THE RENEWABLE ENERGY LAW REVIEW

SECOND EDITION

Editor
Karen B Wong

THE LAWREVIEWS

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PREFACE

I was incredibly honoured to be the editor of the first edition of *The Renewable Energy Law Review* and was delighted to learn of the positive reception for the publication. The second edition has been expanded to include chapters for Germany and Mexico and we look forward to including additional jurisdictions each year as the growth of renewable energy continues globally.

Little did I know, working as a young associate in the 'early days' of renewable energy projects, that, fast-forward to over 30 years later, the industry would be as large and as active as it is today across the globe. As a US-based partner at Milbank practising in the energy industry, I see different political environments, tax and other incentives in place in our 50 states and, having worked on multiple international projects on four different continents, I know that the regimes across the world are equally unique. This compendium has been formulated to provide you with a good overview of the legal framework and current status and challenges in structuring, financing and investing in renewable energy projects in the selected jurisdictions.

Whether you are someone already active in this sector or merely interested in learning more about the policies, legal structures and state of play in the renewable energy industry globally, I hope that this guide will aid you in your efforts as a participant in an industry that is increasing the number of new sources for energy projects with fewer carbon emissions. As a young, naive and idealistic student applying to law school, I had a genuine desire to acquire the necessary skills and tools of a profession that would empower me to change the world. Frankly, I never imagined that I would have a legal career – to date spanning over three decades – that would offer me the opportunity to do just that in my capacity as an attorney facilitating transactions that literally help to keep our skies bluer and our air cleaner globally.

Karen B Wong
Milbank LLP
Los Angeles
July 2019

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Chapter 3

BRAZIL

Ana Carolina Barretto, Tiago Kümmel Figueiró and Amanda Leal Brasil[1]

I INTRODUCTION

Brazil's power generation already originates predominantly from renewable sources. Hydropower accounts for 60 per cent of the national installed capacity, with a total of 105GW currently in operation.[2] On measuring the actual energy output, the hydroelectric share is even greater: nearly 90 per cent of the electricity consumed in Brazil comes from hydropower sources.

This scenario creates the necessity for diversification of energy sources, since the level of domination currently exerted by hydroelectric plants, unfortunately, also has its shortcomings. Droughts, when combined with the lack of sufficient alternative energy sources, have led to surges in energy spot prices in the recent past, as occurred in 2013 and 2014, when a financial crisis, known as the generation scaling factor dispute, affected all hydro generators and has not been resolved to date.

On top of that, potential hydroelectric sites are becoming scarcer and further away from the consumption market, mostly in the Amazon, where potential environmental impacts, when not preventing the development of new projects altogether, mean plants do not fully benefit from sites' power output capabilities. At present, for instance, large projects being implemented in the region, such as Belo Monte (11,233MW), are being designed as run-of-river plants, which have small reservoirs to limit environmental impact, but on the other hand have a much lower power output than they would have if they had larger dams, and their ability to save water for drier seasons is limited.

Non-hydro renewable sources have become more representative in recent years, with wind corresponding to 11 per cent and solar to 9.7 per cent of the installed capacity currently under construction, while conventional hydropower plants under construction represent 7 per cent.[3] That trend is set to continue in the future.

II THE YEAR IN REVIEW

The Brazilian renewables sector continues to attract new investment at a healthy pace, despite the economic slowdown the country has faced since 2014. One reason for this is, in part, the fact that Brazil is geographically gifted when it comes to renewable sources of energy, and it is a jurisdiction that is very open to foreign investment.

1 Ana Carolina Barretto and Tiago Kümmel Figueiró are partners and Amanda Leal Brasil is an associate at Veirano Advogados.

2 Source: http://www.aneel.gov.br/aplicacoes/capacidadebrasil/OperacaoCapacidadeBrasil.asp.

3 ibid.

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The following announcements and transactions illustrate the continued attractiveness of the Brazilian renewable sector:

a Spanish companies Iberdrola and Solatio have announced investments of €10 billion in new generation projects in Brazil;[4]

b after divesting from the distribution business in Brazil through the sale of AES Eletropaulo and AES Sul, AES has expanded heavily into renewables, with the acquisition of wind clusters Alto Sertao 2 (600 million reais) and Alto Sertao 3 (516 million reais) from Renova Energy being the more relevant acquisitions to date;[5]

c following the arrival of State Grid, Three Gorges and SPIC, China General Nuclear Power Group has now landed in Brazil by way of the acquisition of Atlantic Energias Renováveis from English fund Actis;[6]

d international Big Oil companies such as Shell and Equinor have started looking and buying into renewables. Equinor has entered into a joint venture with fellow Norwegian company Scatec Solar for the development of the 162MW Apodi solar cluster and other new solar generation projects;[7] and

e Votorantim Energia and Canadian pension fund CPPIB have formed a joint venture for the acquisition of generation projects, including the recent acquisition of Ventos do Araripe III wind cluster, for 1.8 billion reais.[8]

III THE POLICY AND REGULATORY FRAMEWORK

i The policy background

The Brazilian power sector as a whole (including the renewable power generation industry) has the fundamental characteristic of being centrally planned. Therefore, the government and regulators exert great influence on how the market develops. For example, governmental and regulatory bodies will guide generation expansion by determining what new energy auctions will be carried out and what price caps will apply, and what new transmission facilities shall be put up for tender and constructed (expansion of generation in Brazil relies heavily on *pari passu* expansion of the transmission grid capacity).

In addition to the centralised planning of the power sector, governmental incentives such as subsidised grid tariffs and tax exemptions on energy transactions or equipment (see Section III.ii on incentives, below) are very important, if not crucial, to make renewable sources of power competitive in Brazil.

4 Source: TTR Report at www.ttr.com.

5 Source: https://renewablesnow.com/news/aes-tiete-strikes-deal-to-buy-743-mw-wind-complex-from-renova-plus-pipeline-650132/.

6 Source: https://www.latinfinance.com/daily-briefs/2018/11/8/cgn-moves-to-buy-brazils-atlantic.

7 Source: https://scatecsolar.com/2017/10/04/scatec-solar-and-statoil-to-establish-partnership-in-brazil/.

8 Source: https://observador.pt/2018/02/13/bruxelas-aprova-compra-de-maior-parque-eolico-do-brasil-pela-vtrm-energia/.

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ii The regulatory framework

Institutional bodies and agents

The following are the relevant institutions in the Brazilian power sector:

a Ministry for Mines and Energy (MME) – the government body responsible for basic policies and decisions, including setting and definition of basic conditions for new energy auctions and concession bids.

b National Electric Energy Agency (ANEEL) – the independent agency in charge of sector-wide regulation, preparation of new energy auction tender rules and power purchase agreements (PPAs), definition of grid tariffs, overseeing of concession agreements and generation authorisations, enforcement of regulatory compliance and imposition of penalties and other disciplinary actions.

c National System Operator (ONS) – the independent system operator responsible for the operation and management of the national grid (save for some regions in the Amazon, Brazil is nationally interconnected) and for the enactment and enforcement of the grid procedures, including assessing interconnection feasibility of power generation projects.

d Electric Energy Commercialisation Chamber (CCEE) – the power market is organised by CCEE, which acts as the administrator of both the new energy auctions and the spot market (and, like ONS, it is a private entity formed and governed by power sector companies and regulated by ANEEL). CCEE measures aggregated consumption and generation on a real-time basis, keeps the market accounts and settles the spot market transactions.

e Energy Research Company (EPE) – a state-owned company attached to MME responsible for the definition of transmission and generation expansion plans, and the definition and setting of technical requirements to be met by projects to qualify for new energy auctions.

Permitting and development road map

Power generation authorisation

While hydroelectric power generation with capacity over 50MW, transmission and distribution activities are subject to concession agreements,[9] hydropower generation under 50MW (small hydroelectric plants (PCHs)) and non-hydropower generation of any installed capacity (including solar, wind, gas, biomass and thermal sources in general) are subject to authorisations.[10]

Concessions are more heavily regulated than authorisations and assets as a matter of course revert to the government at the end of the concession.[11] Concessions and authorisations may have terms of up to 30 years, and are renewable at the government's discretion.[12]

The regulatory playing field for renewable energy generators is stable and there have been no significant changes to the fundamentals of the industry in the recent past.

9 Law No. 9,074/1995, Article 5.

10 Law No. 9,427/1996, Article 26(vi).

11 Law No. 8,987/1995, Article 18(xi).

12 Law No. 9,074/1995, Article 4, Paragraph 4.

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For projects selling power in new energy auctions, the power generation authorisation is granted by MME, while ANEEL is the entity that grants authorisations for projects developed to operate in the free energy market (the structure of the power market is discussed further below).

Environmental licences

Brazil has strict environmental legislation, making the development of a generation project subject to a threefold licensing process:[13] from greenfield to commercial operation, a project must apply and fulfil the applicable requirements for the issuance of (1) a provisional licence, which will allow the entrepreneur to continue the development of the project and demonstrate, when required (in power auctions, for instance), that the project is viable from an environmental standpoint;(2) an installation licence, which will authorise the construction of the generation project; and (3) an operational licence authorising the commercial operation of the power plant.

Other permits

Depending on the characteristics of the project and the location, other permits may be required, such as airspace permits (if the project is located inside or near areas where air traffic safety is a concern), mining blockages (if the project is within the boundaries of an area of mining rights held by third parties) and designations of public utility, to enforce the creation of rights-of-way for transmission lines (where the project company is unable to agree amicable terms with neighbouring landowners).

Energy markets

Power commercialisation in Brazil is structured into two main market environments: a regulated environment and a free-market environment.[14]

The power market as a whole is organised by CCEE. Energy prices are defined under free-market conditions: in the regulated market, generators sell their power at auction to distributors for the prices they find suitable; and, in the free market, generators will enter into freely negotiated agreements. Only distribution and transmission tariffs are fixed by ANEEL.

Prices in PPAs are, in general, subject to annual adjustments for inflation. Auction PPAs include conditions allowing prices to be reviewed should new taxation or legislation impact energy prices. Parties are free to negotiate conditions for the revision of prices in free market PPAs.

Regulated PPAs

The regulated market is based on power auctions where, as a rule, greenfield generation projects sell power for future delivery (new energy auctions, known as A-3 and A-5 auctions respectively, are carried out three or five years ahead of the date that delivery of energy is supposed to commence), by way of PPAs with terms ranging from 15 to 25 years, resulting from auctions jointly conducted by ANEEL, EPE and CCEE. The government may also, at its discretion, call auctions for generators that are already operating (non-greenfield).

13 Resolutions Conama No. 1/1986 and 237/1997.

14 Decree No. 5,163/2004, Article 1.

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In the regulated environment, energy is purchased either by a pool of distributors or, when the auction is for 'reserve-energy' agreements, by CCEE. The auctions group generators together on the selling side, competing against each other on price to sell their energy to the pool of distributors. Distributors are, by law, allowed to purchase energy solely in the regulated environment, except for 10 per cent of their energy demand, which can be purchased in the free market from distributed generation plants (small generators connected to the distributors' own grid).

The amount of power needed by the pool of distributors remains secret until the end of the auction. The bids shall be no higher than a ceiling price defined by MME. The bid, from a generator, takes the form of the power output capacity submitted by the generator for the purposes of enrolment in the auction process together with the price at which that power is offered by the generator (but selection is based on price alone). It is immaterial whether a certain amount of power is supplied by two big projects or by 20 smaller projects.

To be eligible to participate in a regulated market auction, a generation project must be subject to a technical qualification process beforehand, which is carried out by EPE. Ordinance No. 21/2008, from MME, stipulates the following requirements for technical qualification of a generation project:

a registration of the project with ANEEL: this registration has the purpose of informing ANEEL that the entrepreneur is developing a power generation project and authorising the entrepreneur to take all measures needed before third parties, such as filing for environmental licences, access opinions, etc.;

b the expected schedule of construction works, including deadlines for the issuance of the relevant environmental licences, connection to grid, tests on completion and commercial operation of the power plant;

c a descriptive memorandum containing a comprehensive technical, economic and environmental description of the project;

d the project budget;

e documentation proving the entrepreneur has secured rights to the land for the construction and operation of the project (except for PCHs, which are entitled to the expropriation of lands for the reservoir and the power plant);

f certification of wind measurements and of estimated annual energy output of wind projects, issued by an independent certifying entity;

g the access opinion;

h water permits, for PCHs and thermoelectric plants;

i the environmental licences applicable to the project;

j the environmental studies produced for the environmental licence application;

k for thermoelectric plants (such as biomass and biogas), evidence of the plant's ability to store sufficient combustibles for continuous operation at nominal capacity;

l for PCHs, the basic design of the plant or the plant upgrade or refurbishment project approved by ANEEL;

m for solar projects, the certification of the solarimetric data, issued by an independent certifying entity; and

n for wind projects, a statement that the turbines to be deployed shall be new.

Once a project has been declared technically qualified by EPE, it will be allowed to participate in the regulated market auctions. An entity participating in the auctions must meet certain legal, tax and financial requirements set out in the applicable auction's public request for

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proposals, such as a minimum net worth corresponding to 10 per cent of the project's budget and the requirement to present a bid bond in an amount corresponding to 2.5 per cent of the total investment required for the project (if successful in the auction, a performance bond corresponding to 10 per cent of this amount must be delivered to replace the bid bond).

If a project is successful in selling energy in the auction, MME will issue a generation authorisation and construction must start. If an entrepreneur manages to finish a project ahead of the date on which energy supply is supposed to start, it can sell the energy generated before that date in the free market.

If the construction of a project is not concluded on time, the generator must purchase power in the free market to fulfil its obligations under the PPA. In that case, however, the generator will receive payments calculated in accordance with whichever of the following prices is lower: (1) the PPA price (or 85 per cent thereof if delivery is delayed for more than three months); (2) a combination of the average energy spot price and a spread calculated pursuant to ANEEL's regulations; or (3) the actual price set out in the free market agreement concluded by the generator.[15]

Free market

Generators, commercialisation agents and free consumers can trade power in the free-market environment, under freedom-of-contract conditions. The free market represents nearly 30 per cent of the total amount of commercialised energy in Brazil.

Free-market PPAs do not require prior approval from ANEEL or MME, nor to be registered with any of those authorities. Parties to the PPA must, however, provide information concerning amounts of energy and period of supply in CCEE's electronic system, in time for the agreement to be used to settle the energy market. Both CCEE and ANEEL have the authority to request copies of PPAs for inspection purposes.

In contrast to auction PPAs, free-market agreements tend to be for the short to mid term, and free-market PPAs with terms longer than five years are relatively rare. Because of the absence of a secure long-term revenue stream for free-market PPAs, it is more difficult to structure project finance financing mechanisms than it is for projects selling energy via auction PPAs, which have a guaranteed long-term revenue stream.

Free consumers are qualified as follows:

a special free consumers: consumers with a contracted load of 0.5MW, if they can purchase power from renewable sources only; and

b free consumers: consumers with a contracted load of 3MW (MME recently issued an ordinance reducing the load requirement to 2.5MW as of 1 July 2019 and to 2MW as of 1 January 2020).[16]

Incentives

Special new energy auctions

As mentioned above, MME and ANEEL may conduct energy auctions specifically for renewable generation or alternative sources, creating demand for long-term PPAs (20–25 years) for renewable projects. Historically, at least one auction for renewables has been carried out each year.

15 Resolution ANEEL No. 595/2013.

16 Ordinance MME No. 514/2018.

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At the beginning of the development of non-hydro renewables in Brazil, special auctions were required specifically for those sources because they could not compete with conventional energy sources. However, as the market has evolved, wind and solar have become competitive sources of power and have started to compete against conventional energy in energy auctions.

For 2019, two auctions are planned for wind, solar, hydroelectric and thermoelectric sources: A-6 and A-4 auctions.

Subsidised grid tariffs

Generators of renewable sources (hydro, biomass, biogas, wind, solar and qualified cogeneration) injecting up to 300MW of power into the grid, as well as consumers purchasing power from those generators, are entitled to a 50 per cent discount on grid use tariffs.[17] This incentive plays a big role in fostering investments in renewables in Brazil and has helped to create a big share for 'incentivised energy' in the Brazilian energy free market.

This incentive does not apply to distributed generation.

ICMS and PIS/COFINS exemption on distributed generation output

The amount of power supplied by distribution companies to consumers corresponding to the amount of power injected into the grid by distributed generation projects is exempt from ICMS (a Brazilian tax similar to VAT). The exemption was allowed by CONFAZ ICMS Agreement No. 16/2015 and replicated by the legislation of most states. ICMS is a state tax and rates normally vary between 12 per cent and 20 per cent depending on the state and type of consumer.[18]

Likewise, the amount of power is exempt from the PIS/COFINS federal taxes. The PIS/COFINS rate is 9.25 per cent.

If it were not for the exemptions, the taxes would apply to the invoices issued by power distribution companies to consumers using the distributed generation net metering scheme.

ICMS exemption on equipment

Pursuant to CONFAZ ICMS Agreement No. 101/97, as amended, equipment for wind and photovoltaic power generation is ICMS exempt.

Some photovoltaic equipment, such as inverters and trackers, however, has not been covered by the exemption.

Tax reduction for infrastructure development

Under Law No. 11,488/2007, renewable power generation projects are entitled to PIS/COFINS exemption on equipment, materials and services to be accounted as fixed assets of the project.

To become entitled to tax reduction for infrastructure development (known as REIDI), the project must have received a power generation authorisation and have applied to be qualified as a priority project, which is normally granted by ANEEL.

17 Law No. 9,427/1996, Article 26, Paragraph 1.

18 State tax benefits must be allowed by CONFAZ agreements (CONFAZ is Brazil's National Council of Finance Policy). This is a measure designed to avoid Brazilian states competing against each other by granting tax incentives.

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Incentivised project bonds

Projects declared a priority by ANEEL (see above) are also entitled to issue incentivised project bonds (also known as green debentures).

Law No. 12,431/2011 governs incentivised project bonds. Individuals holding these bonds are exempt from income tax, and legal entity bondholders pay income tax at a 15 per cent rate. The bonds must have a maturity of at least four years and pay interest at intervals no longer than 180 days.

IV RENEWABLE ENERGY PROJECT DEVELOPMENT

i Project finance transaction structures

Because of the complexity of renewable energy projects, their high structuring costs and long implementation periods, project finance is the preferred funding mechanism in Brazil. Most renewable energy projects are currently being developed in the context of energy auctions where regulated PPAs represent the main source of revenues. In light of that, the ability to secure long-term contracts that offer predictable cash flows makes renewable energy projects especially well-suited to project financing.

Diverse loan structures are commonly used for project finance in Brazil (some of them very similar to international practice, such as direct loans and syndicated loans, with administrative and security agents, intercreditor agreements and guarantee sharing agreements), including limited-recourse loans (i.e., loans secured by the project assets and paid entirely from the project cash flow), rather than from the general assets or creditworthiness of the project sponsors.

The ownership structures commonly used in Brazilian project financings for renewable energy projects usually involves equity investors (known as sponsors) and debt providers that advance loans to the project company, a special purpose vehicle incorporated for the exclusive purpose of owning and exploiting a certain project. BNDES, the Brazilian state-owned development bank, has always played a major role in the financing of large projects. In addition to BNDES, Banco do Nordeste do Brasil,[19] state-owned banks and funds such as Banco do Brasil, Caixa Econômica Federal and FI-FGTS,[20] as well as some Brazilian and international commercial and investment banks, have also been very active in the financing of projects in Brazil.

BNDES has already announced new financing strategies for the coming years, including the adoption of interest rates more in line with market standards. The main objective in doing that is to gradually reduce BNDES' role as the main provider of long-term financing for projects in Brazil, allowing commercial banks (national and foreign) and capital markets to step in. BNDES would hence over time assume a more supplementary role, acting as a catalyst to mobilise other sources of funds, much like international development banks are seen to do in other countries.

Indeed, project bonds are becoming increasingly popular in Brazil as a financing mechanism and, when issued in connection with the financing of power projects, they may benefit from tax incentives (see Section III.ii, above). The 'incentivised debentures' market has seen significant development in Brazil in recent years, especially for the renewables

19 BNB, a development bank for the Brazilian north-east.

20 An investment fund of the employees severance indemnity fund, FGTS.

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industry. Since 2012, the issuance of incentivised debentures amounted to approximately 56.7 billion reais, consisting in 216 public offer transactions (with 165 of these related to the energy sector), with an average debt term of nine years.[21]

ii Distributed and residential renewable energy

Since May, 2012, Brazil has implemented the regulatory framework for the operation of mini (up to 75kW) and micro (between 76kW and 5000kW) distributed generation from solar, wind, hydro, biomass or qualified cogeneration sources, along with a net metering scheme allowing end users to inject power into the grid and offset energy bill costs.[22]

Following a slow start, and a revision of the legislation,[23] the distributed generation market has grown exponentially. Brazil now has 79,022 distributed generation projects – comprising 78,125 solar, 157 thermoelectric, 83 mini hydro and 57 wind power projects, and 109,545 consumers making use of the distributed generation net metering scheme.[24]

In contrast, for commercial-scale distributed generation projects with installed capacity of between 0.5MW and 5MW and that would be developed and delivered by energy companies such as Sowitec, Enel, etc. and sold or leased to a large consumer or group of consumers, the figures are not as impressive: 125 projects with an aggregate capacity of 167.5MW – comprising 59 mini hydro, 49 solar, 15 thermoelectric and 2 wind power projects, with the power being consumed by 12,152 consumers.[25]

One factor that may have hindered the development of larger-scale projects is the fact that the regulatory framework for distributed generation is due for review by 31 December 2019 (see Section VI, below).

iii Non-project finance development

Renewable energy projects also attract private equity firms, pension funds, investment funds, insurance companies and family offices seeking higher yields, and these provide much-welcomed funding alternatives for the industry. The above-mentioned investments in Brazil by CPPIB are a good example of that trend.

Another notable trend is the reinvestment of merger and acquisition proceeds by existing participants in new projects. Italian group Enel recently sold to the Chinese entity CGN Energy International Holdings 540MW of solar wind power projects located at Piauí and Bahia states in Brazil, for a total of 2.9 billion reais. This sale represented the Chinese group's entry and start of operations in Brazil, and for Enel, in turn, the continuity of investments, development and implementation of an extensive pipeline of renewables projects in Brazil. According to Enel, the strategy for the group for the next three years consists in maximisation and acceleration of the creation of value in renewable assets by means of the sale of such assets and the release of relevant amounts of capital to be reinvested in new renewables projects.[26]

21 Information bulletin on incentivised debentures, published by the Brazilian Ministry of Economy, dated April 2019 (available at http://www.fazenda.gov.br/centrais-de-conteudos/publicacoes/boletim-de-debentures-incentivadas/arquivos/2019/boletim-de-debentures-abril-2019).

22 Resolution ANEEL No. 482/2012.

23 Resolution ANEEL No. 687/2015.

24 Source: ANEEL Generation Database.

25 ibid.

26 Source: https://forbes.uol.com.br/last/2019/01/enel-vende-usinas-de-energia-renovavel-por-r-29-bi/.

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V RENEWABLE ENERGY MANUFACTURING

Brazil has a long-established chain of supply for conventional (hydro and thermoelectric) renewable sources, with the presence of suppliers of all sizes, both domestic and international.

Mainly because of national content requirements under the PROINFA renewables incentive programme (which helped to start the wind power industry in Brazil in 2004) and the BNDES financing programme, a complete chain of supply for wind power projects has been developed in Brazil. Enercon (known as Wobben in Brazil), Siemens Gamesa and General Electric were the first companies to set up manufacturing facilities, followed by Vestas and Suzlon, among others. In addition to the major turbine manufacturers, Brazil has a myriad of suppliers of components, including for towers, blades and cast metal parts.

For photovoltaic equipment, there is a similar trend, with significant manufacturers such as BYD and Canadian Solar having established local facilities.

VI CONCLUSIONS AND OUTLOOK

As regards the volumes contracted solely through regulated auctions, 3.7GW of additional solar generation capacity is due to be constructed and start operation by 2022[27] and 5.2GW of additional wind capacity shall be operational by 2023,[28] creating substantial demand for equipment, financing and services.

A point to note is a proposal from the government to replace subsidies on grid use tariffs with a new environmental attributes market. According to a working paper put out to public consultation in 2017, subsidies on grid tariffs should be granted only to renewable generation projects that obtain power generation authorisations until 31 December 2020. As of 1 January 2021, a new market in environmental attributes should start and provide new streams of revenues. That leaves a big question mark hanging over the ability of the Brazilian renewables sector to continue its successful expansion trajectory, since grid tariff subsidies played a key role in that success. The plan has still to be discussed by the National Congress and, given that other matters on the agenda are seen as more important (social security and pension reforms, mainly), there is no clarity at the moment on whether the proposal will become law in the short or medium term.

No further developments on the modification of grid tariff subsidies has occurred since the public consultation, but the new administration created a working group on 4 April 2019 to evaluate and propose a regulatory reform with two main purposes:

a to ensure that the metrics and mechanisms currently in use are adapted to expand the power sector to meet the ever increasing demand for energy in Brazil at an adequate pace to assure supply; and

b to adjust the 'architecture of economic signals' for new investments and better allocation of resources, to improve economic efficiency.

The new regulatory reform is expected to consider such matters as (1) expansion of the free market, (2) bankability of the power sector (beyond subsidised development bank financing),

27 Source: ABSolar, http://www.absolar.org.br/infografico-absolar-.html.

28 Source: ABEEolica, http://abeeolica.org.br/wp-content/uploads/2019/05/Infovento11_ENG.pdf.

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(3) introduction of new technologies (energy storage, reversible hydroelectric plants, hybrid plants, etc.), (4) better coordination of the expansion of transmission in relation to generation systems, (5) distributed energy resources and (6) decommissioning and retrofitting plants.

In respect of distributed generation, the most widely discussed matter is the scope of the net metering arrangement for distributed generation, which is expected to be addressed by the prospective regulatory revision due by 31 December 2019 (see Section IV.ii). Currently, consumers generating energy off site are entitled to use the power delivered into the distribution grid to offset both energy and grid tariffs, despite using the grid for purposes of energy consumption. This has been viewed as a crossed subsidy (i.e., paid for by consumers that do not necessarily benefit from this arrangement), since the tariffs that power distribution companies charge all their clients are increased to make up for losses of revenue due to the net metering mechanism.

The market's expectation is that net metering will be reduced solely to offset energy tariffs, and not grid tariffs, after 31 December 2019. Since grid tariffs are the main component in energy supply costs, the economic gains from the use of distributed generation will be substantially reduced if only energy tariffs are allowed to be offset.

The market also expects that ANEEL will only apply the new rules for projects that interconnect after 31 December 2019, but this will not be confirmed until the new rules are published.

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Appendix 1

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Ana Carolina Barretto leads the projects practice at Veirano Advogados in São Paulo, Brazil. She specialises in the areas of project finance and infrastructure development, and has significant expertise in the infrastructure and natural resources industries. Ana Carolina is widely recognised by international publications such as *Chambers Global* and *Chambers Latin America*, *The Legal 500*, *IFLR1000*, *Latin Lawyer 250*, Euromoney's *Expert Guides* and *Who's Who Legal* as a leading lawyer for project development and finance, and energy and construction law. She holds a law degree from the Pontifical Catholic University of Rio de Janeiro, a *Magister Juris* and a Master of Legal Studies from the University of Oxford, United Kingdom, where she was a Chevening scholar.

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