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17 December 2015

Peru's need for installed capacity: what happened?

Until their reform in 2006, Peru's 1992 electricity sector policies were unconducive to attracting new investment in installed generation capacity. Consequently, the overreliance on old generation systems coupled with increased demand from sustained, rapid growth led to frequent electricity shortages in Peru's recent history.[1]

In 1992, under semi-authoritarian measures, President Alberto Fujimori (1990-2000) introduced a bold electricity reform as part of a sweeping neoliberal agenda. He aimed to correct the economic and security crises that plagued the country. The 1992 Electricity Concessions Law (LCE) (See **Appendix: Figure 1. Timeline of Peruvian Laws**) horizontally and vertically unbundled Peru's electricity sector and introduced a new independent regulator, OSINERG.[2] Electricity generation was privatized; companies were to compete against each other to supply to the electricity market.[3] Transmission and distribution, given their status as natural monopolies, were to be regulated by OSINERG. Distribution companies would have a monopoly over regulated users[4] in their concession areas. The tariff would be administratively set by the Electricity Tariff Commission (CTE) under OSINERG, and the cost-based dispatch system would be managed by a committee of generation and transmission companies under an independent systems operator (COES).

Between 1994 and 1998, the state successfully divested more than 50% of its assets to private companies.[5] (**See Appendix Figure 2)** The "reform model assumed that competitive market price signals would provide the necessary incentives to expand the system, as needed, to an optimal

[1] Peru experienced shortages or near-crises due to a lack of capacity installed or investment in transmission systems in 1998, 2004, 2008, 2011.
[2] In 2007 it became OSINERGMIN after merging with the mining regulatory body. For the scope of this paper, I will refer to it as OSINERG.
[3] Electricity market is divided into the spot market (electricity rates are equal to marginal cost values every 15 minues); free market (freely negotiated supply prices and conditions); regulated market (accepted rates as set by regulatory body, OSINERGMIN); auction market (purchase and sale prices set through auctions). http://www.minem.gob.pe/archivos/Documento_Promotor_2012.pdf
[4] Regulated users are all customers whose maximum annual demand is equal to or less than 200 kW. Those with demand between 200 kW and 2500 kW have the right to choose between being a regulated user, or a free user. Free users, customers with annual demand greater than 2500 kW, can contract required demand with either distributors (regulated price) or generators (wholesale). http://www.snmpe.org.pe/pdf/3587/Manual-de-Inversion-del-Sector-Electrico-Ingles.pdf
[5] Center for Energy Economics (CEE). "Results of Electricity Restructuring in Peru." The University of Texas at Austin.

security level."[6] Consequently, the system did "not explicitly consider the topic of security of power supply."[7] However, the pricing and contract structure *did not* provide the correct platform to attract greenfield projects; contracts were too short and the dispatch system favored "junk generators." Privatization and liberalization of the 1990s attracted significant foreign investment and contributed to Peru's outstanding economic growth, which in turn increased electricity demand and the state's need for new installed capacity. Demands on the system were subdued by a brief economic downturn in 1998 but the mining boom of the early 2000s once again catalyzed superior economic growth – and electricity demand. From 2000 to 2006, there was a 25% overall increase in demand while the reserve capacity dropped from 55% to 33%.

The re-introduction of democracy and decentralization after Fujimori's departure in 2000 created a contentious mix of stakeholders with short-term horizons. However, a severe drought in 2004 exposed the current vulnerabilities of the sector when private generators refused to renew their supply contracts. Stakeholders from the pro-reform side (OSINERG, private business and the presidency) came to head with large incumbent generators, tariff-sensitive consumers, and erratic Congressmen. Finally in 2006 – just five days before the end of President Alejandro Toledo's (2001-2006) term – Congress passed the *Law to Ensure the Efficient Development of Electricity Generation.*[8] Through the introduction of a complementary auction mechanism, the 2006 Law established a credible platform through which Peru succeeded in attracting new investment. Moreover, it created credible channels through which other incremental reforms could pass, including the introduction of additional technology-specific auctions.

Peru's annual demand for electricity grows between 8% and 9%, which represents an increase of 400-450MW per year. Given the success of the 2006 Law, new entrants in traditional and renewables will not only meet this demand, but also encourage an increasingly competitive

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[6] *World Bank. 2010. Peru: Overcoming the Barriers to Hydropower. Washington, DC. © World Bank. https://openknowledge.worldbank.org/handle/10986/17528 License: CC BY 3.0 IGO*

[7] Ibid.

[8] The most important changes introduced in Law N° 28832 were: (a) in generation, the establishment of an obligatory competitive auction mechanism to contract the supply to distribution companies; (b) in transmission, the formalization of transmission planning and a bidding process for building and operating the required system transmission expansion resulting from the planning; (c) changing the composition and governance of COES with the introduction of distribution companies and large users as new members; and (d) on prices, in generation, the pass-through of auction prices as part of the regulated generation tariff, and the stability of the transmission remuneration for existing facilities and transfer of the results of the bidding process for new facilities. *World Bank. 2010. Peru : Overcoming the Barriers to Hydropower.*

marketplace. The 1992 LCE privatization efforts broke the state-owned generation company into eight private companies for sale. By 2012, there were 27 companies in generation, 7 in transmission, and 24 in distribution **(Appendix: Figure 2. Evolution of Divestitures and Greenfield Investments, 1995-2014)**.[9]

How did the 2006 Electricity Law Pass?

Peru's success story is the result of incremental, mutually-reinforcing arrangements between internal capabilities and external reputations. Technocrats, borne out of the "big bang" reforms of President Fujimori in 1992, used expertise to establish their autonomy and to legitimize their preferred policies.[10] From these "islands of effectiveness," technocrats managed complex processes that produced tangible results, which then give them more legitimacy to stakeholders.

Creating a virtuous cycle: a bold reform and incremental arrangements

President Alberto Fujimori was elected in 1990 as a political outsider without a party organization or business/interest groups. Far from an ideologue, Fujimori emulated Chilean neoliberal reforms out of the dire need to correct Peru's crises of hyperinflation and guerilla terrorism under Shining Path. The neoliberal Minister of Economy and Finance (MEF), Carlos Bolona, set expansive privatization and liberalization goals – with the intention of privatizing the generation sector up to 100%. Working closely with electricity reformers in Chile and international financial institutions (IFIs), technocratic reformers created external alliances that contributed to the right scope of reform and created a level of initial credibility. Under the guidance of these external actors, Fujimori exercised a series of executive decrees[11] [12] and created highly-competent, autonomous agencies, which soon became "the linchpin of reforms to improve the investment climate."[13] As independent agencies with separate revenue, labor and administrative regimes, these small, educated

[9] Arce, Moises. "The Societal Consequences of Market Reform." Project Muse Latin American Politics & Society, Volume 48, Number 1, Spring 2006, pp. 27-54 The generation part is made up of 45 power plants with a capacity higher than 18MW, for an aggregated installed capacity of 6,963MW

[10] *World Bank. 2010. Peru : Overcoming the Barriers to Hydropower*.

[11] Executive decrees allows presidents to assume legislative powers.

[12] Peruvian law gave the president the ability to assume legislative powers. The President of the Council of Ministers (PCM) authorizes urgency and legislative decrees. The PCM and all other cabinet members are appointed and removed by the President; they do not have independent political authority. Legislators frequently hold cabinet posts.

[13] Independent agencies "ranging from tax (SUNAT) to infrastructure regulation (OSIPTEL) and consumer protection and competition (INDECOPI)." Lawson. Political Parties and Democracy.

agencies were protected from Congressional interference. The electricity regulator, OSINERG, combined with favorable private investment protections in the Peruvian Constitution[14] "presented the private sector with a predictable regulatory environment."[15]

Peruvian business elites offered considerable linkages for external reputation-building. Large business organization CONFIEP (*Confederación Nacional de Instituciones Empresariales Privadas*), of which the electricity lobbying group SNMPE (*Sociedad Nacional de Mineria Petroleo y Energia*) belongs, already received considerable professionalization and support from USAID, the World Bank, and other donors for its pro-property rights stance.**[16]** In turn, CONFIEP/SNMPE provided opportunities to build credibility and drive support for these new electricity sector policies. The MEF under the leadership of pro-business Jorge Camet intentionally courted businesses from 1993-1998.[17] Concessions included a broad tax amnesty and a series of tax incentives for companies participating in privatization **(See Appendix: Figure 1)**. To date, more than ten years later, "the tax concessions granted by the Fujimori regime have proved difficult to eliminate."[18]

Although *Fujimorismo* always had the "support of the "winners" in the economic reform process (the business community linked to large-scale mining interests, finance, and commerce),"[19] this was not enough to ensure measures would not be reversed. Incremental steps to ensure "lock-in," included aligning of independent agencies' "managerial incentives with reform objectives. Performance incentives [were set to] attract and retain skills, and foster compliance."[20] OSINERG staff are well-compensated, usually making salaries up to six times as much as a line ministry.

[14] 1993 Pervivian Constitution: Foreign investors and their companies, have same rights and obligations as domestic investors. Under no circumstance will the national legal system make any distinction between foreign or domestic investors/companies. Foreign investors guaranteed the right to transfer abroad in freely convertible currencies.
[15] *World Bank. 2010. Peru: Overcoming the Barriers to Hydropower.*
[16] Moron, Eduardo and Cynthia Sanborn, "The Pitfalls of Policymaking in Peru." University of the Pacfic. January, 2005.
[17] The president had appointed business leader Camet primarily as a means to court business and develop closer ties with that sector
[18] Arce, Moises. "The Societal Consequences of Market Reform." Project Muse Latin American Politics & Society, Volume 48, Number 1, Spring 2006, pp. 27-54
[19] Lawson, Katy. Political Parties and Democracy. ABC-CLIO. July 2010 (185)
[20] *World Bank. 2010. Peru : Overcoming the Barriers to Hydropower.*

Moreover, FONAFE[21] - an autonomous holding company under MEF - regulates the SOEs via strict corporate governance code.[22]

President Fujimori also continually marginalized the influence of Congress,[23] the judiciary,[24] and the ministries by ensuring they were poorly funded and underutilized.[25] He habitually went outside the traditional ministries, "bypassing intermediary institutions and civil society organizations."[26] Within the electricity sector, he relegated all planning to COES; the Ministry of Energy and Mines (MINEM) had little technical skill or influence. His targeted poverty alleviation program, FONCODES,[27] became highly effective clientelistic schemes that established direct patron-client channels. In doing so these arrangements reinforced the importance and credibility of the technocrats. In fact, by the end of the 1990s, a mutually-reinforcing arrangement between strong business elite and the technocrats became arguably more powerful than Fujimori: as "large sectors of the business class whose fortunes were bound up with the domestic market displayed more autonomy vis-à-vis the government," Fujimori required more rents to ensure his patron-client games.[28]

Indeed, the bulk of President Fujimori's "policy initiatives entailed the creation of better-equipped, more autonomous state agencies outside line ministries"[29] As such, the new entities exemplify efforts of "islands of effectiveness" within a state that is "otherwise riddled with bureaucratic paralysis."[30]

Locking-in the technocrats

In 2001, President Fujimori was forced to resign from the presidency following a highly publicized corruption scandal.[31] The new political groups that found themselves "at the center of the

[21] Originally managed under *Oficina de Organismos e Institutiones del Estado* (OIOE)
[22] Large SOE generation company ElectroPeru is listed on the Peruvian stock exchange, which serves the explicit purposes of corporate governance and transparency. "International Workshop on Performance Evaluation and Management of State Owned Enterprises." New Delhi, India January 2015.
[23] The "self-coup" established a unicameral Congress, over which President Fujimori's Cambio 90 held significant majorities throughout his administrations. In the 1995 elections, Congress was divided into two main blocs: one linked to the government, Cambio 90-Nuevia Mayoria (67 of 120 seats), and the opposition, UPP, with only 17 seats. APRA had 8 seats. Ibid.
[24] Lawson, Katy. Political Parties and Democracy. ABC-CLIO. July 2010 (175)
[25] Moron, "Pitfalls."
[26] Weyland, Kurt. "Bounded Rationality and Policy Diffusion: Social Sector Reform in Latin America." 2007 (202)
[27] Housed under the Presidency of the Ministry
[28] The second Fujimori administration saw the highest social expenditure levels in more than two decades. Without a party platform, Fujimori relied on the "clientelistic schemes [for the excluded popular sectors in order to] gain legitimacy with the plebiscitary." Lawson.
[29] Moron, "Pitfalls."
[30] Arce. "The Societal Consequences of Market Reform." (39)
[31] Dargent, Eduardo. "Technocracy Under Democracy: Assessing the Political Autonomy of Experts in Latin America."

political scene" were technically and politically very weak, "devoid of ideological contours or policy positions."[32] In fact, "the political parties showed neither the interest nor the capacity to replace this network of technocrats with any alternative."[33] After all, this group was stable and credible; it had been their "macroeconomic policies that succeeded in interrupting the logic of the "Peruvian pendulum."'[34] Peruvian political parties post-Fujimori adopted the same "personalistic leadership [and] highly centralized,[35] technocratic decision-making process."[36] With short time horizons and few political rewards, the first six years after *Fujmorismo* were volatile. President Toledo, after pushing through with decentralization, now faced a new mix of contentious stakeholders that allowed him to only adopt "small changes in response to immediate, short-term challenges."[37]

Who played a role in the 2006 Electricity Law?

Technocrats had established a credible "island of effectiveness" within the electricity sector, designed and managed by regulatory body, OSINERG. While this was able to attract private investment in generation – it did not attract *new capacity* in generation. However, with continued economic growth reducing the reserve margin, the need for new capacity came to a head in late 2004, when a severe drought caused production costs to spike. Generators were bound by the administratively-set tariff, which "no longer covered the production costs generated by the use of fuel."[38] (**Appendix: Figure 3. Timeline of Marginal Prices and Regulated Tariffs, 1998-2008**). Generators refused to sell and President Toledo had to issue an emergency decree that obligated state-owned generation companies to contract.

Even though technocrats had established themselves as credibly committed within both principals and agents, multiple factions now competing in a highly personalized space changed the context of reforms. And, in turn, this changed the spectrum of reform options. Compared to the "big

[32] Berrios, Ruben. "Corruption as a Drag on Development."
[33] Ibid.
[34] Crabtree, John. "Fractured Politics: Peruvian Democracy Past and Present."
[35] In 1996, he set up the Ministry of the Presidency (MIPRE), a kind of executive branch within the cabinet, which came to control over one-fifth of the national budget, with little oversight from congress (Zapata and Suiero 1999:61).
[36] Berrios. "Corruption as a Drag on Development."
[37] Crabtree. "Fractured Politics: Peruvian Democracy Past and Present."
[38] Moron, "Pitfalls."

bang" of the 1992 LCE, technocrats within OSINERG and MEF had to shift design efforts to work around the obstacles of a messy democracy.

The auction system was "established as a supplementary mechanism to encourage the entrance of new capacity."[39] Through an open and competitive bidding process, distributors auction long-term, fixed-price, take-or-pay electricity contracts.[40] Energy forward contracts, which are carried out three years ahead of delivery, "create an attractive, competitive investment opportunity for both new entrants and existing suppliers" and contract terms of five to ten years provide newcomers with an essential component for project financing. OSINERG approves and sets the price cap for each auction. The average auction prices become the baseline for a new tariff structure.

There were both 'winners' and 'losers' in the space, which required reformers to compromise the scope, design, and participation in order to build its trumping coalition. Perhaps the biggest obstacle was the large incumbent generators that effectively controlled the market and blocked new entry. Having made significant gains from the 1990s privatizations, three large generators used their dominant leadership in the COES to maintain a system of short-term contracts that discouraged new entrants. Now, as the main producers of electricity, generation companies had the power to simply not supply when the price was not right. To compromise a potential loss in market share, OSINERG designed the new tariff structure to be cost-reflective – rather than administratively set. Participation in the system (COES) opened to include distributors; tariffs would pass-through to regulated users in order to reduce the risk to distribution companies.

Regulated customers faced a potentially higher tariff scheme compared to the low administratively-set tariff, which was politically very costly. In 2002 anti-privatization protests erupted in Arequipa over perceived higher costs and corruption; two were killed and it halted the privatization process.[41] Congress feared higher prices would directly affect their ability to govern today and be elected in the future. Moreover, there was a growing movement of social based organizations working on behalf of the urban/rural poor that were gaining visibility from IFIs and

[39] Moreno, Rodrigo. "Lessons from Five Years of Experience in Energy Contract Auctions." IAEE. 2010
[40] Ibid.
[41] In June 2002 "there were riots in Arequipa after two electric power plants (Egasa and Egesur) were sold to Tractebel. The government was forced to suspend the sale, and Tractebel backed out of the deal. However, the main utilities have been privatized during the first step." Moron, "Pitfalls."

government.[42] Outages, however, were also costly to powerful organized businesses' groups, CONFIEP/SNMPE, which "occupied a "privileged position" given their financial resources and capacity to determine economic performance."[43] Technocrats used external reputation to help Toledo's *Peru Posible* build a weakly-held majority alliance that was able to organize a compromise: a cross-subsidy tariff fund (*Fondo de Compensacion Social Electrica* (FOSE)) would cover the higher costs to urban/rural poor using the income generated from large users.[44]

Technocrats used their internal capability to create a trumping coalition of SNMPE and President Alejandro Toledo's *Peru Posible* that served to work around messy, multi-stakeholder arrangements. Nonetheless, this incremental reform "generated new and specific information about a policy problem [and served as an] important catalyst" for future reform efforts.[45]

How did the 2006 Electricity Law *Succeed*?

Starting with reforms that are credible & feasible

The 2006 Law accompanied the 1992 Law, but it did not replace it. The auction system served as a complementary mechanism to attract new generation capacity; the original law and contracting options for generation companies remained. Consequently, the initial tenders under the auction system were only mildly successfully at attracting new generation. Contract lengths of a maximum of ten years were still too short, and bids between all technologies were biased in a low-cost-wins bidding arrangement. However, incremental successes from this first auction substantiated its viability and the credibility of the technocrats, which led to *incremental* reform.

Since the passage of the 2006 Law, Peru has established two additional auction systems, each of which have created attractive platforms for new investment in capacity based on different stakeholders. In 2008, OSINERG created a technology-specific auction in response to a growing global initiative in climate change. A strong reform coalition was comprised of technocrats, IFIs,

[42] Moron, "Pitfalls."
[43] Arce, Moises. "The Societal Consequences of Market Reform." Project Muse Latin American Politics & Society, Volume 48, Number 1, Spring 2006, pp. 27-54
[44] Small users consuming less than 100 kWh/month as well as all users of off-grid rural power systems under 20MW pay subsidized tariffs that are compensated by a surcharge on large consumers
[45] Kikeri, Sunita. "Reforming the Investment Climate: Lessons for Practitioners." The World Bank | IFC, 2006, pg ii.

environmental advocates, and development-oriented NGOs, which had exploded in reach by 2008.[46] Peru's officials were ready to support clean, renewable energies because it enhanced their external reputation in the global community while attracting new generation capacity. The first renewable energy (RER) auction in 2009/2010 provided an additional 430MW of renewable energy resources at an average price of $80.46/MWh. The second RER auction (2011) had an average of $53.21/MWh and brought Peru's total renewable capacity to 640MW.[47] OSINERG estimates that by 2016, there will be an additional 348MW.[48] (**See Appendix: Figures 4-5**)

The OSINERG-managed auctions have not successfully attracted large hydro projects in particular because they require substantial commitments from investors and involved a more complex set of arrangements with local stakeholders.[49] Environmental activists and local development groups, growing in size and importance in the late 2000s, lobbied regional governments for more inclusive decision-making. In 2010, the Citizen Participation Law was passed, which "requires consultation procedures and mechanisms during the granting of electricity-related rights."[50] Moreover MINEM suffers from acute technical shortcomings that render it unable to handle reporting these requirements.[51] Going around this blocking coalition, OSINERG engaged MEF's public-private partnership arm, *ProInversion*, to issue a completely separate auction system. With pre-approved contracts and additional stability guarantees, *ProInversion* trumped this contentious coalition by avoiding it. *ProInversion* successfully awarded 180MW in 2010 and 544MW in 2011 in new capacity.[52]

The passage of the 2006 Law – despite its weaknesses in attracting new capacity initially – created a platform through which the auction system was able to become credible and feasible.

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[46] Some estimates say there were more than 65,000+ social base organizations, and 1,600+ development-oriented NGOs around 2008/2009.
[47] Oxford Business Group, "The Report: Peru 2014." Oxford Business Group. December 2013.
[48] Ibid.
[49] Concessions granted by the Ministry of Energy and Minerals (MINEM) but also must be approved by the Institute for Natural Resources (INRENA) at both the studies project stage and prior to the construction. The National Water Aurhotity has assumed many responsibilities of INRENA.
[50] MINEM. "Peru Subsector Electrico Documento Promotor 2012."
[51] Peruvian legislation "mandates the preparation of an Environmental Impact Study (Estudio de Impacto Ambiental, EIS) for all power plants with an installed capacity above 20 MW. The EIS should be approved by the MEM/General Directorate for Energy Environmental Matters (Dirección General de Asuntos Ambientales Energéticos, DGAAE), and has to identify and evaluate all possible direct and indirect environmental impacts, including biological, physical, cultural, and socioeconomic." Ibid
[52] IRENA. "Peru Renewables Readiness Assessment 2014."

Peru's promise for incremental reform

> *"Some months before leaving office Toledo told his economic team, "without technocrats I would have done much more." His twice economic minister, and then Chief of Cabinet, Pedro Pablo Kuczynski, answered playfully: "The 'insensitive technocrats' gave you 6.5% GDP growth per year, so stop whining."*[53]

Despite a long history of political disorder, corruption, and social discontent that puts the Peruvian state "among the weakest in Latin America," Peru's electricity "island of effectiveness" has overcome the barriers of credible commitment. Even in divided, messy politics, technocratic reformers kick-started investment with an imperfect reform effort, opened dialogue and improved transparency, and ultimately established the credibility necessary to attract new entrants. It is a norm in Peruvian politics to have highly technical appointments: in "President Toledo's government (2001-2006) all ministers were highly technocratic;[54] all of Alan García's (2006- 2011) four ministers of economy were also independent technocrats; even President Ollanta Humala (2011-2016), who opposed "neo-liberal" continuity maintained technical continuity in MEF."[55]

Today, "Peru's private sector is considerably stronger than in previous decades;" and technocrats have largely "advanced on the path to democratization, institutionalization, and economic growth."[56] There are now incentives to move forward with sound policies encouraging continued growth and promoting social inclusion. Although reformers are unlikely to have a "big bang" like the 1992 LCE, thanks to the "islands of effectiveness" that it created, one can be certain that incremental reforms will be good enough.

Appendix

Figure 1. Timeline of Peruvian Laws

[53] Dargent. "Technocracy Under Democracy: Assessing the Political Autonomy of Experts in Latin America."
[54] The opposite of his politically subordinate ministers of the 1980s.
[55] Ibid.
[56] Tanaka, Martin. "A Vote for Moderate Change." Journal of Democracy, Volume 22, Number 4, October 2011, pp. 75-83.

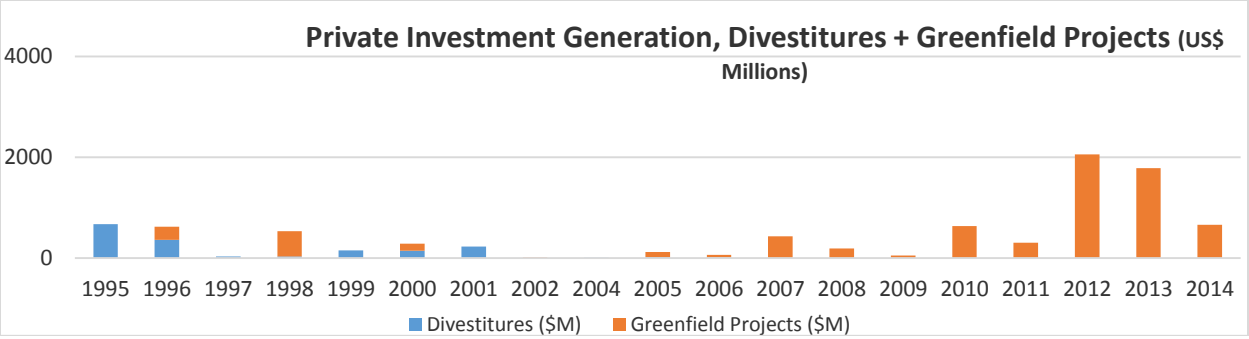
Year	Law	Description
1992	**Decree Law N. 25868**	Peruvian National Institute for the Defense of Competition and the Protection of Intellectual Property (INDECOPI) was created by Decree-Law 25868, issued in November 1992, and went into operation in March 1993. It has formal regulatory and adjudicative responsibilities maintenance and regulation of an open market economy. It is organized as a public corporation, which exempts it from civil service personnel rules.
1993	**Decree Law N. 25844** Electricity Concession Law **Supreme Decree N 009-93-EM** Regulations of the Electricity Concessions Law	Electricity rights include (i) temporary concession (installed power >750MW); (ii) definitive concession (installed power >500MW using hydraulic resources or RER; (iii) authorization (thermoelectric installed capacity >500MW; indefinite terms) All are granted by MINEM.
1993	**Political Constitution Law**	Foreign investors and their companies, have same rights and obligations as domestic investors. Under no circumstance will the national legal system make any distinction between foreign or domestic investors/companies. Foreign investors guaranteed the right to transfer abroad in freely convertible currencies.
1994	**Supreme Decree DS 029-94-EM** Environmental Protection Regulations in Electric Activities	Requests for definitive concessions must include Director's Resolution approving the corresponding Environmental Impact Assessment. The General Bureau of Energy and Environmental Affaris (DGAAE) of MINEM is technical regulatory body in charge of proposing and evaluating policy, issuing regulations, and promoting execution of activities aimed at environmental conservation.
1996	**Supreme Decree N 059-96-PCM**	Single Uniformed Text of the regulations with Force of Law that govern the concession of infrastructure and utilities public works to the private sector.
1997	**Law N. 26876** Anti-monopoly and Anti-oligopoly Law of the Electricity Sector	Horizontal and vertical concentrations produced in electric power generation, transmission or distribution will be subject to a prior authorization process before INDECOPI. Acts of concentration that directly or indirectly involve companies in generation, transmission or distribution require authorization for acts that would cause market share greater than 15% of horizontal concentration and 5% in acts of vertical concentration
1999	**Supreme Decree N 055-99-EF**	Single Uniformed Text of the Value-Added Tax and Excise Tax Law
2000	**Law N. 27342** Law Regulating Legal Stability Agreements Governed by Legislative Decree N 662, 757 **DS N 162-92-EF** Regulations of Private Investment Guarantee Regimes	Legal Stability Agreements signed with ProInversion guarantees investors for a 10-year term. Includes: Income Tax regime stability in force as of the date of signing; right to free remittance of profits; right to most favorable exchange rate on market; right to non-discriminatory treatment between foreign and domestic investors
2001	**Supreme Decree 011-2001-EM**	COES-SICN (Interconnected System of the Center and North) incorporated SIS (Interconnected System of the South) to form COES-SINAC
2006	**Law N. 28832** Law to Ensure the Efficient Development of Electricity Generation	Supply of electric power for the regulated market must be ensured through tenders called by distributors. Tenders will result on signing of long-term electricity supply contracts at firm prices, which will be transferred to the regulated users.

		OSINERG sets the maximum award price for contracts and is responsible for approving tender documents, model contracts and terms (which were prepared by the distributor). Prices cannot be modified unless approved by OSINERG Tenders must be carried out with 3 years notice so to facilitate development of new generation investment, make use of economies of scale, promote competition, and ensure supply for the regulated market. Contracts will tender notice less than 3 years cannot count for more than 10% of regulated users' total demand. Contracts with terms >5 years must not cover requirements greater than 25% of regulated users' total demand in concession area. COES established as a private non-profit entity with legal capacity under public law. It is made up of all agents that comprise the National Electric Power Grid (SEIN). COES has both a public interest and operative function. It manages and ensures competitive conditions in the Short-Term Market.
2008	**Legislative Decree N. 1002** *Legislative decrees are regulations that carry the force of law.* Legislative Decree N. 1058 established incentives for RER **Supreme Decree 012-2011-EM** Regulation of electricity generation with nontraditional renewable energy **Viceministry Resolution N. 133-2009-MEM/VME** Rules for first auction for RER, adopted by MINEM **Viceministry Resolution N. 036-2011-MEM/VME** Rules for first auction for RER, adopted by MINEM	Development of power generation through RERs declared national interest and public necessity. RER includes biomass, wind, sun, geothermic, tidal power, and hydropower (hydropower only: less than 20MW installed capacity) Every 5 years MINEM will establish target percentage of electricity in which RER-generated electricity must participate; quotas not covered by given technology can be covered by another; MINEM approves the National Plan for Renewable Energy Independent committee evaluates bidders and publishes awards. OSINERGMIN in charge of auction of premium allocation for each project using RER generation; sets base tariffs by category technology and assigns power contracts; fixed-price 20-year contracts; renewable energies must be sold at spot price determined by the market, with differences in income (as determined in the contract) guaranteed by the government (paid premiums at the end of each year) Additional benefits: (i) priority in COES load dispatch (ii) fixed premium that ensures the price obtained in auction (iii) accelerated depreciation regime for income tax purposes
2008	Supreme Decree N. 1041	Introduced a series of measures with wide impact in system operations and electricity prices/tariffs **Extended the initial 10-year maximum contractual period stipulated in Law N° 28832** for the winning bids in the auctions, to a period of 20 years (more in line with long-term financing of hydro plants) and introduced a "discount" to the price offered by hydropower generation, participating in supply auctions, when compared with other technologies (basically, thermal generation). The applicable discount will be established by the regulator in each auction.

2009	Emergency Decree N. 037-2008 Ensure in a Timely Manner the Electricity Supply to the National Interconnected System	SOEs are allowed to acquire necessary generation capacity to avoid power cuts. The cost of this generation will be incorporated into the electricity tariff, but its marginal cost will not be considered to determine the system marginal cost (it will not affect the price of transactions in the spot market). Electricity tariff increments will be different depending on the type of user, in proportions of 1, 2, and 4 for retail regulated users, small unregulated users, and large users, respectively
2009	Supreme Decree 022-2009-EM Regulations for Free Users of Electricity	Article 6 of the Regulations on Free Clients Contract between a supplier and a free client is in the public domain. The prices of power and energy are those in the Generation Bar of Reference. Charges regarding transmission and distribution are regulated by OSINERGMIN
2010	EM 223-2010-MEM	

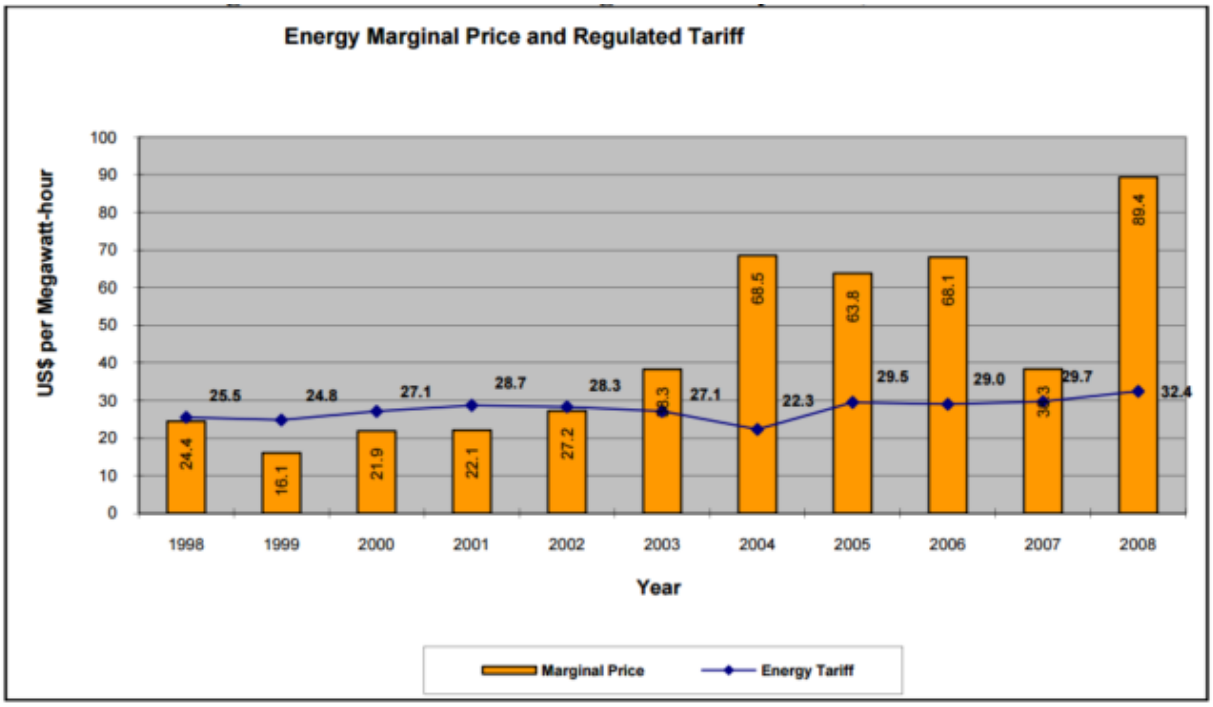
Source: Peru Electricity Investment Handbook (2011) http://www.snmpe.org.pe/pdf/3587/Manual-de-Inversion-del-Sector-Electrico-Ingles.pdf
Source: OSINERGMIN
http://www.naruc.org/international/Documents/FMolinelli%20Renewable%20Energies%20in%20Peru.pdf

Figure 2. Evolution of Divestitures and Greenfield Investments, 1995-2014



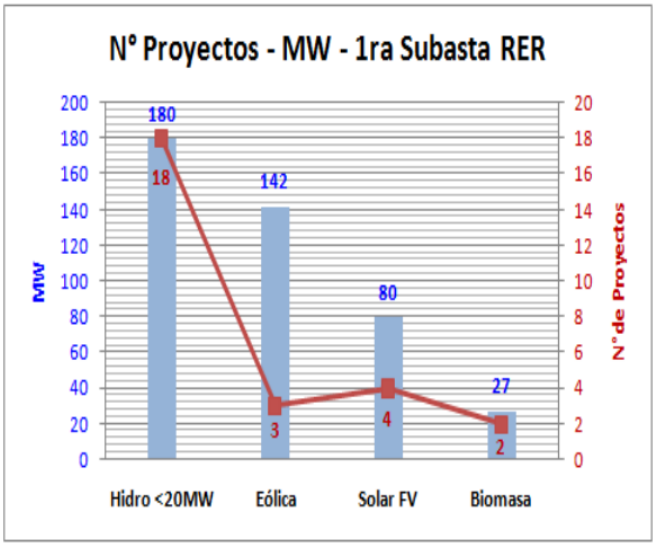
Source: World Bank Private Participation in Infrastructure (PPI) Database (2015)

Figure 3. Timeline of Marginal Prices and Regulated Tariffs, 1998-2008



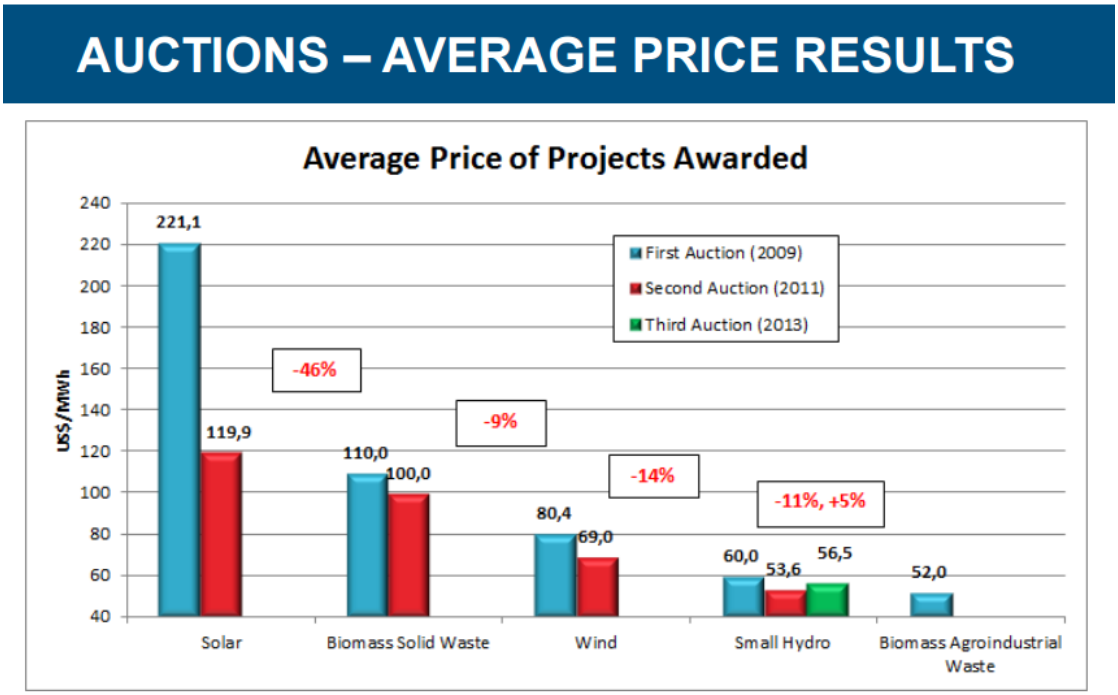
Source: OSINERGMIN

Figure 4. OSINERGMIN RER Auction Results 2009/2010



Source: Molinelli, Fiorella. Presentation on Renewable Energy in Peru. OSINERGMIN (August 2011). http://www.naruc.org/international/Documents/FMolinelli%20Renewable%20Energies%20in%20Peru.pdf
Results of first RER auction. By 2012 will have three wind power plants (*eolica*) with total 142 MW; four solar power plants with total 80 MW; two biomass generators (*biomasa*) with total 27 MW; and 18 mini-hydros (*hidros <20MW)* with a total of 180 MW.

Figure 5. Average Price Results, RER Auctions, 2009-2011



Source: https://www.export-erneuerbare.de/EEE/Redaktion/DE/Downloads/Publikationen/Praesentationen/2014-06-17-iv-peru-04-osinergmin.pdf?__blob=publicationFile&v=1