking to promote “national champion” companies in strategic sectors, and sometimes refusing to export vital goods (such as, in recent months, vaccines for the novel coronavirus).

To date, such economic nationalism has been muted in the energy sector. The pandemic caused a tremendous decline in energy demand (one panelist argued that world demand would never again reach its pre-pandemic peak). In an environment of surplus, concerns about security of energy supply appear to have diminished, at least temporarily, in many parts of the world.

But could the next energy price shock bring energy nationalism to the fore? As international relations shift, having a power sector that is partly owned by foreign investors from the “wrong” countries could be politically contentious. A renewables investor headquartered in emerging markets contended that “nationalization of power assets for energy security” was a top risk for the industry. Other panelists were more sanguine, but noted that energy security has long been a priority for governments. “In developed countries, the conversation is about energy transition and access – i.e., the level and security of supply,” as one put it.

That said, energy nationalism can have many motives. In some cases, governments can be focused on supporting traditional energy producers. Perhaps no country has better illustrated this dynamic, and its potential implications for renewables, than Mexico. “Our biggest concern is Mexico,” as one renewables executive noted. “[The government is] prioritizing traditional energy,” he claimed, noting that some renewables companies had stopped all investment in Mexico – despite the industry’s success in delaying some policy shifts via legal challenges. An expert on Mexican politics stated that the Mexican government’s policies could eventually amount to “indirect expropriation.” She pointed out that many renewables investors were expecting to be able to wait out the Mexican government’s initiatives. But “efforts by the current administration to change the constitution or to seek re-election despite a

one-term limit” could “severely undermine this assumption,” she said.

While some panelists felt the Mexican case was an exception, others worried that the trend could spread. An executive in a company running large projects in the Americas noted: “I’m most concerned about the trend away from globalization to national populism, especially where national populism is combined with holdouts from the fossil fuel sector.” Another renewables executive thought that unfavorable regulatory changes in Australia had been made partly in an effort to support the coal sector. “In general,” he argued, “the more renewables penetrate the pool, the more actions governments are taking to protect the traditional operators in the grid.”



Political violence

It was difficult to select the last risk on the radar, because panelists mentioned numerous – but mostly country-specific – political risk concerns (see also “Under the radar,” below). There were concerns that host governments would fail to develop needed infrastructure, leading to uncompensated disruptions of renewables production. There were worries about permitting delays leading to interruptions of construction or operation. In federated environments like India or the US, there was concern about a lack of coordination between federal and state authorities.

In the end, we selected “political violence” for the last risk, as this issue was not only mentioned in relation to several countries, but as having possible global implications for the sector. Following social unrest in Chile, in which power prices became a political issue (and the headquarters of one green energy company was attacked), companies have worried about “civil unrest and its impact to business operations,” as one interviewee stated. A renewables executive responsible for operations in frontier markets noted wryly: “we have experienced three coups [in countries where we operate] in the past nine months.” This instability, he pointed out, has knock-on effects even when operations are not directly disrupted: in one African country, the state-owned utility company, a crucial business partner, had gone through 16 different CEOs during the lifetime of their renewables project.

Other panelists pointed out that global security issues could become a major distraction for world governments, leading to short-termist thinking. A number of flashpoints were mentioned, including Russian involvement in Ukraine and disputes in the South China Sea. A security flare-up could make global alignment on climate policy (discussed above) even harder to achieve. In addition, one panelist argued that government decision-making tends to suffer during crises. He pointed to the example of South Africa, which had put out a “temporary” emergency power tender in response to blackouts. This short-termist solution, he argued, was not in fact all that temporary, effectively locking the country into reliance on expensive and dirty energy technologies.

Other interviewees worried about oil-rich governments, for which “there is a political transition connected to the energy transition.” As one panelist put it, “Venezuela is already a failed state, and with the energy transition, that will only increase” – with potentially detrimental impacts on neighbors including Columbia and Brazil. Another panelist focused on the Middle East, where countries “may provoke trouble that affects others, including areas bound up with the renewables value chain.”

Under the radar

We conclude our risk radar for 2021 by looking at what might be flying below the radar – the risks that might become top concerns tomorrow.

On social license, the renewables sector has traditionally enjoyed an advantage compared to polluting generation methods such as coal or technologies that communities may believe to be dangerous, such as nuclear. Renewables, by contrast, are charged with “saving the planet,” and often enjoy a political warm welcome (although, as one panelist noted, “hydro always has social license issues, because you need access to a valuable resource”).

There are signs that this warm welcome could be wearing thin – one panelist, for instance, pointed to the 2019 Michael Moore exposé on renewables, *Planet of the Humans*, as a sure sign of trouble. “Renewables need space ... which produces opposition from local people who also claim some rights to that space,” as the panelist put it. An executive in a renewables company noted that in emerging and frontier markets, gaining social license can involve demands for inappropriate favors or outright bribes, which can result in a public backlash if exposed. “You need to be sure that [your] license can stand the test of AML [anti-money laundering regulations],” he cautioned. “There has to be a lot of scrutiny going in.”

More broadly, a few panelists expressed concern about the social license of the sector as a whole – a sector that may require subsidies even as governments find themselves in a fiscal straitjacket. Private sector participation in the power sector has often generated controversy in the emerging markets. “In the developing world, power is still considered a social service,” one panelist argued. “While FDI (Foreign Direct Investment) might be welcome, to what extent can tariffs be increased to account for underlying costs?”





By Michael Creighton
Executive Director, Financial Solutions, Willis Towers Watson

Clearly the transition from carbon heavy energy to renewable energy is here to stay and will continue to gather momentum, including in emerging markets. There are many reasons for this shift towards renewable energy not least of all the fact that the global environment needs it. However, despite the global enthusiasm for green projects, the sector will not be sheltered from the usual political risks associated with foreign investments and in fact the risks may even be exacerbated given sensitivities around the right to power, the importance of power to fuel economies and growth, the cost of power and the continually widening gap between the haves and the have nots.

Renewable energy investors and the associated lenders need to be pragmatic about the political risks involved in their projects and be cautious of being swept away by the euphoria that tends to be linked to renewable energy. Fortunately, many of these risks can be managed, including being protected through well-structured political risk insurance policies.

Social concerns could lead to political violence

Energy is considered a key catalyst to economic growth and therefore when new power projects commence, a wave of optimism moves through the communities close to the projects. This optimism varies from the hope of employment to the impact that reliable electricity can have on the daily lives of communities. However, the employment contributions of renewable energy projects are sometimes limited and much of the available employment is short term. The establishment of local supply chains remains rare with most technologies being imported, further limiting the indirect job opportunities.

The onset of available electricity requires payment, something not always familiar or affordable to poor communities, highlighting the reality that there is a cost for energy. The initial optimism can quickly move towards frustration, social unrest and even political violence, either aimed at the government or the projects themselves. These tensions can often escalate through rumors of how foreign investors and international suppliers are benefiting from lucrative government contracts while the local community sees very little direct benefit.

Financial constraints can influence government intervention

Governments are investing heavily into renewable energy. Many renewable energy projects involve an independent power producer (IPP), often linked to international investors, and a power purchase agreement (PPA) with the state power utility. Most of these projects require international funding, which is generally structured in hard currencies such as the US\$ or the Euro. Even though the PPA may be linked to a fixed amount in terms of the currency of the funding, this does not remove the financial pressures that an emerging market may have to settle international debt in hard currency especially when one considers that the majority of the utilities revenues are generated in local currency. Most utilities raise revenues by charging their citizens for the use of power. However, these revenues are in local currency and in the event of currency depreciation, the effective international cost of debt increases, with the utility having limited ability to simultaneously raise the local tariff charged to the general population.

Furthermore, governments are often required to invest in supporting infrastructure required to maximize the value of the power plant, for example expanding transmission lines in order to ensure the power reaches the required destinations. It is not uncommon for delays to occur in the development of this additional infrastructure either due to inefficiencies or financial constraints. This can add further pressure on utilities who may have to start paying for power that it is not fully utilized, having the combined effect of financial strain and a frustrated population.

As economic pressure and social tensions mount so will the risks of government intervention either through attempts to adjust license agreements, amend PPAs or revise feed-in-tariffs. In extreme cases, this government intervention could even be the nationalization of IPPs.

The long-term nature of these projects heightens the uncertainty

Most renewable energy investments are long term in nature with long term PPAs and long-term financing, increasing uncertainties. Political risks in the short to medium term are difficult enough to predict and the predicting of long-term political risks is near impossible. Governments and leaders will change during the duration of most projects and given the lack of democracy in some cases or the immaturity of democracies in many others, how emerging market governments will respond to foreign investors is often untested. The initial hype as to why the project was

originally embarked on is long forgotten, especially if there are now financial and social challenges or if the original government that awarded the contract has a reputation of corruption.

Rapidly changing technology adds to uncertainty

Another unclear concern relates to the advancement of technology and the associated costs. In many rapidly changing environments, costs are generally written off over a relatively short period acknowledging that new technology will shortly replace the current technology. In the renewable energy sector technology is continually being developed and the cost of developing renewable energy continues to decline. However, PPAs and funding are often locked into 15 to 20-year PPAs and 15 to 20-year funding structures. Well before the expiry of these arrangements new projects will cost significantly less and far lower feed-in-tariffs will be negotiated. How relatively expensive and dated green plants will be viewed by governments and the populations adds to the political risk uncertainty.

Managing risks

Renewable energy is the future and should be welcomed by all. However, projects will not be without risks and certainly not without political risks. These risks need to be appropriately managed by investors and lenders. PPAs need to be well structured. In countries with weak utilities, some government backstop behind the PPA should be considered. A

country's legal and judicial structures are an important consideration for investors. Arbitration arrangements should be located in independent jurisdictions. Investors need to be sensitive towards the communities where the projects are located and should actively work on establishing good relations, have various social upliftment programs in place and maximize the involvement of the communities.

Procurement of political risk insurance by both investors and lenders needs to be seriously considered. The private political risk insurance market is actively looking to participate in the green revolution; developing green specific products, increasing the duration of their support and upscaling their project finance expertise. Most of the risks highlighted above can be managed through well-structured insurance policies. Political Violence and perils covered under the banner of Confiscation, Expropriation, Nationalization and Deprivation are standard covers under a political risk policy. While currency depreciation is not covered, Currency Inconvertibility / Exchange Transfer is covered. Protection against governments trying to change the agreed terms of an IPP or PPA can be covered by the inclusion of Breach of Contract and Arbitration Award Default. Willis Towers Watson is a specialist credit and political risk insurance broker able to advise clients on the appropriateness of insurance policies in place in a project or to assist clients purchasing the appropriate political risk insurance.



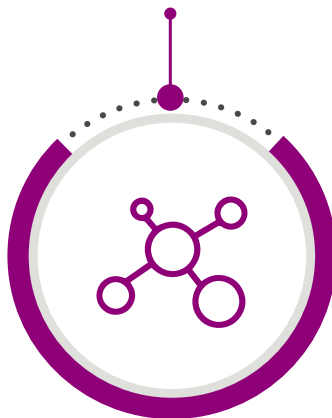
Section 3: A “supply shock” scenario in renewables

In the 1970s, the OPEC (Organization of Petroleum Exporting Countries) nations responded to the Arab-Israeli war by imposing an oil embargo, forever changing both the energy industry and the way energy was consumed. Today, China arguably has a comparably dominant position in some parts of the renewables supply chain. Oxford Analytica asked scholars from its expert network to envision a scenario in which China, in response to a geopolitical dispute, imposes a comparable “supply shock.” What political and economic implications would result? How would the renewables industry be transformed? The scenario is the invention of the experts and not intended to refer to any specific company or political leader. The views expressed do not necessarily reflect those of Willis Towers Watson.

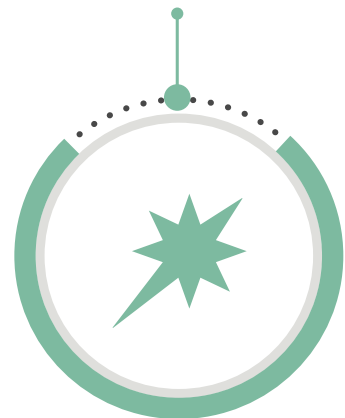
The buildup



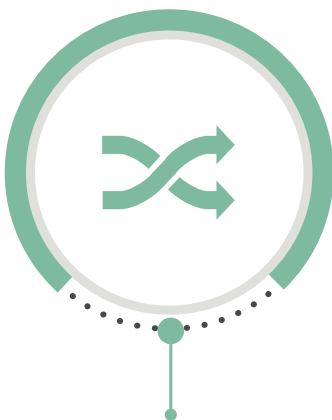
The catalyst



The flashpoint



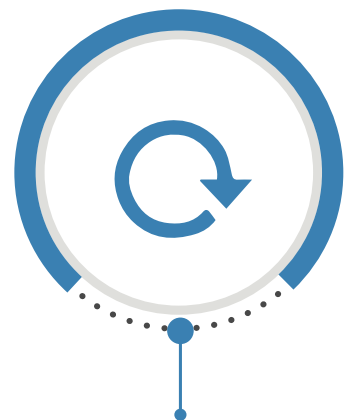
The twist



The fallout



The aftermath





The buildup: rising tensions on renewables, summer and autumn 2021

The US wants to lead in the development and deployment of low carbon technologies, but feels out-positioned, partly because it lost time following the 2017 announcement of its intention to withdraw from the Paris Climate Agreement. The EU hopes to foster local ownership of key economic and industrial value chains, partly due to supply vulnerabilities highlighted by the pandemic, as well as continued job losses in the automotive and specialized manufacturing sectors. The EU offers significant re-localization incentives, including state funding to green technology projects and initiatives to protect European companies in strategic industries from hostile takeovers.

China recognizes that the battle for dominance in low carbon technologies and solutions has intensified. It knows it is at a turning point: the decisive competitive advantage it has been building based on scale, low labor costs, efficient eco-systems and, to be sure, state subsidies (such as in the field of solar PV manufacturing) are being challenged by automation and the West reinvesting in industrial policies. China's 1.0 generation solar and wind systems will be challenged by innovation and efforts to scale in Europe and the US. As such, China must scale up its own ambitions, and gain new markets abroad through technologies that allow its companies to lock in these markets for the long term.

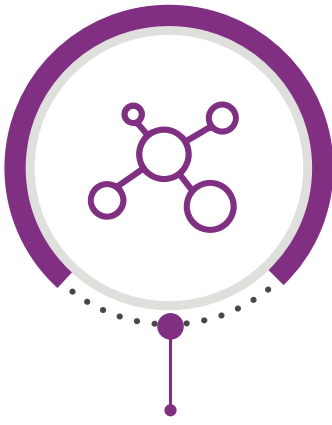
Meanwhile, the EU continues to seek middle ground between China and the US. The EU is concerned by the possibility of retaliatory measures against its companies operating in China, and losing out on Chinese tourists. Germany knows that while its booming exports of robotics and machinery to China are bound to decrease in the coming years, in the near term these exports will play a critical role in supporting a post-pandemic recovery. The EU hopes China will enhance its climate commitments, "green" the Belt and Road initiative and help deploy some

of its low-cost low-carbon technologies across the world to help poorer countries to decarbonize. It expects its nuanced approach to China to avoid major confrontations, and in some instances, successfully encourage China to moderate its approach.

As the scenario begins, the renewables industry is booming. In the US, Nationally Determined Contribution pledges foresee a 50% reduction of greenhouse gas emissions (GHG) versus 2005, and prioritize the decarbonization of transport and power generation. These initiatives are expected to lead to a surge of solar and wind investment needed to deploy an additional 300 GW of solar, 100 GW of onshore wind and 30 GW of offshore wind in the US by 2030, alongside solutions such as grid-scale batteries, and carbon capture and storage. The EU, meanwhile, is working on deploying an additional 250 GW of solar and 250 GW of wind by 2030.

At the reinstated EU-US Energy Council meeting during the summer of 2021, China dominates the agenda. Three topics are predominant: cybersecurity and resilience of critical infrastructure, joint efforts to counter China's grip on strategic metals and their supply chains, and decoupling from Chinese equipment supplies against the backdrop of human rights accusations.

At COP26 in November 2021 in Glasgow, despite repeated calls and renewed efforts led jointly by the US Presidential Envoy for Climate, the EU and the British COP presidency, China resists Western pressure to announce a 2025 target date for peak emissions, mentioning US sanctions on its nuclear industry as an obstacle.



The catalyst: the EU takes a side, early 2022

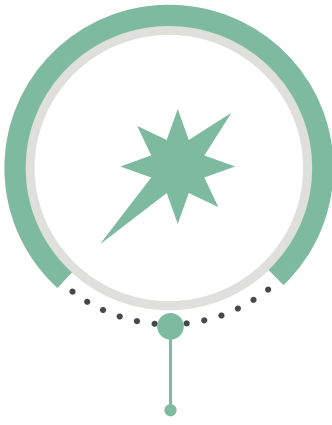
In the EU, studies begin to point to a growing vulnerability of its key supply chains to imports of critical metals and equipment from China, as well as to the significant cement, steel, sand, water and aluminum footprint of certain Chinese-made technologies. Concerns over polysilicon-made solar panels involving the alleged use of forced labor and the climate impact of coal-based electricity begin to overtake traditional China-related concerns over subsidies. The EU's recovery plans are also criticized as driving imports of various goods from China instead of fostering local value chains and job creation.

The EU's position on China begins to harden. While business lobbying for action against China's state subsidies had been a quiet affair, lobbying on China's human rights record is more evocative – and frequently sparks an angry reaction from China, as many Chinese feel their country is unfairly criticized. In Europe, there are new media reports on forced labor. When China signs a new economic agreement with North Korea, providing Chinese mining companies with access to Pyongyang's rare earth deposits, a measure that plays badly with the European public.

The EU increasingly adopts an assertive China policy. For the second time, the US and EU coordinate sanctions against key Chinese Communist Party leaders, notably the regional party leadership in Urumqi. The US and EU announce their intention to impose carbon levies on imports from China (including steel, aluminum, cement, battery cells, solar panels, alkaline electrolyzers, and cars) from mid-2022. Both the US and EU announce that more anti-dumping cases against China will be brought to the WTO.

In early 2022, the European Parliament rejects by a large majority the EU-China Investment Agreement. Going further, the European Parliament sides with the US Congress in requiring that due diligence for social, environmental and labor issues should be imposed on imports of Chinese goods. The EU also bows to US pressure to begin to remove Chinese components from its critical value chains. The German presidency of the G7 in 2022, led by the new Green chancellor elected in September 2021 and attended by leaders from India, Indonesia, Vietnam and Australia as well as South Korea, leads to a tacit initiative to counter Chinese influence in Africa, South East Asia and Latin America.

Later that month, there is a large-scale demonstration in Shanghai. Although the target of the Shanghai demonstrators appears to be the US and Europe, with many protesters holding signs with anti-colonial or anti-imperialist slogans, the unrest turns violent leading to significant property damage. The Chinese government believes the violence has been instigated by Western intelligence agencies, and indeed identifies US-origin software on mobile devices used by demonstrators. Although the US government denies involvement, many in China feel their country is increasingly under threat and must respond.



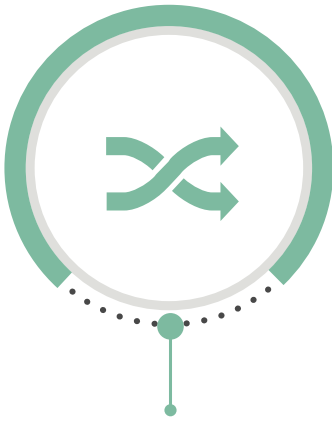
The flashpoint: an embargo of Taiwan, spring 2022

China's leadership decides it must push back against Western pressure. In Spring 2022, China's military suddenly moves to close the Taiwan Strait and put the island under a total air and sea embargo, notably using Russian-made S-400 air defense systems to set up areas of access denial and paralyzing Taiwan's economy and government with a massive electronic warfare attack. China's capacities surprise everyone: within five days, the island's exports have largely halted, yet no shot or death is recorded.

Eventually, it emerges that China has in mind a "supply shock," in the manner of the oil embargo imposed by Middle Eastern states in protest at the Arab-Israeli war. In addition to obstructing Taiwan's microchip exports, China announces that exports of critical metals and rare earths from the Chinese mainland, as well as refined products, will be restricted by export control regulation. Moreover, China imposes export bans targeting US and European defense and space industries. China makes the point that these restrictions will only be lifted if the West lifts its own, illegal restrictions on Chinese trade and investment, as well as ceasing all interference in sovereign Chinese political issues. China states that its critical metals exports will be conditional on a 10% ownership stake by Chinese companies in end users to ensure "fair use" of China's resources.

The West is wrong-footed and unsure how to respond. Western countries start a slow naval build up around Taiwan, using Japan, South Korea, India, Indonesia, Australia and Vietnam as bases. Lengthy UN Security Council discussions begin, with Russia siding with China on many issues. Gold prices soar along with oil and other commodities. Inflation risks spike, with the world threatening to fall into another recession. Since a war has not formally started, it is not clear that a security response is appropriate, and the Western powers are divided on the best course of action. The US is distracted by concerns that Iran is using this opportunity to accelerate its nuclear program.

As the world fears the outbreak of World War III, tensions ease slightly as the situation comes to a stalemate with no apparent likelihood of military invasion. Maritime trade in the region is nonetheless disrupted and Chinese ports start being overloaded with containers and goods piling up, while Taiwan's export-orientated economy appears to be in free-fall.



The twist: China saves the planet, spring 2022

Global public opinion is divided on the “China tech embargo.” Then, in a stunning announcement, China states that it will take the lead in global decarbonization, and that the US and Europe are responsible for climate change given their high historical GHG emissions and poor record of delivering on their promises. Meanwhile, China pledges to take real, resolute action on climate issues in China and worldwide.

Pointing to European and American levies and import restrictions on Chinese-manufactured solar and wind equipment, China announces it will stop supplying the US, Canadian and European solar and wind markets altogether, except for utilities where Chinese companies have stakes, or overseas subsidiaries of Chinese companies. These actions cause shockwaves across Europe and the US as Chinese manufacturers represent 25-60% of imported equipment, with no cost-comparable substitutions available in the short term and prices of equipment supplied by Vietnam, Thailand or Malaysia soaring.

China announces that instead of paying wasteful Western tariffs, it will deploy its green technologies where they will have the greatest climate impact. The Chinese government states that it will ramp up domestic subsidies and deployment targets for solar, wind and new grids, targeting 75 GW of installed solar capacity per year and 75 GW of wind, thus offsetting the losses from Western export markets. Moreover, China offers massive discounts to developers in the Middle East, Latin America and Sub-Saharan Africa to expand its market share, boosting demand and fostering its ring of allies. Some of these countries begin to back China's position on the “tech embargo.”

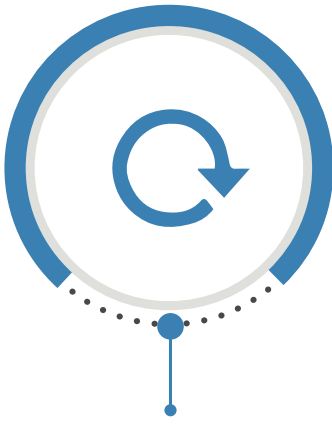


The fallout: an acute crisis for renewables, summer 2022

By summer, the world is holding its breath while economies are in freefall. Supply chains of wind and solar equipment are disrupted in Europe, the US and India, notably for cells and solar modules from polycrystalline silicone, wafers, steel towers, magnets, turbines, data sensors and electronic devices such as inverters. Related projects are delayed or cancelled across the world, with China starting negotiations over which projects can be supplied and privileging its new partners in Africa, the Middle East and Latin America.

The stock market value of renewable energy companies, car companies, aviation and maritime companies start to crumble while oil and gas majors rise again. European and American wind turbine manufacturers using generators built on magnets with neodymium are hit particularly hard. Project developers face the challenge of large delays, renegotiations and higher costs. A wave of restructuring begins which ultimately benefits oil and gas majors and large utilities, some of which take the opportunity to buy into the renewables sector at low prices.

Western companies with investments in China, or with strong dependence on China, start lobbying for their governments to accommodate Chinese demands. Populations across Europe and the US have mixed views but there is no appetite for war. European governments see the threat to their recovering economies and decide that a rapid de-escalation option must be found. Following talks in Singapore, China ultimately eases its embargo.



The aftermath: a renewables industry transformed, autumn 2022 and beyond

In the aftermath, the Western energy transition is in turmoil. The German G7 presidency convenes a special summit in October 2022 to prepare a way forward. India is invited, as are Thailand, Vietnam, Malaysia, Australia, Chile, Brazil and South Africa. Key decisions taken include:

- Helping India, Brazil and Argentina set up a large solar panel manufacturing industries based on technologies other than c-Si (crystalline silicon solar cells made of highly pure silicon wafers), such as Differentiated Cadmium Telluride (CdTe) thin film technology, with pledges from Europe and the US to buy these products;
- Boosting public-private partnerships to produce the next generation of solar cells through innovation and public support for upscaling and automation;
- Focusing on developing/deploying wind turbine generators with low carbon steel, as well as electro-generation equipment built with copper and steel, or cerium-cobalt compounds, rather than permanent electromagnets using rare earths;
- Establishing a fund to develop research on hard chemistries to produce solid state batteries;
- Creating an international minerals alliance, with key targets in the field of recycling, responsible supply chains, environmental protection and low carbon mining operations, alongside large funding for new mining or refining operations, notably for nickel and cobalt;
- Setting up an alliance for the use of nuclear power, including developing, building and certifying small modular nuclear reactors;
- Mobilizing extensive access to cheap finance for India, South Africa, Brazil, Argentina and Vietnam to accelerate the end of coal and accelerate the pace towards low carbon technologies, notably based on solar coupled with nuclear and grid scale battery storage solutions, alongside various grid enhancing technologies; and
- Developing resilience and protection programs for critical electrical infrastructure.

By 2025, the global value chain for solar and wind equipment has changed, with a greater localization of production in the OECD and partner countries in Latin America and South East Asia and an injection of investment in non-Chinese technologies, while China has greatly expanded its green technology sales in many emerging market countries, especially those participating in the Belt and Road Initiative. Lastly, with nuclear SMR (small modular reactor) technologies successfully tested and industrial cooperation structured around the US, Canada, the UK, France, Poland and Japan, this new technology is nearly ready for deployment by 2030.

Taking an integrated approach to geopolitical risk issues



By Lucy Stanbrough

Head of Emerging Risk and Geopolitical Risk Research, Willis Research Network, Willis Towers Watson

Geopolitical risks for an organization arise from its unique exposure and vulnerability to multiple, inter-related political, economic and geographical factors that impact its ability to successfully operate and execute its strategy.

For the renewable energy sector, exploring geopolitical risks is important not only because the industry experiences the global ripples of geopolitics, but also because the sector is making waves of its own. The desire to increase future resilience and integrate sustainability is becoming a global trend for COVID-19 loans made by governments, and the interruption of planned investments and budget cycles for other sectors of the energy mix could open the door for acceleration. The outcomes of these trends alongside the rise of nationalism shines through the panel interviews.

Decisions around strategy, investment, growth and expansion will at the very least need to be reviewed in the cold light of a harsher and more challenging environment, and Boards will need to be ready and able to seize the moment and adjust their course appropriately.

The use of adverse scenarios allows businesses to consider whether the right assumptions are being made, the appropriate questions are being asked and whether the key issues are being sufficiently examined. The risks and trends mentioned in this survey provide a foundation for different functions within businesses to look at these connected risks / opportunities collectively and manage them using an integrated approach. Such matters are overlooked at one's peril, leading to heightened risk and missed opportunity.

This is the approach the Willis Towers Watson Geopolitical Risk experts take by examining risk drivers and their associated risks through six key lenses; Cyber, Climate / Environmental, People, Reputational, Business Resilience and Investment / Return. These interconnected lenses encourage the identification of integrated solutions that can be tailored and address insurable and non-insurable risks seamlessly.

This structured approach provides an effective framework for companies seeking to assess, quantify and mitigate geopolitical risks in an integrated fashion; and might include Red Teaming initiatives to challenge or test the adopted plans and thinking, geopolitical risk workshops, new country risk assessments, tailored scenario development, and risk register stress testing. If the risks highlighted in this report don't create a problem or opportunity in your value-chain, what would and is the business resilient enough to meet it? We can help to develop bespoke worst and most likely scenarios which can deliberately challenge adopted strategy, plans and practices, assist with contingency planning, and help identify the triggers to activate them.

Boards and their risk managers should be proactive and review their risk profiles, appetites, where the relevant tipping points are. Successful organizations will be those that are able to understand, assess and quantify the connected risks, in order to take advantage of opportunities and mitigate or manage the risks of these geopolitical relationships.

These insights provide a framework for renewable energy businesses to stretch their thinking, and to do this effectively they will need to:

- Understand their new environment through relevant intelligence, assessment and quantification to comprehend the drivers and impacts on their business. Boards must look beyond the most obvious, and work with stakeholders across their business to identify interconnected risks; examining everything from complex supply chains through to human capital policies and reputational damage, to help protect the company and fulfil its duty of care.
- Identify and assess: They should employ all the tools available to enable them to collate and interpret the information and then deploy subjective (depth of experience, industry insight, research and analysis) and objective (using analytical tools) assessment to inform the organizations' decision making.
- Prevent and Protect: As the geopolitical landscape changes, so must the way in which risk leaders protect their businesses. A thorough understanding of the interlinked geopolitical risk drivers and their impacts provides a strong foundation for prevention and protection against them.

Using a range of tools and scenario planning, organizations can gain a holistic view of their risks and drivers, bringing more clarity to complex risk landscapes, and thereby gain competitive advantage. Moreover, to embrace intelligence led capabilities that help to reduce the surprise and shock of regional, national and global events.

Section 4:

How much “systemic risk” is there in emerging markets today?

One reason for the late-90s collapse in investment flows into emerging markets power was a series of economic crises, in East Asia, Russia, Argentina and beyond. These crises were, in a manner of speaking, “systemic” – both at the national level, as finance company failures contributed to a broader financial and currency crisis in Thailand, and at the global level, as contagion from the Thai crisis was transmitted in part through the behavior of international investors and lenders. The current pandemic has contributed to economic fragility in many emerging economies (a fragility perhaps disguised by monetary easing and the availability of bailout programs). Are we at risk of a repeat of the late-90s crises? Oxford Analytica asked scholars from its expert network to assess the question: how much “systemic risk” is there in emerging markets today? The views expressed do not necessarily reflect those of Willis Towers Watson.

This time is different

The series of emerging market crises that played such havoc with the Power Purchase Agreements forged in the 1990s (see the Introduction) were attributable to a set of circumstances that are unlikely to be repeated – at least, not precisely. These crises hinged on a combination of factors that created serious financial vulnerabilities, hid those vulnerabilities even from astute foreign lenders and investors, and enabled contagion to be transmitted in part via the behavior of those investors.

During the 1980s, a group of East and Southeast Asian countries enjoyed a “miracle” pace of economic progress. Capital account liberalization in the 90s, coupled with investor enthusiasm for emerging markets, then led to rapid capital inflows. Unfortunately, these rapid inflows proved toxic for these countries’ export-oriented growth models, by pushing up the prices of non-tradeable goods and services. Because many exchange rates were pegged in all but name and could not depreciate, the resulting price inflation caused an erosion of international competitiveness.

That erosion of competitiveness might have been expected to lead to a gradual slowdown in economic growth rates. However, this process had remained hidden before 1997 in part because current account deficits (essentially, trade deficits) had been a normal part of these economies’ growth. For instance, foreign direct investment inflows went hand-in-hand with paying for imports of machinery to build export-oriented manufacturing industries.

By 1997, however, foreign investors, who expected future repayment in dollars, took increasing notice of the fact that these increasingly uncompetitive economies were earning fewer dollars in export revenue. A smooth slowdown could still have been possible. However, the combination of pegged exchange rates and “hot money” capital inflows also meant that these economies’ balance sheets had growing liabilities denominated in dollars coupled with assets (i.e., receivables) denominated in local currency. Policymakers were soon stuck in an overvaluation trap. A devaluation could restore competitiveness but would lead to insolvencies, given the mismatch between local currency assets and dollar liabilities. Yet the more the currencies became overvalued (i.e., having a pegged exchange rate that values the domestic currency more highly than the free market would), the bigger the depreciation that would occur once the peg was abandoned, and thus the more extreme the insolvencies would be. And the longer that the overvaluation persisted, the fewer of the economy’s assets were denominated in dollars, due to growth being channeled more and more into the non-traded sector (whose receivables are denominated in local currency rather than dollars).

The result was a sudden reckoning: the East Asian financial crisis, which precipitated other emerging markets crises around the world. Stock market indices in all the East Asian “tigers” suffered sharp declines from January 1997 (a year earlier for Thailand).¹⁴

Systemic risk, both within national financial systems and on the level of the global financial system, arose from the combination of pegged exchange rates, financial liberalization, capital inflows, and export-oriented growth paradigms. These precise factors are unlikely to recur today, for many reasons:

¹⁴ This account of the 1997-98 East Asia Financial Crisis is necessarily incomplete. Other contributors included China’s 1994 devaluation, Japan’s 1990s recession, the US ‘strong dollar’ policy under the Clinton administration, ‘cronyism’ and other issues. For a review see Corsetti, G., Pesenti, P. and Roubini, N. (1999), “What Caused the Asian Currency and Financial Crisis?”. Japan and the World Economy 11.

- Perhaps most importantly, emerging markets increasingly maintain flexible exchange rate regimes. Indeed, flexible exchange rates have only become more popular over time: as recently as 2009, 41% of emerging market economic activity was carried out in economies maintaining some form of currency peg, whether hard or soft. By 2019 (the most recent year for which data are available), the figure was only 18%.
- Emerging markets continue, of course, to borrow internationally, but in domestic currency terms rather than in dollars. This practice of local currency borrowing proliferated after the 1997-2001 crises, as the risk of borrowing in dollars became apparent, and a surfeit of global capital emerged.¹⁵
- Emerging market policymakers have sought to accumulate dollar reserves. This has proved relatively easy to do in countries where depreciated exchange rates are used to enhance export competitiveness. Central banks could keep exchange rates depreciated by purchasing dollars in the foreign-exchange (FX) market, thereby adding to FX reserves, and, in a manner of speaking, self-insuring against future crises.
- After the crises, sovereign bonds began to feature “collective-action clauses” (CACs) that allow the sovereign to negotiate a bond restructuring with a supermajority of bondholders, and impose the resulting terms on all bondholders. In theory, these clauses should limit the transmission of crises via the behavior of international capital providers.

Emerging market debt stress in the wake of the pandemic

Whether the risk of acute crises exists or not, the IMF and World Bank are both signaling that an emerging market debt crisis is imminent. Partly, these signals form part of an effort to head off such a crisis. And yet, it is clear that for many emerging economies a prolonged period of fiscal and debt restructuring lies ahead.

Public debt levels were already elevated and growing rapidly in many emerging economies before the pandemic hit. Gross government sector debt in emerging markets averaged 54.1% of GDP in 2019, up significantly from 43.1% recorded in 2015 and comparable to levels last seen in the debt crises of the mid-1980s and 1990s. Public debt ratios were above 70% in almost one-fifth of developing countries and the IMF was reporting that almost 40% of low-income developing countries were facing high risks of debt distress.

In 2020, overall public debt ratios in emerging economies then jumped a further 9.2 percentage points to 63.3% of GDP, mainly as a result of COVID-19. Over the past year, governments have significantly increased spending on health care as well as direct transfers to individuals and businesses negatively affected by the pandemic. Debt burdens have also been negatively affected by enforced lockdowns and ensuing sharp contraction in economic activity. Meanwhile, recessions have led to dramatic declines in government revenue.

As a result, in 2020 average public debt ratios jumped by ten percentage points or more in Latin America, South and Southeast Asia, Northern Africa, as well as in China, the largest sovereign borrower of them all. Gross government debt increased to 103% of GDP in Argentina, 99% in Brazil, 89% in India, 77% in South Africa, and 61% in Mexico.

In 2020 sovereign defaults occurred in Argentina, Belize, Ecuador, Lebanon, Suriname, and Zambia. Looking at 2021 and 2022, risks are especially elevated for frontier market economies with high debt ratios, interest charges, and external financing needs, like Sri Lanka (with limited fiscal capacity), Angola, Bahrain, Egypt, Oman, and Pakistan (although these countries are supported by IMF programs or other sponsors), Costa Rica, El Salvador, Ghana, and Kenya. Other countries with weak balance sheets include Bahrain, Belarus, Tunisia, and Turkey which all have low and rapidly declining foreign exchange reserves and high external financing requirements.

Sources of resilience

Looking at conditions in emerging markets today, there are some important sources of resilience. One such factor is that, while emerging market borrowing requirements have soared, most public sector funding requirements have been met by domestic rather than external investors. The share of non-resident holdings of emerging market debt has decreased in most countries. Among the largest sovereign borrowers, less than ten percent of the outstanding government debt of Brazil, China, and India are held by non-residents. Still, other major borrowers are more exposed, with non-resident holdings of 41% in the case of Mexico, 34% for South Africa, and 28% for Turkey. Many smaller developing economies also have high levels of exposure.

Second, the options for bailouts have increased, particularly but not only in the wake of the pandemic. The IMF and Paris Group of International Lenders have

¹⁵ On the surfeit of global capital, see Bernanke, B. (2015), “Why are interest rates so low, part 3: The Global Savings Glut”. Brookings. On the risk of borrowing internationally in foreign currency, see Eichengreen, B. and Hausmann, R. (1999), “Exchange rates and financial fragility”. NBER Working Paper 7418.

established programs to support the foreign exchange reserves of countries in frontier economies facing financial distress. In addition, key national lenders including China, Russia, Qatar, Saudi Arabia, and the UAE have shown that they may be willing to step in to support strategic geopolitical relationships.

Third, debt problems are no surprise. Indeed, many analysts expected the impact of the pandemic on emerging market debt markets to be much worse than it has been so far. Most external investments in emerging market debt, especially in high-risk markets, have been hedged accordingly, which should be a further factor limiting the transmissibility of crises within the global financial system.

Possible sources of a “systemic crisis” in emerging markets today

There are nonetheless some issues that could conceivably trigger a systemic emerging markets debt crisis, or at the very least simultaneous currency and debt crisis in several countries. For instance, a challenge that will weigh on economic recovery, and could provoke acute crises, is the possibility that a rapid recovery in advanced economies will lead to higher interest rates and costs of borrowing.

Even before the pandemic, borrowing costs were rising; indeed, over the past decade, average borrowing costs in emerging markets rose from 4.3 to 5.1 percent of economic output. Higher yields have placed considerable strain on the ability of governments to pay interest costs without further eroding fiscal balances, especially if nominal economic growth rates do not exceed five percent. Interest service weighs most heavily on frontier markets due to a combination of higher indebtedness, higher coupons, and lower revenue capacity. Sri Lanka has the highest ratio of interest payments in relation to government revenues (62% in 2021), followed by Zambia (44%), Ghana (44%), Egypt (42%), Costa Rica (40%), Pakistan (39%), India (32%) and Angola (31%).

Even the possibility of a strong rebound in the US and other advanced economies was enough to induce a sharp rise in long US Treasury yields earlier this year, with the rate on 10-year Treasury securities going from under 1% at the start of 2021 to over 1.75% in mid-March. Recently, capital inflows to emerging markets have shown signs of drying up. In early March, foreign investment turned negative in emerging market equities and debt, resulting in total daily outflows for the first time since October 2020.

Another source of risk for multiple emerging economies is the fact that despite the lessons of the previous crisis, a number of emerging economies have once again borrowed fairly extensively in foreign currency. The Institute for International Finance estimates that US\$4 trillion of emerging market debt will mature in 2021, of which almost 18% is denominated in foreign currency. Eight emerging markets are identified in a recent paper as issuing a high or rising proportion of debt in US dollars: Chile, Colombia, Hungary, Indonesia, Philippines, Peru, Russia, and Turkey.¹⁶

A final source of short-term risk relates to bonds issued by state-owned enterprises. Most governments in emerging markets have been reluctant to bail out failing companies. China’s decision earlier this year not to step in to support three triple-A rated state-owned companies facing default on their debt obligations is a case in point. Most governments in emerging markets have been reticent to bail out national airlines or other large companies facing financial distress as a result of the pandemic. There have, however, been exceptions, like Mexico’s support for companies in the energy sector. The failure of state-owned enterprises could lead to systemic risks within one or more emerging economies, potentially leading to a broader crisis.

Re-entering the over-valuation trap: the case of Turkey

For the reasons noted above, including CACs, hedging, and the limited exposure of international lenders, systemic risk in emerging markets as a class appears less severe than in the past. However, an acute and unexpected crisis in a very large emerging market may be more likely to trigger contagion. Is such an acute crisis possible?

On the face of it, countries have learned to avoid the trap of overvalued fixed exchange rates and the mismatch of local currency assets and foreign currency liabilities. However, over the challenging few years ahead, while many emerging economies are vulnerable, it is conceivable that one or more major emerging economies could re-enter this trap.

One reason is politics. It is well known that voters tend to punish governments for unfavorable events, from recessions to droughts.¹⁷ One might expect voters to mete out such punishment for the pandemic. Among the largest sovereign borrowers, India, Turkey, and Brazil stand out with infection and death counts per capita that are currently among the highest in the world. The World Bank predicts that by the end of 2021 up to 150 million additional

¹⁶ Bertaut, C., Bruno, V. and Shin, H. (2021), “Original Sin Redux”. Social Sciences Research Network.

¹⁷ For a review, see Achen, C. and Bartels, L. (2016), “Democracy for realists: why elections do not produce responsive governments”. Princeton University Press.

people will fall into extreme poverty, 52 million in Latin America alone. The UN is warning that disruptions in global food supplies is leading to the worst food crisis the world has seen in 50 years while at the same time pushing up food prices.

Serving governments, therefore, will face difficult choices: to alienate a constituency that favors an over-valued exchange rate, such as wealthy urban residents who consume foreign goods imports or take foreign holidays; or to alienate a constituency that favors government spending, such as consumers of state-subsidized fuel or food. Where approval margins are thin, governments may seek to appease both with the risk that a currency becomes overvalued while deficits grow. As the 1990s crises demonstrated, when an overvalued currency is combined with foreign currency liabilities, the greater the overvaluation the harsher the eventual reckoning.

In these conditions, countries may seek to avoid a bailout, since bailout conditions can make the political consequences more severe. Social unrest targeting restrictive fiscal and monetary policies has recently been seen in countries like Kazakhstan, Kyrgyzstan, and Mongolia where local populations are reacting to bailout conditions imposed by China as part of its Belt and Road Initiative, as well as in other countries required to meet IMF program conditions.

A major emerging market that exhibits several of the emerging market vulnerabilities highlighted above is Turkey (even though Turkey's central government debt remained at a manageable level of 43% of GDP at end-2020, even after the pandemic-induced collapse in tourism revenues and exports). In its latest Article IV consultations with Turkey, the IMF states that "elevated external financing needs, declining reserves, high inflation, and increasing dollarization set Turkey apart from many of its emerging market peers."

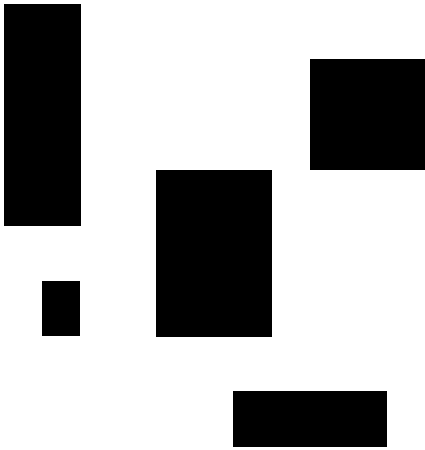
Turkey's response to the Covid-19 shock relied primarily on rapid monetary and credit expansion, including policy rate cuts and cheap and rapid lending growth by state-owned banks. The easing of financial conditions allowed the Turkish economy to avoid a contraction last year (one of the few that did) but exacerbated high levels of leverage within the economy. Turkey's gross external debt stock amounted to USD450bn, or 62.8% of GDP, at end-2020, according to the Ministry of Treasury and Finance, up from USD453.5bn (59.4% of GDP) at end-2019. Perhaps most alarmingly, the central government faces external financing requirements amounting to USD182bn or around 28% of GDP in 2021.

To counter pressure on the Turkish lira, the government has ramped up its foreign-exchange interventions. Estimates suggest that Turkey sold USD128bn in reserves in 2019-2020 to stem the local currency's decline. This policy cut Turkey's net foreign exchange reserves by 75% last year. The net buffer was USD10.7bn on April 2, 2021, the lowest in at least 18 years, central bank data shows. Excluding USD41.1bn in outstanding swaps, the reserves are deeply negative.

Despite its flexible exchange rate, Turkey exhibits some characteristics associated with governments that have sought to maintain an unsustainable peg – most notably high levels of dollarization as confidence in the domestic economy has waned. Ratings agency Moody's estimates that since 2018 the share of deposits that are denominated in hard currencies such as US dollars or euros have accounted for over 50% of the total deposits in the banking system. Dollarization is a significant issue for Turkey as it amplifies the economy's susceptibility to swings in investor sentiment, heightening the risk of a balance of payments crisis.

According to Moody's, this situation could be "exacerbated if, for example, the government's desire to revive growth were to lead to even larger budget deficits than expected and if it needed to cover obligations on public-private partnerships or guaranteed debts." Many of Turkey's high-profile mega-projects, including the giant Istanbul Airport (one of the world's largest), enjoyed lavish incentives such as land allocation and loan guarantees as well as long-term service purchase and turnover guarantees for contractors.

Crucially, contract terms, including the companies' rent obligations to the state, the government's guarantees to the companies and service prices, have been denominated in hard currency. In a scenario where these assets were to come under financial stress (for example, aviation assets during the pandemic's rout of global travel), the government, owing to dwindling foreign exchange reserves, would be hard-pressed to make good on its obligations towards private lenders.



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WTW E100020/06/21

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