



SCALING UP RENEWABLE ENERGY INVESTMENT IN EMERGING MARKETS:

CHALLENGES, RISKS AND SOLUTIONS

About

The IRENA Coalition for Action (Coalition) is an international network with a vision for its members to work together to advance renewable energy in order to drive the global energy transition in line with the Sustainable Development Goal on energy. Within the Coalition, the Business and Investors Group is a Working Group chaired by the Global Solar Council (GSC) and the Global Wind Energy Council (GWEC) aiming to provide a platform for renewable energy businesses and investors to discuss current challenges and agree upon solutions to put forward to policy makers.

In 2017, the Coalition identified the scaling up of renewable energy investment as one of the most urgent topics to address in order to accelerate the global energy transformation. This white paper, identifying challenges and opportunities for unlocking investment in renewable energy, has been developed in a joint effort by the members of the Business and Investors Group. It consolidates previous analyses and on-the-ground experiences of some of the leading private-sector players in the renewable energy field. A second Coalition paper – developed by the Coalition Community Energy Group, a sub-group of the Business and Investors Group chaired by the World Wind Energy Association (WWEA) – is being published in parallel and focuses on the community energy approach.

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Introduction

While the international conversation on renewable energy has gone through some remarkable changes and rapid evolution in recent years, real change is largely made at the national level. This is where the policy framework and regulatory environments need to mesh to create the investment climate for national and international players to make projects happen on the ground.

This white paper outlines a discussion of the most significant challenges to the scale-up of renewable energy investment and development that the Coalition for Action Business and Investors Group members have encountered while delivering projects throughout the world. The paper additionally describes a selection of available tools and policies recommended by the Business and Investors Group to overcome these challenges.

The focus is on solar and wind as the two dominant, rapidly growing technologies in the power sector that are now competitive, but the analysis could apply to other power-producing technologies as well.

Every national situation is different, both from the point of view of the local energy system and as a reflection of the political, legal, economic and cultural realities of the country. The construction of the policy, regulatory and fiscal environment in each country is a sovereign matter, and although external parties, including industry and civil society, etc., should be consulted in this process, the final decisions on national energy strategy and objectives will be determined by national and sub-national governments.

Three important contextual points to note at the outset of this white paper are:

- The rapid evolution of IRENA since its inception in 2006 and founding in 2009 has unleashed an extraordinary willingness on the part of governments to reap the benefits of renewable energy investment and development, to share their experiences and to learn from one another.
- An element of caution exists on the part of some governments toward different forms of engagement with the private sector. The non-commercial approach detailed in this paper is intended to enable helpful and appropriate dialogue. Although many of the members of the Business and Investors Group might be competitors while operating in the market place, the Coalition for Action serves as a platform where actors are able work together towards the objective of growing the overall global market for renewable goods and services.
- There is not a lack of investment finance. There is no lack of capital in the marketplace for good projects; there is, however, a lack of bankable projects to attract investment and fulfil today's appetite for renewable energy projects. Bankability has many factors that are important to analyse and incorporate into government assessment processes.

1. Key challenges

The objective is to provide an outline of the key challenges to rapid up scaling of renewable energy in general terms. Without addressing the particulars of an individual country, the challenges will necessarily be generic, but they will likely be recognisable to individual actors. The Coalition for Action is eager to help design solutions suited to each actor's specific national circumstances.

The challenges identified fall into three basic categories: Finance and Bankability; Administrative and Capacity; and Regulatory. This categorisation is not exclusive, and many issues appear in more than one category, but it forms a good basis for initial analysis. An overview and ranking of identified challenges according to their potential impact and likelihood can be found in the heat map in section 1.4.

1.1 FINANCE AND BANKABILITY CHALLENGES

A key concern for any investment is whether a given project is bankable (*i.e.*, banks or an internal investment committee must be convinced the project will be profitable and perform as proposed over the financing period). In today's competitive renewable energy environment, margins are increasingly narrow, and therefore risk must be minimised in every way possible.

In this context, the power purchase agreement (PPA; the agreement with the off-taker as to how much will be paid for each unit of power produced) is critical. The financial health of the off-taker or buyer of power needs to be strong enough to convince lenders/investors to take the risk over the term of financing.

Another risk to be mitigated is currency risk *i.e.*, where the capital purchase, financing/debt service is made in one currency but the revenue stream or operating expenses are in another, usually local currency.

1.2 ADMINISTRATIVE AND CAPACITY CHALLENGES

The adage "time is money" holds true for the development of renewable energy projects. Delays in project development timelines, whatever the source, can make the difference between a viable project and one that is not.

The clarity and timeliness of procedures and decision-making processes are critical to creating a good investment environment. Decisions do not have to be favourable to one party or another; it is just necessary for there to be clarity regarding who is going to make them, when they are to be made and what the decision-making criteria are. Having too many agencies or regulatory bodies involved in the process can create significant delay as well as a lack of clarity pertaining to permitting and regulatory procedures.

One of the most difficult issues faced by renewable energy projects in many parts of the world is land tenure. Lack of clarity regarding the law and rules of land control can be a complex and terminal challenge in project development. The renewable energy industry should not be put in the position of attempting to resolve decades- or centuries-old land disputes.

1.3 POLICY AND REGULATORY CHALLENGES

Although policy and regulatory challenges can be related to an unfavourable policy landscape and power market design, the purpose of this section is not to identify risks associated with certain policy or market design choices. Regardless of such, the main regulatory risk is primarily associated with rapid and/or unexpected changes in energy policies, procedures, market design, grid access or plant dispatch during the project development and plant operations phase.

At the same time, lack of clarity on medium- to long-term planning for demand growth; capacity additions; grid and infrastructure build-out; and environmental goals (either climate- or air pollution-related) will tend to discourage investors.

The ability of the local grid infrastructure to manage the output from renewable energy projects is a critical element for developers. Rules for acquiring grid connections, grid codes, dispatch priority and curtailment compensation are a few of the many issues that often plague early projects in the development of a national renewable energy programme.

Likewise, the payment mechanism – if it involves a feed-in tariff (FIT), a feed-in premium or some form of certificate – often generates regulatory issues in the sense that when new procedures are developed, there can often be a significant delay in payment.

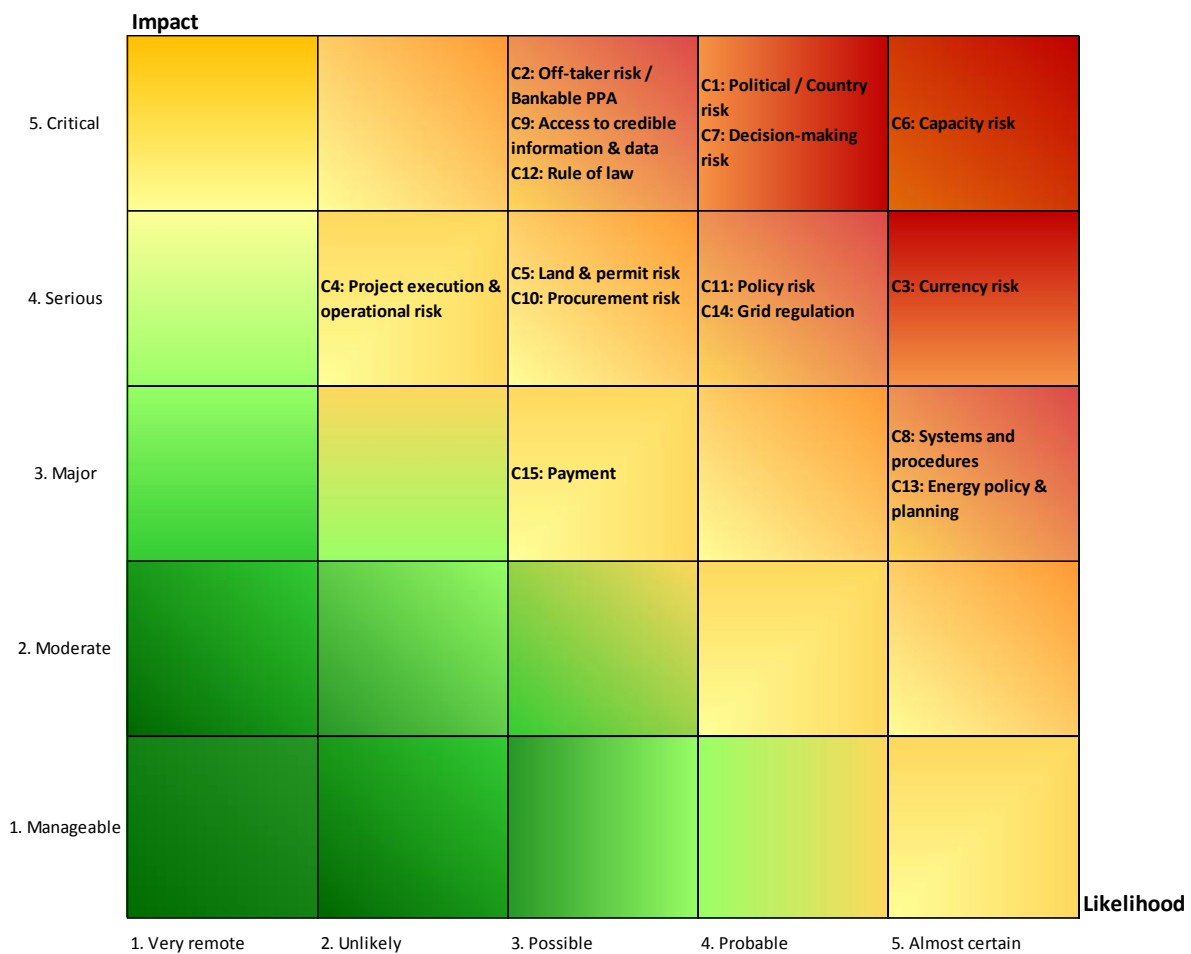
Regulatory changes during the project operational phase, which is designed to be 20 years or more in most cases, can have negative impacts on the cash flow streams of the project and therefore the ability to service debt and investors' returns. Any retroactive changes may also negatively impact the ability of the country to later attract project sponsors or lenders for further projects.

For all aspects of project development and execution, it is necessary to be able to take agreements to the bank and to include clearly defined and effective dispute resolution mechanisms. For all parties involved, rule of law and transparency are of utmost importance.

1.4 HEAT MAP

The heat map shown in Figure 1 below represents the challenges previously discussed, ranked both in terms of the severity of a potential problem and its likelihood. The map looks quite negative, but it should be clear that it is generic, so assigning the “likelihood” is very general and will be different in every country. At a national level, all or most of the challenges can be overcome, despite their daunting appearance when combined. However, it is a good starting place to begin to deal with the issues. Analysing the situation in any given market will yield a much more specific and detailed map that can then be used to generate the tools needed to address the barriers. A more detailed description of the challenges can be found in Table 1 provided in the Annex. The Annex further provides an overview of the applied methodology.

Figure 1: Heat map of challenges for scaling up investment



2. Key solutions

This section suggests steps governments can take to mitigate the various risks businesses are exposed to in renewable energy project development. While some risks are a normal part of assessing and undertaking new business opportunities, others are unique to new markets and can be mitigated through smart policy adaptations and tools.

2.1 TOOLS AND POLICIES TO OVERCOME FINANCE AND BANKABILITY CHALLENGES

The recent trends in renewable energy development are clearly diversifying the investor base and lowering the cost of funding. While those are positive developments, there are, as listed in the previous chapter and in the heat map, still challenges to overcome in order to scale up renewable energy deployment. Addressing finance and bankability challenges with the right tools and policies in place enables governments to effectively translate national and global goals into local implementation. This section proposes a range of risk mitigation tools, particularly related to off-taker and currency risks, that can increase the confidence of investors and the mobilisation of financing in renewable energy projects.

BOX 1: OFF-TAKER RISK GUARANTEE UNDER THE CABEOLICA PROJECT IN CABO VERDE

Commissioned in 2011, the 25.5 MW the Cabeólica wind farm project was the first commercial-scale wind farm in sub-Saharan Africa. Developed by private company InfraCo Africa, with support from the government of Cabo Verde and its national utility, Electra, the wind farm is managed by special purpose company Cabeólica, which entered into a 20-year PPA with Electra.

Despite being a state majority-owned company, with Cabo Verde having credit ratings from two of the three major credit rating agencies, Electra had no credit rating and was loss-making at the time of signing the PPA. An off-taker guarantee mechanism was therefore necessary to secure equity to develop the project.

The government of Cabo Verde endorsed the Cabeólica wind farm by establishing a public-private partnership and issuing a government support agreement, including an escrow account with three months' payment cover and an annuity for the remainder of the duration of the PPA in case of termination. Furthermore, a put option was made available allowing for the possible sale of the project to the government at an agreed price in case the managing company, Cabeólica, breached its obligations. This strong government support was enough to provide external investors with confidence, and loan documents were signed with the European Investment Bank (EIB) and the African Development Bank (AfDB).

In addition and to address currency risk, the PPA was denominated in local currency but pegged to the Euro, including a clause to adjust payment currency in the case local currency would become floating within the period of the PPA.

Sources: ECREEE (2017); IRENA (2016a).

Off-taker risk mitigation

Off-taking parties (*i.e.*, investor-owned, municipal or national utilities) to whom an independent power producer (IPP) is selling electricity do not always have a balance sheet strong enough to satisfy investors. If the off-taker is not creditworthy, a state guarantee can be used to mitigate the payment risk, and in some cases the regulatory risk, to make the PPA bankable enough to be accepted by lenders and investors. If the state itself does not have a high credit rating, development banks or export credit agencies can step in and provide guarantees, which should

BOX 2: OFF-TAKER GUARANTEE MECHANISM UNDER THE ARGENTINE RENOVAR PROGRAMME

Following the establishment of the Argentine national regime for the production and use of renewable sources of electricity in October 2015, the government launched its national auction programme, RenovAR. Under the programme, awarded energy-producing companies enter into a long-term PPA (maximum term of 20 years) with the national utility company and administrator of the national wholesale electricity market – CAMESSA – which acts as an off-taker for the electricity produced.

Due to the country's sovereign debt crises in the early 2000s, none of Argentina's government agencies have an investment-grade credit rating and sponsors and developers have therefore faced difficulties financing their projects. As a response to this, the government established FODER, a national trust fund for renewable energy. FODER's guarantee and risk mitigation instruments are listed below.

- In case CAMESSA fails in its obligation to pay the full price of the generated electricity at the awarded price denominated in US dollars on a monthly basis, FODER's Energy Payment Guarantee account, funded by the Ministry of Energy and Mining, will be used to cover the payment.
- FODER's solvency guarantee, implemented through a put option mechanism, allows project companies to terminate the PPA contract with CAMESSA and either sell the renewable energy to any third party or transfer the project assets to FODER and receive a cash compensation for it. This is allowed under the following circumstances:
 - o No payments have been made by CAMESSA or on its behalf by the FODER's Energy Payment Guarantee for four consecutive months or six non-consecutive months within any 12-month period
 - o Argentina's currency has become inconvertible or non-transferable
 - o Changes have been made to FODER's laws or operations without the IPP's prior consent
 - o The PPA, World Bank guarantee or the FODER accession agreement has been terminated early, or
 - o CAMESSA has become non-compliant with a firm arbitration sentence.

As an additional level of guarantee, the World Bank, acting through the International Bank for Reconstruction and Development (IBRD), guarantees to backstop the government's potential failure to fund FODER purchase payments in the case project companies exercise their put option (coverage of up to 500,000 US dollars/MW).

Sources: Alford (2017), Argentine Ministry of Energy and Mining (2016).

lower the cost of projects by lowering their risk profile. In markets where traditional off-taking parties (municipalities and national utilities) have limited capacity to satisfy investors, permitting third-party sales, allowing IPPs to sign direct PPAs with large corporate off-takers could be a way to further stimulate investment. See Boxes 1 and 2 for examples of off-taker risk guarantee mechanisms.

Currency risk mitigation

Currency risk is a significant obstacle for financing projects in emerging markets. A significant portion of capital expenditures, spare parts and overseas workers' salaries and expenses are often in one or more foreign currencies, while the revenue stream, operating expenditures and local workers' salaries are in the local currency. While in the long run, if it is a significant market, most expenditure will be localised, there is an element of currency risk associated with investing in an emerging market.

Various commercial risk mitigation instruments are available for purchase. Also, several public finance institutions, like the currency exchange fund (TCX) and GuarantCo, offer currency hedges (IRENA, 2016a). But these are generally considered quite expensive, adding considerably to overall project costs. The most common mitigation strategy is to offer the PPAs in foreign currency, usually US dollars. International financial institutions can play some role in providing hedging instruments, and/or underwriting some or all of the risk that is transferred from the project developer to the off-taker when PPAs are tied to "hard" currencies such as the US dollar or the euro (IRENA, 2016a).

Standardised contracts for PPAs

Another measure that can help mitigate both the administrative and financing risks is the reduction of transaction costs resulting from the complex nature of contractual arrangements supporting a renewable energy project. Governments and developers can tackle this challenge through the support and use of standardised contracts. The process of standardising contracts and/or contract components has been used in other related sectors and could in the case of renewable energy projects be used to establish, among other things, ownership structures, service requirements and PPAs.

In an effort to standardise contracts and other project documents, IRENA, in partnership with the Terrawatt Initiative, has brought together a number of key stakeholders from the public and private sectors to agree on core terms and approaches via the Global Solar Energy Standardisation Initiative (IRENA, 2016b). The focus is initially on solar because such contracts can be relatively easily standardised, and projects can hence be scaled up more rapidly.

By standardising key contracts such as PPAs, the Initiative can help streamline the project development process and address key risks such as power off-taker, political and regulatory risks through simplified provisions and clauses on energy purchase requirements and rates; grid interconnection and transmission responsibilities; agreement assignment or termination; adverse regulatory or tax changes; dispute resolution; and force majeure. To be launched by mid-2018, a comprehensive contract package will be freely available online for both governments and developers. The Scaling Solar project as well as other projects developed or supported by the International Finance Corporation (IFC) also include standardised documents (Scaling Solar, 2018), for example, the aggregation and standardisation of a number of solar projects in Jordan (see Box 3).

BOX 3: AGGREGATION AND STANDARDISATION OF SOLAR PROJECTS IN JORDAN

The establishment of the direct proposal process under the Renewable Energy and Energy Efficiency Law in 2012 enabled direct renewable energy PPA negotiations between private developers and the Jordanian Ministry of Energy and Mineral Resources. Following the submission of proposals by interested developers, the Ministry of Energy and Mineral Resources awarded 12 photovoltaic projects, which entered into PPAs with the National Electric Power Company for a period of 20 years. However, securing financing posed an obstacle as a result of the projects' relatively small size and investors' lack of experience with the development of renewable energy projects in Jordan. To mitigate investment risks and attract investors, seven projects (accounting for a total of 102 megawatts [MW]) came together under IFC's lead to standardise and aggregate their projects, resulting in reduced transaction costs and simplified due diligence for investors as energy and service costs were shared across projects.

Appointed as a lead arranger, IFC conducted negotiations with investors and the government on behalf of the seven projects. IFC also arranged a team of legal, technical, financial and insurance advisors that established standardised terms and template contracts addressing, in particular, PPAs, financing and project permitting across the projects. Furthermore, IFC offered advisory and financing services to the 12 solar projects. The aggregation and standardisation of projects mitigated key risks and increased the projects' appeal to both commercial and development banks.

Sources: IRENA (2016a) and IFC (2016)

2.2 TOOLS AND POLICIES TO OVERCOME ADMINISTRATIVE AND CAPACITY CHALLENGES

As observed in the previous section, another category of barriers to up-scaling renewable energy deployment includes a lack of capacity within governments to develop and operate the administrative framework required to enable investment in, and delivery of, these projects.

One of the main barriers is a lack of experience regarding the nature and requirements of a renewable energy power plant. While governmental power and energy departments, and often finance departments, may be focused on renewable energy, colleagues in other departments may have very limited experience of, or interaction with, IPPs or the broad mechanics of renewable energy. This has implications for large swathes of government policy, from environmental and land-use permitting to aviation and transport.

Centralise, strengthen and streamline administrative and permitting institutions

The establishment of "one-stop shops" for infrastructure investors can assist in the coordination of administrative and permitting requirements and encourage investment. Zambia's Public Private Partnership Unit (Zambia Development Agency, 2014), and, to an extent, South Africa's IPP Office (IPP Projects, 2018), are good examples of such shops.

The government of the Philippines recently committed to an intensive programme of infrastructure investment, which included a commitment to guarantee project permitting within 30 days (Philippines, 2017). Projects not permitted within this period are to be deemed to have consent to proceed. This is a bold initiative, and may not suit all countries, but it is an

example of “outside the box” thinking that will enable investment in infrastructure, including new power plants. In countries with less-developed institutions and limited administrative capacity, or without experience working with IPPs delivering renewable energy, doing something new can be the solution. An example of this is working around the barriers of inertia and lack of experience while collaborating with other governments to build the needed capacity over the medium term.

Mitigate/resolve land tenure issues

In many countries, land use and ownership records are limited, and patterns of land ownership are complex, involving post-colonial structures, unresolved indigenous land claims and/or communal patterns of land use, among others. Often, government departments with responsibility for land reform, land registration or land-use planning are distant from government departments in energy policy. They may have their own priorities, which may not be fully aligned or share the same energy policy focus. As a result, applications for land use for energy projects are often delayed or deprioritised.

Thus, introducing some level of government guarantee in the event of land disputes, or alternatively, for a government to designate zones suitable for renewable energy development, could have a tremendously positive impact on renewable energy development. The Texas CREZ (Competitive Renewable Energy Zones) model is worth consideration here, along with other states and countries that have underpinned development through a zonal approach. See Box 4 for further details on the CREZ model.

Another way to proactively deal with land tenure issues and social acceptance of renewables is through dialogue and proactive engagement with landowners and communities. Following years of land disputes in Mexico, renewable energy developers are now working to promote a good relationship with landowners and communities close to wind and solar farms. A strategy used by a leading developer operating in the Oaxaca region has been to conduct an annual socio-economic community study. The study covers the expectations and interests of the

BOX 4: COMPETITIVE RENEWABLE ENERGY ZONES IN TEXAS (US)

The Texas CREZ model is an example of how states and countries can play a major role in the development and integration of renewable energy through a zonal approach. The Texas State Legislature introduced CREZ in 2005 as an attempt to alleviate grid congestion and achieve the state’s renewable energy targets by expanding the state’s electricity infrastructure.

The CREZ concept is centred on the integration of resources, such as land areas and renewable energy technologies across geographical regions, for the generation and integration of renewable energy with conventional energy sources. This allows for a market-based approach regarding the selection of the most competitive areas for renewable energy production across the state.

The Public Utility Commission of Texas (PUCT) undertook various initiatives, including regulatory projects to designate CREZs and to interconnect remote wind resources to the grid, which resulted in the construction of more than 1 000 miles of new transmission infrastructure – enough to double Texas’ renewable energy targets.

Source: Clean Energy Grid (2017)

population, as well as their perception regarding the performance of developers in areas such as social commitment, environmental protection, business ethics, local economic development, and local hiring and procurement, among others. This study serves as a guideline to continuously reinforce the company's Social Management Plan, considering local interests and allowing it to address risks and opportunities that arise. Likewise, the company carries out a number of educational activities and workshops to increase public understanding of renewable energy and the environment.

2.3 TOOLS AND POLICIES TO OVERCOME POLICY AND REGULATORY CHALLENGES

Addressing regulatory challenges requires building a sound regulatory system and an effective legal framework that establishes long-term, sound renewable energy policies and market conditions. While predictability is of the highest importance, flexibility needs to be recognised as a key element to adjust to a rapidly evolving market environment and technology development.

Comprehensive and holistic energy strategy and policies

Policy makers and regulators should consider delivering an energy strategy and policies focused on the implementation and growth of renewables that are coherent with three main principles: environmental sustainability, security of supply and economic affordability. Failure to address those adequately could result in an unbalanced policy design, increased policy risks and damaged public acceptance – all of which are likely to have negative impacts on the renewable energy investment process.

Policy risk mitigation

Policy risk is a barrier in mature markets in the OECD as well as non-OECD countries. The most useful things governments can do to mitigate policy risk are to establish and maintain clear policies over the long term and to make only gradual policy changes, announced well in advance. Such steps will establish a clear track record and build confidence in the market.

Some of the worst policy steps governments can make are the so-called “retroactive changes” that have been experienced recently in some markets. These have the effect of killing investment for a period of time, with confidence in the market returning only very slowly, if at all. These should be avoided at all costs.

In line with the regulatory challenges included in Chapter 1, the tools and policies available to overcome those should cover institutional, economic, legal and technical aspects that will affect renewable energy projects.

Rule of law and dispute resolution

The rule of law is crucial to provide comfort to all parties involved. Law and rule production mechanisms should be open, transparent and non-discriminatory. Voluntary dispute resolution systems and independent judiciary systems are necessary to provide fair and non-discriminatory decisions.

Grid regulation

The process of acquiring grid connections, the establishment and enforcement of grid codes, transparent arrangements for dispatch priority, grid services (low voltage ride through, reactive power, etc.) requirements and curtailment compensatory schemes should be a) each under the responsibility of a single regulatory body, and b) clarified up front before the first projects are

connected, and modified/upgraded periodically on a non-retroactive basis in response to both consultation with stakeholders and the evolution of the power system as a whole.

Payment mechanisms

Regardless of whether the payment mechanism is a result of participation in the energy market, a PPA, a FIT system, a feed-in premium system, a system based on clean energy certificates, tax benefits or something else, it is necessary for one body to be fiscally responsible to ensure a stable and predictable revenue stream. In the case of renewable electricity provision, long-term predictability in terms of revenue is crucial to lower the cost of capital. A mechanism designed to provide revenue stability is required.

International policy standards and comparability

Participation in multilateral and/or international agreements, such as international trade promotion, investment protection or intellectual property rights, is crucial to deliver political and economic stability and produce positive effects on investment. Equally, collaboration in political and economic integration projects, will limit the risk perception that might hinder investment flow, particularly at the international level. Such an approach will deliver benefits in terms of institutional design, policy definition, rule production, market supervision and best practices sharing.

3. Conclusion

The increasing competitiveness of renewable technologies is driving the energy revolution across the globe, but there is yet huge untapped potential in the smaller emerging markets in Africa, Asia and Latin America. For wind, and increasingly for solar, the majority of market growth is in fact in emerging markets, but this growth is generally focused primarily on larger markets such as Argentina, Brazil, China, India, Mexico and the like.

This paper has sought to answer some of the questions pertaining to how the benefits of renewable energy can be extended to the many emerging markets where to date development has been spotty or non-existent.

The benefits are clear: renewable energy technologies are low-cost, by definition indigenous, sources of energy that do not pollute and do not contribute to the climate change problem. In addition, they can attract billions of dollars of investment, help create jobs and grow local economies, while insulating local economies from the vagaries of the international commodity markets and improving their foreign exchange position. But the market alone, despite record low prices for wind and solar, has as yet proved insufficient to spread the benefits of renewables beyond the larger established markets. Intervention by governments, international financing institutions working in partnership with the relevant industry and investment sectors can help increase the pace and scale of investment.

The most important element is for governments to send clear signals that they are eager to attract investments and to do so in a way that is beneficial to all concerned. Industry knows how to site and build solar plants, wind farms and other renewable energy installations, and both public- and private-sector financial institutions know how to finance them.

The Coalition for Action look forward to working with interested governments to rapidly upscale the development of renewable energy to provide inexpensive and abundant power to help fuel economic development.

Annex

Methodology

The heat map and its identification and ranking of challenges builds on a model previously used by the UK's Offshore Wind Programme Board in its work to identify and remove the barriers to the deployment of large-scale and low-cost offshore wind.

The challenges in this paper were identified and ranked jointly by the members of the Coalition Business and Investors Group in a series of Working Group calls during autumn 2017. The ranking of challenges, according to the two parameters – impact and likeliness – was discussed and agreed upon by the Group. It should however be mentioned that no guidelines were developed for the scoring of challenges, and the heat map should therefore only be seen as indicative. The table below provides a more detailed overview of challenges and sub-challenges as identified by the Business and Investors Group.

The white paper, including the heat map, does not seek to be a comprehensive study on the topic of scaling up investment in renewables; it is rather an attempt by the Business and Investors Group to share its experiences and perspective of challenges and solutions to scale up investment in renewable energy.

Table 1: Heat map details: challenges and sub-challenges

CHALLENGE	SUB-CHALLENGE
FINANCE/BANKABILITY CHALLENGES	
Challenge 1: Political/country risk	<ul style="list-style-type: none"> • This risk has far-reaching implications at every stage of the project life (contracts, PPAs, permitting, land access). It can impact the stability and reliability of a project as well as the accountability of different actors. • Political risk also has implications for cash repatriation in cases where international equity providers are needed (in general, governments need to provide a guarantee that the independent power producer [IPP] can repatriate funds). Various options are available to acquire political risk insurance (such as export credit agencies and multilateral investment guarantee agencies), but insurance coverage may not be available for each country or, if available, it could be quite expensive, which could negatively impact project cash flows. • Levels of risk vary from international sanctions to perceived political risks due to a history that might include nationalisation of infrastructure assets or retroactive policy changes.
Challenge 2: Off-taker risk/bankable PPA	<ul style="list-style-type: none"> • This risk is not only about off-takers being able to buy and pay; it is also about their credibility and credit worthiness. A bankable PPA is the most critical factor in financing any renewable energy project, particularly in emerging markets that are still in their infancy. • Off-taking parties (<i>i.e.</i>, investor-owned, municipal or national utilities) to whom the IPP is selling electricity do not always have a balance sheet strong enough to satisfy investors.
Challenge 3: Currency risk	<ul style="list-style-type: none"> • Almost all projects operate with multiple currencies. Capital purchase is usually in a foreign currency; however, the revenue stream will often be in local currency. Operation and maintenance (O&M) will need local currencies; yet spare parts are often purchased in foreign currency. Currency exchange rate hedging solutions are available in financial markets but come at a high cost.

<p>Challenge 4: Project execution & operational risk</p>	<ul style="list-style-type: none"> Local engineering, procurement and construction (EPC) firms need to be reliable, financially viable and have a credible track record. The ability of the local grid infrastructure to manage the output from renewable energy projects is a critical element to assess during the project development phase and the structuring/negotiation of the PPA. Compliance with local and national environmental and social regulations is key for project bankability and investor confidence. Environmental and social risks can impact developers and financiers by creating exposure to potential credit, liability and reputational risk, as well as cause potential delays and subsequent project overspending. A country's environmental and social regulations should be clear so that due diligence can be carried out early in the project life-cycle and international mitigation best practices and standards can be used.
<p>ADMINISTRATIVE/CAPACITY CHALLENGES</p>	
<p>Challenge 5: Land and permit risk</p>	<ul style="list-style-type: none"> Land tenure issues must be resolved prior to project development. This often involves reconciling long-term disputes over land ownership and tenure and/or reconciling western notions of land ownership with more traditional communal tenure systems. This is a task for local and national government, not for project developers. Unclear requirements for licensing and obtaining permits and approvals.
<p>Challenge 6: Capacity risk</p>	<ul style="list-style-type: none"> Weak and/or inflexible institutions that lead to lack of clarity and delays in permitting and implementation of procedures. Energy utilities without experience dealing with IPPs and renewable energy. Lack of sufficient energy professionals due to resource constraints. Limited access to skills and knowledge for decisive responses and effective roll out of programmes. Lack of access to skills development opportunities and capacity-building programmes.
<p>Challenge 7: Decision-making risk</p>	<ul style="list-style-type: none"> Protracted and unpredictable decision-making processes. Administrative delays. Transparency in permitting process. A multitude of agencies involved in permitting, licensing and regulation of operating projects can be obstacles.
<p>Challenge 8: Systems & procedures</p>	<ul style="list-style-type: none"> Poorly defined administrative systems and procedures. Lack of an efficient information and communications technology (ICT) backbone to support effective systems and processes. Lack of standardised language of systems, procedures and documentation (<i>e.g.</i>, in English as international business language). Credibility of administrative processes.
<p>Challenge 9: Access to credible information & data</p>	<ul style="list-style-type: none"> Outdated data and information, <i>e.g.</i>, grid data or local irradiance measurements. Lack of efficient and effective documentation systems. Lack of insulation of administrative processes from political interference. Prevalence of cronyism, nepotism, entrenched rent seeking and/or corruption.
<p>Challenge 10: Procurement risk</p>	<ul style="list-style-type: none"> Lack of efficient, effective, fair and transparent procurement systems and processes. Functionality of procurement structures. Quality and credibility of evaluation and adjudication of bids. Protracted procurement decisions.
<p>REGULATORY CHALLENGES</p>	
<p>Challenge 11: Policy risk</p>	<ul style="list-style-type: none"> A significant risk to project viability exists if rapid and/or unexpected changes are made to energy policies, market design, regulation, grid

	<p>access or plant dispatch during the project development and plant operations phase.</p> <ul style="list-style-type: none"> • Policy changes during the project operational phase, which is designed to be 20 years or more in most cases, can have negative impacts on the cash flow streams of the project and therefore on the ability to service debt and investor returns. • Any retroactive changes will also negatively impact the ability of the country to later attract project sponsors or lenders for further projects.
<p>Challenge 12: Rule of law</p>	<ul style="list-style-type: none"> • Lack of investment protection. • Adherence to international trade and investment agreements and treaties. • Effective labour laws and an effective occupational health and safety regime. • Lack of ease of starting a business.
<p>Challenge 13: Energy policy & planning</p>	<ul style="list-style-type: none"> • Emissions and renewables targets. • Electrification outlook: transport, buildings and industry, energy efficiency, demand side management (with storage outlook) regulation. • Energy efficiency and demand side management (with storage outlook) regulation. • Energy/electricity demand prospects: population, gross domestic product (GDP) growth, energy intensity. • Air quality and pollution issues.
<p>Challenge 14: Grid regulation</p>	<ul style="list-style-type: none"> • Grid connections, grid code, merit order, curtailment contingencies can create big problems in new markets.
<p>Challenge 15: Payment</p>	<ul style="list-style-type: none"> • Complex payment mechanisms from a multitude of sources can create confusion and delay.

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Coalition for Action membership

The Coalition is facilitated by the International Renewable Energy Agency (IRENA).

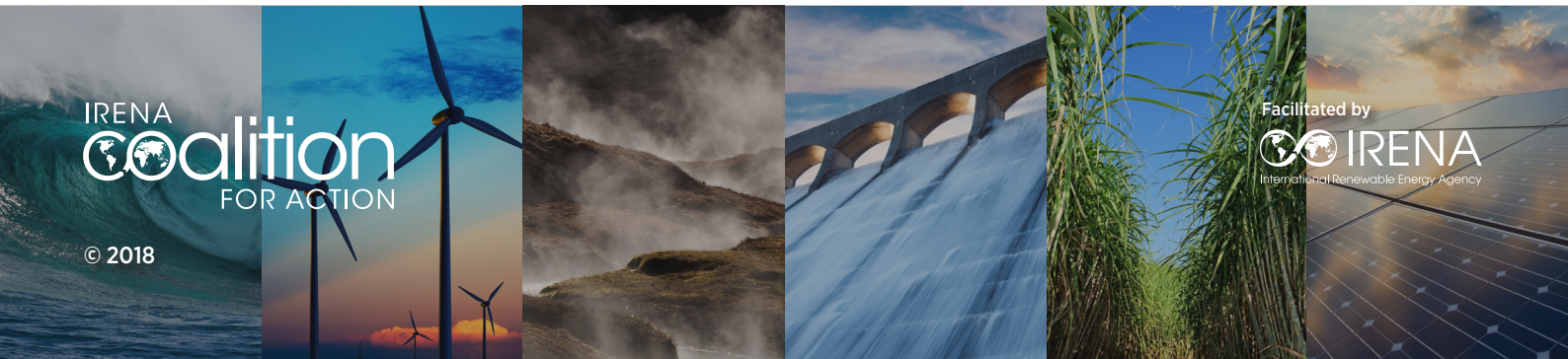
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*January 2018

How to join

The Coalition is open to any entity supporting the widespread adoption and sustainable use of all forms of renewable energy.

To become a member, contact the IRENA Coalition for Action team (coalition@irena.org) or download the application form via our web page: www.irena.org/coalition



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