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Nicolas R. Oliver

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NO SMALL TRIUMPH: THE OUTLOOK FOR ARGENTINA'S RENEWABLE ENERGY PROGRAMS

Nicolas R. Oliver | International Immersion Program – Argentina

I. INTRODUCTION

Argentina is not a leading voice in the global conversation on climate change, but it is a significant one. Geographically, Argentina has tremendous renewable energy potential, primarily in the areas of wind, hydroelectric, and biomass generation.¹ And despite its developing country status, Argentina has passed ambitious laws to incentivize renewable energy utilization in the electricity and transportations sectors.² Public concern over anthropogenic climate change in Argentina is also higher than in most other countries,³ likely due to the intense desertification, water scarcity, and glacial melt effects that 3.5–4°C of warming would wreak on parts the country.⁴ Argentina should be a paradigmatic example of the type of country that the success of the Paris Climate Agreement depends upon—but so far, it isn't.

¹ Martin Lythgoe, *Renewable Generation in Argentina: Past Failures and A Plan for Future Success*, 39 HOUS. J. INT'L L. 263, 323 (2009).

² See generally The Global Climate Legislation Database, THE LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE, <http://www.lse.ac.uk/GranthamInstitute/legislation/the-global-climate-legislation-database/?region=all&country=Argentina&fromyear=all&toyear=all&emitter=all&income=all&framework=all&execleg=all&category=all> (last visited Apr. 16, 2016).

³ Nicholas St. Fleur, *Where in the World Is Climate Change Denial Most Prevalent?*, N.Y. TIMES (Dec. 11, 2015), <http://www.nytimes.com/interactive/projects/cp/climate/2015-paris-climate-talks/where-in-the-world-is-climate-denial-most-prevalent>.

⁴ Barros et al., *Climate change in Argentina: trends, projections, impacts and adaptation*, in WIRES CLIMATE CHANGE (2009).

Older international climate regimes like the Kyoto Protocol mistakenly held the default view that developed, not developing, countries should lead in reducing greenhouse gas emissions, and some ethicists and state leaders still ascribe to this point of view.⁵ But this view shifted with the adoption of the Durban Platform in 2011, which proposed that all signatories to the U.N. Framework Convention on Climate Change (UNFCCC) adopt Intended Nationally Determined Contributions (INDC).⁶ INDCs are domestically proffered voluntary climate mitigation and adaptation measures, which were released in the months leading up to the UNFCCC's Conference of Parties 21 in Paris and form the substance of the greenhouse gas reductions agreed to in the Paris Agreement.⁷ INDCs represent the now-widespread view that climate change mitigation requires global participation. Implicitly, the Durban Platform and Paris Agreement recognize that developing countries will at times be best positioned to reduce emissions; in such scenarios, efficiency favors realizing least-cost investments in emissions reductions first, regardless of whether they occur in developed or developing countries.⁸ The Paris Agreement's inclusion of a finance mechanism for

⁵ See, e.g., Stephen M. Gardiner, *Ethics and Global Climate Change*, 114 *ETHICS* 555, 579 (2004).

⁶ See Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP), U.N. FRAMEWORK CONVENTION ON CLIMATE CHANGE, <http://unfccc.int/bodies/body/6645.php> (last visited Apr. 18, 2016).

⁷ Intended Nationally Determined Contributions (INDCs), U.N. FRAMEWORK CONVENTION ON CLIMATE CHANGE, http://unfccc.int/focus/indc_portal/items/8766.php (last visited Apr. 18, 2016).

⁸ See generally David Weisbach and Stephen M. Gardner, *DEBATING CLIMATE ETHICS* (forthcoming June 2016) (comparing efficiency-based approaches to curbing emissions with distributive justice-based approaches).

renewable energy projects in developing countries,⁹ and the Agreement’s approval of “internationally transferred mitigation outcomes,”¹⁰ reflect this fact.

In a Paris Agreement-governed world, Argentina exemplifies the type of high renewable energy potential country that the Agreement’s success depends upon. Yet despite its endowment with tremendous renewable resource potential, years of poor energy sector management, economic isolationism, and under-enforcement of existing laws have halted Argentina’s hopes of decoupling economic growth from emissions intensity. This essay highlights how Argentina’s failure to implement emissions-reducing policies is a political choice, not an economic inevitability or problem of legal design. I give specific attention to the mistakes Argentina has made in enforcing its renewable energy laws and regulations and drafting its INDC. Argentina is a reminder of the extraordinarily high barriers that political parties can erect when anticompetitive behavior and hostility towards foreign markets outweigh recognition of a global commons problem requiring a cooperative solution. This essay concludes by considering the potential for change under President Mauricio Macri’s administration and recommending policies that Macri’s administration adopt to support renewable energy development and repair Argentina’s poor reputation on the international climate stage.

II. LEGAL LANDSCAPE FOR RENEWABLE ENERGY PROGRAMS

A. *Argentina’s Greenhouse Gas and Climate Profile*

⁹ See Paris Agreement art. 9, *opened for signature* Apr. 22, 2016, available at http://unfccc.int/files/meetings/paris_nov_2015/application/pdf/cop_auv_template_4b_new__1.pdf (advance unedited version).

¹⁰ *Id.* at art. 6.

Argentina produces .88% of global carbon dioxide emissions, on par with European countries like Italy.¹¹ Argentina's energy sector, including transportation and electricity, accounts for 42.7% of the country's annual greenhouse gas emissions.¹² Livestock (27.8%) and land use change and forestry (21.1%) are the two other major emissions sources.¹³ Within the electricity sector, Argentina relies heavily on generation from hydrocarbons (54% natural gas, 6% diesel), large-scale hydroelectric (36%), and Nuclear (3%).¹⁴ Renewable energy generation, primarily from 187 MW of installed wind turbines, only accounts for 1% of Argentina's electricity generation.¹⁵

Argentina is quite vulnerable to climate change. Scientists expect that a 2–2.5°C average temperature increase would entail a localized 3.5–4°C increase in the northern regions of Argentina.¹⁶ Warming on this scale would trigger desertification in parts of Northern Argentina, necessitating a shift in agricultural production to western and southern regions that may actually become more arable with the warming.¹⁷ Argentina has already seen significant glacier loss attributed to global warming, and experts project that some

¹¹ María S. Alinao & Sebastián Galbusera, *Presentacion De Resultados componente 1: Aprovechamiento Del Potencial Nacional Para La Mitigación Del Cambio Climático*, CITY OF BUENOS AIRES (June 30, 2015), <http://www.ambiente.gov.ar/archivos/web/ProyTerceraCNCC/file/Presentacion%20Componente%201.pdf>.

¹² *Id.*

¹³ *Id.*

¹⁴ *Sumario: Características del Mercado durante el Año 2014*, Compañía Administradora Del Mercado Mayorista Eléctrico Sociedad Anónima (CAMMESA), REPÚBLICA ARGENTINA, <http://portalweb.cammesa.com/Documentos%20compartidos/Informes/Informe%20Anual%202014v4.pdf>.

¹⁵ *Id.* All references in megawatts refer to annual nameplate capacity unless otherwise specified.

¹⁶ Barros et al., *supra* note 4.

¹⁷ *2da Comunicación Nacional de la República Argentina a la Convención de las Naciones Unidas sobre Cambio Climático*, REPÚBLICA ARGENTINA (March 6, 2006), http://www.ambiente.gov.ar/archivos/web/File/home_documentos/Informe_Final_2CN.pdf.

glacial basins may disappear completely.¹⁸ Decreased precipitation and recessed glaciers are expected to impact water availability and salinity levels, which jeopardizes agricultural productivity.¹⁹ Argentina’s government has considered climate adaptation, emphasizing the need for both infrastructure and emergency planning investments to protect against and foresee extreme heat waves, precipitation events, and destructive floods and winds.²⁰

B. Laws, Regulations, and Legal Instruments

In 2006, Argentina adopted a renewable portfolio standard to regulate emissions from the electricity sector. Laws 26,190²¹ and 27,191²² combine to set the following targets for energy generation from renewable sources (defined to exclude large-scale hydropower):

Date	Minimum percentage of total electricity consumed from renewable sources
31 December 2017	8%
31 December 2019	12%
31 December 2021	16%
31 December 2023	18%
31 December 2025	20%

Law 26,190, enacted in 2006, set an initial 10-year goal of supplying 8% of the country’s electric generation from renewable energy.²³ The law defines renewable energy broadly to include wind power, solar energy, geothermal energy, small-scale hydropower (less than 50 MW capacity), sea power, biomass, landfill gases, biogas and purification plant

¹⁸ Barros et al., *supra* note 4.

¹⁹ *Id.*

²⁰ Argentine Republic Intended Nationally Determined Contribution, submitted Oct. 1, 2015, <http://www4.unfccc.int/submissions/INDC/Published%20Documents/Argentina/1/Argentina%20INDC%20Non-Official%20Translation.pdf>.

²¹ Law No. 26,190, Dec. 27, 2006, [31064] B.O. 1 (Arg.).

²² Law No. 27,191, Oct. 21, 2015, [] B.O. __ (Arg.).

²³ Law No. 26,190. Initially, Argentina’s goal was for 8% renewable generation by the end 2016. That has since been amended to December 2017.

gases.²⁴ In order to incentivize the construction of new generation units, Law 26,190 gives investors tax incentives, including a choice between “an accelerated compensation and amortization of investments in capital goods or [] an advanced reimbursement or compensation of the [value-added tax] payments made in connection with the import, purchase or investment in such capital goods.”²⁵ The law also includes price incentives in the form of a 15-year feed-in tariff tailored to the proposed source of generation; for example, federally registered wind energy projects receive an added subsidy of ARS \$0.015/kWh above the spot price for solar energy and solar energy products receive an additional ARS \$0.9/kWh.²⁶

At some point between 2006 and 2009, it became clear that the feed-in tariff and tax incentives were not enough to draw the development of new renewable projects. Anxious to draw renewable energy investment, the Argentine executive branch announced the GENREN program in 2009.²⁷ Under GENREN, Argentina directed its state-owned energy company, ENARSA, to solicit bids for a range of renewable electricity projects totaling 1000 MW of generation capacity.²⁸ Among these, ENARSA sought “500 MW of wind energy; 150 MW of liquid biofuel-fired power generation; 120 MW of solid urban waste;

²⁴ *Id.* See also Francisco A. Macias & Gonzalo Santamaria, *New Renewable Energy Promotion Law*, MARVAL O’FARRELL MAIRAL (Oct. 30, 2015), http://marval.com.ar/publicacion/?id=12687&lang=en#_ednref2.

²⁵ Pablo E. Arrascaeta, *Is Argentina ready to promote renewable energies?*, 3 THE J. OF WORLD ENERGY L. & BUS. No. 1, 3 (2010).

²⁶ Lythgoe, *supra* note 1, at 307.

²⁷ *Renewable Policy Energy Brief: Argentina*, INTERNATIONAL RENEWABLE ENERGY AGENCY (June 2015), http://www.irena.org/DocumentDownloads/Publications/IRENA_RE_Latin_America_Policies_2015_Country_Argentina.pdf.

²⁸ *Id.*

100 MW of biomass; 60 MW of small hydro; 30 MW of geothermal; 20 MW of solar; and 20 MW of biogas.”²⁹ GENREN’s primary benefit to renewable developers was a 15-year power purchase agreement (PPA) with ENARSA, denominated in USD, a more stable currency than the Argentine peso.³⁰

In late-October 2015, with national renewable energy capacity still hovering around 1%,³¹ Argentina passed Law 27,191, which amended Law 26,190 to address some of its deficiencies. The highlight of Law 27,191 is the lofty renewable portfolio standard it sets—incremental annual increases to 20% renewable generation by 2025.³² But as Law 26,190 showed, state actors have hardly treated renewables targets as binding in the past, so the key to evaluating Law 27,191 is to determine whether the scheme it sets to promote investment in renewables is strong enough to do so. To this effect, Law 27,191 replaces the unsuccessful feed-in tariff program with a consumer-side mandate: all large consumers of energy with demand over 300 kW must source their electricity in accordance with the schedule listed above (8% renewables by December 31, 2017 and so on sequentially).³³ Failure to do so will result in significant fines, and large consumers may choose to comply through self-generation, purchasing directly from generators or distributors, or purchasing through the wholesale electricity market administrator, CAMMESA.³⁴ In order to reduce the impact on large consumers, the law also caps the price that power generators can charge to large

²⁹ *Id.*

³⁰ *Id.*

³¹ Francisco A. Macias & Gonzalo Santamaria, *New Renewable Energy Promotion Law*, MARVAL O’FARRELL MAIRAL (Oct. 30, 2015), http://marval.com.ar/publicacion/?id=12687&lang=en#_ednref2.

³² *Id.*

³³ *Id.*

³⁴ *Id.*

consumers in new renewable energy PPAs at USD \$113 per MW/h, a rate still significantly higher than wind deals in neighboring Chile and Peru.³⁵ President Mauricio Macri is currently developing an implementing regulation for Law 27,191, after which Argentina will begin to accept tenders for new renewable energy projects.³⁶ Among the other features of Law 27,191 are an expansion of the tax incentives for renewable generators contained in Law 26,190 and a directive that CAMMESA diversify its residential energy mix in order to meet the targets.³⁷ The cost cap does not restrain CAMMESA's purchasing power, and if directed by enforcement authorities, the market administrator can pass through renewable generation prices to consumers.³⁸

As a final note, Argentina's INDC under the Paris Agreement and bilateral energy agreements between Argentina and the United States and China are also relevant quasi-legal commitments Argentina has made with regard to development of renewable and low-carbon energy. Argentina's INDC, which was issued prior to the passage of Law 27,191, calls for a unconditional 15% reduction in greenhouse gas emissions in 2030 compared to business as usual emissions projections for that year.³⁹ A 30% reduction is possible, Argentina claims, with additional international financing, technology transfer, and capacity-building support under the Paris Agreement.⁴⁰ President Mauricio Macri, who took office during the COP 21

³⁵ Carlos St. James, *How Argentina is transforming into a viable energy market*, LATIN AM. ENERGY REV. (Feb. 29, 2016), <http://carlosstjames.com/renewable-energy/how-argentina-is-transforming-into-a-viable-renewable-energy-market-2/>.

³⁶ *Id.*

³⁷ Macias & Santamaria, *supra* note 31.

³⁸ *Id.*

³⁹ Argentine Republic Intended Nationally Determined Contribution, submitted Oct. 1, 2015, <http://www4.unfccc.int/submissions/INDC/Published%20Documents/Argentina/1/Argentina%20INDC%20Non-Official%20Translation.pdf>.

⁴⁰ *Id.*

in Paris, was not involved in the development of Argentina’s INDC. He has said recently that he would revise and strengthen Argentina’s commitments under the Paris Agreement,⁴¹ but it is still unclear whether the revised INDC would simply account for the expected impacts of Law 27,191 or impose additional substantive obligations. This ongoing uncertainty about Argentina’s commitments under its INDC muddles the immediate impacts that its contents and the Paris Agreement generally may have on Argentina’s energy sector.

Bilateral partnerships with China and the United States also may impact the future of the country of Argentina’s energy sector, although potentially less so as Argentina reenters capital markets and opens up to private foreign direct investment in the energy sector.⁴² In November 2015, Argentina and China agreed to a \$15 billion deal for the construction of two new nuclear power plants.⁴³ However, this deal appears to be on hold, as President Macri “promised to review” all bilateral agreements reached by his predecessor, President Cristina Kirchner.⁴⁴ And in March 2016, President Obama and President Macri agreed to cooperate in the development of Argentina’s renewables sector, “including through U.S.

⁴¹ *FACT SHEET: United States – Argentina Relationship*, THE WHITE HOUSE (Mar. 23, 2016), <https://www.whitehouse.gov/the-press-office/2016/03/23/fact-sheet-united-states-%E2%80%93-argentina-relationship-0>.

⁴² Elaine Moore, *Argentina nears \$15bn bond issue in return to capital markets*, FINANCIAL TIMES (Mar. 2, 2016), <http://www.ft.com/intl/cms/s/0/2869acbe-df8e-11e5-b67f-a61732c1d025.html#axzz46i8JJpLt>.

⁴³ Jamil Anderlini & John-Paul Rathbone, *China to build two nuclear plants in Argentina in \$15bn deal*, FINANCIAL TIMES (Nov. 7, 2015), www.ft.com/intl/cms/s/0/2d264e78-8cf9-11e5-a549-b89a1dfede9b.html#axzz46i8JJpLt.

⁴⁴ *Id.*

assistance on market reform, system optimization, and integrating renewable energy in the power grid.”⁴⁵

III. DISCUSSION

The need for new energy generation in Argentina is at its highest. Argentina’s grid currently operates at near capacity.⁴⁶ Without reserve electricity, Buenos Aires is vulnerable to blackouts, which have occurred with frequency in recent years.⁴⁷ Yet Argentina’s 10-year plan to integrate renewables to its grid, as drawn up in Law 26,190, has had negligible impacts.⁴⁸ And at the risk of editorializing, it would take a miracle for the country attract the 3000 MW⁴⁹ of renewables needed within the next year and a half and reach 8% generation by 2017 (for reference, current wind generation has stagnated at 187 MW⁵⁰). But as suggested earlier, “[t]his is a failure not of the law itself but of executive branch policies over the past decade which kept investors and lenders at bay.”⁵¹ The status quo in Argentina has been to under-enforce laws and ignore lessons from failed renewable energy legal regimes. Change in the political trade winds is a necessary first step to resolving past renewable energy development shortcomings. Once that takes place, small revisions to Argentina’s renewable energy laws and regulations will bolster the program’s likelihood of success.

⁴⁵ *FACT SHEET: United States – Argentina Relationship*, supra note 41.

⁴⁶ Lythgoe, supra note 1, at 265.

⁴⁷ Karina Martinez-Carter, *Why Argentina can’t keep the lights on in Buenos Aires*, QUARTZ (Jan. 14, 2014), <http://qz.com/166452/why-argentina-cant-keep-the-lights-on-in-buenos-aires/>.

⁴⁸ See *Sumario: Características del Mercado durante el Año 2014*, supra note 14, at 30.

⁴⁹ See St. James, supra note 35.

⁵⁰ *Sumario: Características del Mercado durante el Año 2014*, supra note 14, at 30.

⁵¹ Carlos St. James, *Five things Argentina can do to boost renewables*, LATIN AM. ENERGY REV. (Jan. 9, 2016), <http://carlosstjames.com/renewable-energy/five-things-argentina-can-do-to-boost-renewables/>.

A. *Failed Laws and Responsible Parties*

To this point, Argentina’s renewable energy laws and regulations have been abject failures. From the beginning, Law 26,190 “was insufficient to allow the development of renewable energy projects.”⁵² This was due in part to the design of the feed-in tariff: because the initial subsidy for renewable projects was tied to the spot price of electricity, rather than actual project costs, the subsidies were too weak to outweigh significant uncertainties like risks of breach, nonpayment by the Argentine government, or drops in the cost of oil and gas.⁵³ Law 26,190’s failure was hardly a surprise—energy experts saw its incentive deficiencies at least as early as 2009.⁵⁴

When President Cristina Kirchner’s administration issued Decree 562/2009, enforcing Law 26,190 by creating GENREN program, the law’s main flaws and barriers were not adequately addressed. GENREN sought and received tenders for 895 MW of renewable projects, with the state-run energy company, ENARSA, acting as off-taker and private developers acting as energy suppliers.⁵⁵ On paper, GENREN enabled the Argentine government to claim it offered investors highly attractive, low-risk 15-year PPAs with a staggering average price of \$127/MWh for wind and \$572/MWh for solar projects.⁵⁶ But the government required that the PPA contracts between ENARSA and generators include a clause permitting Argentina to unilaterally amend the details, including pricing.⁵⁷ As a

⁵² Macias & Santamaria, *supra* note 31.

⁵³ See Lythgoe, *supra* note 1, at 332–33 (“Consequently, renewable generators are not paid according to their own costs but rather according to the costs of other generators, which is beneficial today with oil prices over US\$100 per barrel, but which would not be with cheap fuels.”).

⁵⁴ See *id.*

⁵⁵ See St. James, *How Argentina is transforming into a viable energy market*, *supra* note 35.

⁵⁶ *Id.*

⁵⁷ St. James, *Five things Argentina can do to boost renewables*, *supra* note 51.

result, nearly none of the developers that received tenders could raise equity and financing for their projects.⁵⁸ Ultimately, the GENREN project produced only 77 MW of new wind generation and 8 MW of solar generation, far less than the 1000 MW of renewable generation it sought initially.⁵⁹ Because of its deceitful nature, one energy expert called GENREN and its progeny “[a]n embarrassing state of affairs.”⁶⁰

B. *Recent Changes in Laws and Behavior to Boost Renewables*

With President Macri at Argentina’s helm, most signs suggest progress toward a friendlier economic climate for investments in renewable energy. The dialogue surrounding Law 27,191 is optimistic,⁶¹ although it was passed and signed into law by the prior administration and many details of the law’s implementation must still be worked out in a regulation that Macri is expected to issue very soon.⁶² It will not be completely clear until after the regulation is released whether price barriers to private investment have been resolved, and whether lenders and investors see renewable projects as attractive under the new law. However, Macri has already announced an ambitious state-financed solar project, comprising 700 MW and up to 3 GW of new generation, in the northern Jujuy region.⁶³

⁵⁸ See St. James, *How Argentina is transforming into a viable energy market*, *supra* note 35.

⁵⁹ *Id.*

⁶⁰ *Id.*

⁶¹ See, e.g., St. James, *supra* note 35. But see Kevin LaMarca, *Renewable Energy Initiatives: A Look at Argentina and Law 26,190*, 17 LAW & BUS. REV. AM. 583, 590 (2011) (quoting Carlos St. James characterizing Law 26,190 and GENREN as “leav[ing] no doubt that Argentina is on its way to developing a full-fledged renewable energies industry”).

⁶² St. James, *supra* note 35.

⁶³ See Henry Lindon, *3,000 MW of New Solar Projects Planned In Argentina’s Jujuy Region*, CLEAN TECHNICA (Feb. 13, 2016), <http://cleantechnica.com/2016/02/13/3000-mw-of-new-solar-projects-planned-in-argentinass-jujuy-region/>; Henry Lindon, *Germany Company Plans 700 MW Of Solar For Argentina Region (Jujuy)*, CLEAN TECHNICA (Mar. 20, 2016),

Argentina's path to 20% renewables by 2025 and a greater-than 30% GHG emissions reduction by 2030 cannot be met exclusively with state-funded projects. Subsidies, tax incentives to attract private investors, and procurement mandates for large commercial consumers all raise the attractiveness of foreign investment in Argentine renewable projects, but there are much larger economy-wide credit risk factors also relevant to the failure of past renewable programs and the viability of future programs. Argentina famously defaulted on almost USD \$100 billion in sovereign debt obligations during the country's 2001/2002 economic crisis.⁶⁴ The country's long-fought legal battle with speculative "holdout" bondholders under President Cristina Kirchner's administration has been covered extensively elsewhere,⁶⁵ but most recently, President Macri agreed to settle with the remaining holdout debt-holders for USD \$9.3 billion.⁶⁶ Thus, on Friday, April 22, 2016, Argentina exited from default.⁶⁷

The resolution of Argentina's sovereign debt default is a significant milestone for renewable energy development for a variety of reasons. First and foremost, the resolution means that, for the first time in 14 years, the country will once again have access to international capital and credit markets.⁶⁸ The deal with holdouts is expected to bring in a

<http://cleantechnica.com/2016/03/20/germany-company-plans-700-mw-of-solar-for-argentina-region-jujuy/>.

⁶⁴ *Argentina repays holdouts, says ciao to default*, FINANCIAL TIMES (Apr. 22, 2016), <http://www.ft.com/fastft/2016/04/22/argentina-repays-holdouts-says-ciao-to-default/>.

⁶⁵ See, e.g., Carolyn Thomas & Nicolás Cachanosky, *Argentina's post-2001 economy and the 2014 default*, 60 THE Q. REV. OF ECON. AND FIN. 70 (2016).

⁶⁶ *Argentina repays holdouts, says ciao to default*, *supra* note 64.

⁶⁷ *Id.*

⁶⁸ *Id.* See also Jef Feeley & Bob Van Voris, *Argentina Bans on Bond Payments Dropped by U.S. Judge*, BLOOMBERG (Apr. 22, 2016), <http://www.bloomberg.com/news/articles/2016-04-22/argentina-bans-on-bond-payments-dropped-by-u-s-judge>.

wave of new foreign investment in infrastructure and energy-generation projects to grow the economy and address Argentina's energy shortages.⁶⁹ The same or similar renewable energy projects tendered under GENREN, which failed due to financiers' reluctance to support Argentine projects, will likely get second looks with lending conditions quickly improving.⁷⁰ The second reason for optimism about renewables in a post-default Argentine economy is the fact that Macri's economic policies, across the board, are aimed at overturning the economically isolationist and populist policies of the Kirchner era. For example, Macri has lifted capital restrictions and export tariffs,⁷¹ while gradually raising the subsidized domestic electricity rates that were a big contributor to the deficit on which Argentina defaulted.⁷² These inroads in just four months in office have set the stage for improvement in Argentina's credit ratings and poor global reputation as a destination for capital investments.⁷³

C. *Additional Recommendations to Bolster Renewable Energy Policy*

Implementing sensible economic policies at the executive level is a crucial first step, but plenty of uncertainty still exists about whether Macri will be able to overcome past failures to meet Argentina's renewable energy targets. Macri's improved economic policies

⁶⁹ Brad Haynes & Hugh Bronstein, *Argentina says #CiaoDefault, paying holdouts after 14 years*, REUTERS (Apr. 22, 2016), <http://www.reuters.com/article/us-argentina-debt-idUSKCN0XJ10O>.

⁷⁰ See St. James, *supra* note 35.

⁷¹ Carolina Millan, *Argentina's Local Currency Notes Raised by S&P on Macri Policies*, BLOOMBERG (Feb. 3, 2016), <http://www.bloomberg.com/news/articles/2016-02-03/argentina-s-local-currency-notes-raised-by-s-p-on-macri-policies>.

⁷² See Taos Turner, *Argentina's Cut to Electricity Subsidies Will Raise Rates in Buenos Aires*, THE WALL STREET JOURNAL (Jan. 27, 2016), <http://www.wsj.com/articles/argentinas-cut-to-electricity-subsidies-will-raise-rates-in-buenos-aires-1453939799>.

⁷³ See Millan, *supra* note 71. See also Peter de Jesus, *S&P Raises Argentina Credit Ratings: Macri Policies Working?* LATIN POST (Feb. 4, 2016), <http://www.latinpost.com/articles/113314/20160204/s-p-raises-argentina-credit-ratings-macri-policies-working.htm>.

compliment Law 27,191, which replaces a heavily bureaucratic system with one embracing corporate PPAs, private legal and financial intermediaries, and independent power producers.⁷⁴ This section develops other complimentary policies that Macri should include in his regulations enforcing Law 27,191.

(1) **Promote credibility.**⁷⁵ Macri must embrace policies that promote credibility and trust. This does not mean offering renewable developers far-above-market rates in 15-year PPAs to offset risks—we saw this strategy fail in the Kirchner era, as financiers balked at the state’s ability to amend or breach agreements, leaving developers without recourse. To build trust, the Argentine government should issue a fresh statement of willingness to comply with arbitration awards. And the state should comply with all existing and future awards expediently. This increased transparency and reassurance should convince investors that the endemic risk of the Kirchner era has passed.

(2) **Ensure actual returns.**⁷⁶ Related to the promotion of credibility, in PPAs between ENARSA, YPF, or CAMMESA⁷⁷ and providers of renewables, Argentina should show more respect for renewable energy investors by omitting language that could be construed to permit the state to unilaterally amend agreements. Leadership changes will occur in

⁷⁴ See St. James, *supra* note 51.

⁷⁵ See generally Lythgoe, *supra* note 1, at 340; St. James, *supra* note 51.

⁷⁶ See generally Lythgoe, *supra* note 1, at 316, 337; St. James, *supra* note 51.

⁷⁷ Since the renationalization of YPF in 2012, there has been overlap between YPF’s control over Argentine energy development and that of the wholly state-run energy company, ENARSA. Moreover, the wholesale market administrator, CAMMESA, will have a more direct role procuring renewables under Law 27,191. Resolving the division of power between these entities and the various federal agencies with enforcement authority over energy is another important task for Macri’s administration.

democratic societies, but nothing will be built if investments are susceptible to being wiped out on a political whim.

At a substantive level, state-issued PPAs should track successful European renewable subsidy programs. Following Germany's lead, Argentina should base purchase prices on generation cost, rather than the spot market price. This tactic will lead to different prices for wind power, solar power, biomass, and other projects of all different sizes; it will also likely lead to the prioritization of wind energy development, which is a lower-cost renewable with very high growth-potential in the Patagonian region. If possible, purchase guarantees should extend for 20 years to assure the full amortization of new projects.

(3) Phase out subsidies and continue to raise electricity rates.⁷⁸ Over a decade of below-cost electricity tariffs subsidized by the federal government have heavily impaired the profitability of the electricity sector, resulting in frequent blackouts and eroding incentives to invest in distribution and generation projects. The subsidies began in the early-2000s, when oil prices were forecasted to quickly rise, and eventually became entrenched in Argentina's culture. Subsequently, Argentina has spent USD \$51 billion on power subsidies since 2003—USD \$10 billion (or roughly 2% of Argentina's GDP) in 2015 alone. Macri should continue to gradually phase in subsidy rationalization policies and seek to fully align electric prices with generation and transmission costs by the end of his term in office. Before the most recent rise in power tariffs in January, a 180 kilowatt per month household in Buenos

⁷⁸ See generally Gabriel Di Bella et al., *Energy Subsidies in Latin America and the Caribbean: Stocktaking and Policy Challenges*, International Monetary Fund Working Paper (Feb. 2015), at 25, 37, 43–44, <https://www.imf.org/external/pubs/ft/wp/2015/wp1530.pdf>; *Argentina raises power tariffs in drive to slash subsidies*, REUTERS (Jan. 29, 2016), <http://www.reuters.com/article/argentina-electricity-idUSL2N15D2J5>; Carlos St. James, *Dismantling Energy Subsidies in Latin America*, LATIN AM. ENERGY REV. (Jan. 26, 2016), http://carlosstjames.com/renewable-energy/dismantling-energy-subsidies-in-latin-america/#_ftnref1.

Aires would pay approximately USD \$1.75; now, the same house pays approximately USD \$10.75. If the economy remains flat or worsens, Macri should consider modifying his policies to mitigate harm from the subsidy rationalization to underprivileged communities. But the broader national realignment of electricity prices and costs will be necessary to quell artificially high demand—which has converted Argentina from a net energy exporter to a net importer—and pass through some of the costs of new transmission and generation infrastructure to consumers.

(4) **Fix transmission infrastructure.**⁷⁹ Although wind and solar energy developers may dream of siting their projects in rural parts of Argentina with cheap land and abundant renewable resources, an unsolved obstacle is the fact that “[t]here has been no real investment in the transmission grid for years.” New transmission systems need to be built, and while public infrastructure projects are a part of this, rules should also be put in place to allow private renewable generators to include the cost of constructing transmission lines in PPA prices.

D. CONCLUSION

Argentina’s renewable energy sector remains in an uncertain state, but for the first time in years, there is reason to believe a renewable energy boom cycle is around the corner. Argentina must exploit its vast renewable resources if it expects to meet its obligations under the Paris Agreement and the growing demand that has overwhelmed the power grid in recent years. Whereas the populist policies of the Kircher era were often used as a justification for why the state could not afford to reduce greenhouse gas emissions, Macri’s economic policies are likely to spur investment in new wind and solar projects, at the very

⁷⁹ See generally Lythgoe, *supra* note 1, at 338; St. James, *supra* note 51.

least. With a regulation and revised INDC on the table, it will be easier to tell if Law 27,191's renewable generation targets are attainable. If they are, Argentina will move into the clean development spotlight—a 20% renewable energy generation mix by 2025 would be no small triumph.