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Photo 1: Blessing of the construction machinery in Peruarbo

April 2017—General Assembly of the Peruarbo Community Association—Arequipa region, Peru.

Credit: N. Montes de Oca, 2017.

- 1 Accompanied by a priest and engineers, Yamila Osorio Delgado—the former governor of the Arequipa region (2015–2018) –, inaugurates the devices provided by the regional government. Under the spotlight and droplets of holy water, she cuts the ribbons with the colours of Peru and Bolivia which adorn the imposing machines that are going to be used to rehabilitate the streets damaged by the *huaicos*¹ and to asphalt them, once the gas network is installed. The representatives of the Peruarbo neighbourhood take selfies in front of the machines, accompanied by the project manager. In this working-class neighbourhood, asphalt comes along with natural gas, two signs of urban modernity staged here as in other localities connected to the gas pipeline from the Camisea field—Lima, Callao, Ica and Pisco—or for the signing of concession contracts to manage gas supply in each Peruvian region.
- 2 Staging energy modernisation as a metonymy for social modernisation, with the inhabitants' participation, is one of the episodes of change which has been carried out by the Peruvian state for over a decade. The purpose is to use the natural gas resources of the Camisea field for the development of Southern Peru through the construction of the Southern Peruvian Gas Pipeline (*Gasoducto Sur Peruano*, GSP), after having achieved the first connection with the capital in 2004 and an export terminal in 2011 (Table 1). This major project is presented as a means to transform the Southern Andean regions, by improving energy access, thanks to an abundant, cheap and clean national resource: natural gas. Although the construction works began in 2004, the pipeline remains uncompleted in 2021. However, it already has an impact on energy access and practices in the regions involved. This paradox lies at the heart of our analysis: the ways in which

an unfinished infrastructure can nevertheless produce effects and drive a potential energy transition in Southern Peru.

Table 1. Simplified chronology of the Peruvian gas sector

1983	Discovery of the Camisea gas fields by Shell
2004	Beginning of gas exploitation, inauguration of the Camisea gas pipeline and urban gas network in Lima
2006	Southern Peruvian Gas Pipeline first mentioned in a law (N° 28,849)
2011	Inauguration of the Peru LNG export terminal
2012	Growing mobilisations in southern cities in favour of the construction of the GSP following the election of Ollanta Humala in 2011
2016	Odebrecht scandal and interruption of GSP construction
2018	Inauguration of the urban gas network in Arequipa

Source: Drawn up by the authors, 2021.

- 3 We propose an interpretive framework that combines the idea of development imaginaries, suggested by Aliste *et al.* (2013), with a critical approach of the materiality of energy modernisation, based inter alia on the views of Weber (2013), Bridge *et al.* (2013), Bridge and Gailing (2020), and Balmaceda *et al.* (2019).
- 4 According to Aliste *et al.* (2013), development imaginaries constitute a system of values and discourses that produce meanings by articulating two dimensions: a temporal dimension (before - after) and a value dimension. These imaginaries are carried by discourses and acts that are endowed with symbolic significance—such as the meeting described above—, and by a variety of apparently technical documents, which nevertheless convey a system of values. They are also articulated with material elements that can be invested with different meanings, memories, and projections.
- 5 The critical approach of energy materialities encourages us to re-inscribe these objects within the social processes that allow them to exist, considering their different dimensions. This implies examining the material basis of societies from three perspectives: the inherent properties of objects, linked to physical or biological features, the social practices that mobilise them, and their political, symbolic or cultural meanings (Weber, 2014). Furthermore, these objects can be viewed at different scales. Indeed, one of the main characteristics of energy systems is that they are articulated at different spatial levels, just as the set of artefacts that range from the local to the global (e.g., from domestic stoves to the Liquid Natural Gas [LNG] terminal). On the other hand, these objects exist in a relational way, because they are bound to one another, and are inscribed within social relations (Balmaceda *et al.*, 2020).
- 6 The existing debate in geography between the material and the ideal (Di Méo, 2002) takes on a new dimension. Local authorities and discourses bring into existence the meanings of objects, which can obviously be multiple and varied, even contradictory, or with different scopes depending on the scale. In the discourse of successive Peruvian

presidents, the gas network represents a means to offset a historical and social debt towards Southern regions. Yet it also constitutes a symbol of Peruvian society's modernisation, and a vector for territorial integration and improved energy access. Therefore, the materialities of the energy system are inseparable from these practices and representations. The critical reading that we propose aims at identifying the social and power relations which these objects contribute to shape, within the framework of a potential energy transition.

- 7 Even though the expression “energy transition” has given rise to a blurry consensus in the political and economic realms, there are various goals, ranging from maintaining, or even increasing the current level of energy consumption, to de-growth and energy restraint (Aykut and Evrard, 2017). The notion of energy transition (Velut, 2014, Hourcade and Van Neste, 2019) is thus ambiguous, leading some researchers such as S. Jaglin and E. Verdeil (2013) to only use this expression in order to identify a controlled transition towards an energy system with lower greenhouse gas emissions. Energy change would thus be more appropriate to refer to the evolution of energy systems in a broader sense. In the Peruvian case, official documents do not claim an energy transition goal, but present natural gas as a way of achieving a low-carbon energy system. Even though natural gas has been the main vector for dramatically increasing energy consumption since the beginning of the 21st century.
- 8 Bridge *et al.* (2020) argue that the energy transition is a “space-making process,” but they do not bring forward the materialities related to this process. Instead, they propose three general categories of analysis: landscape, territory and governance. For his part, Deshaies (2020) emphasises, from a more traditional planning perspective, the need to quantify the uses of space induced by so-called renewable energy in relation to fossil fuels. In other words, to pay attention to the concrete materiality of these sources. In this article, through materialities, we will try to understand the ongoing spatial reconfigurations taking place in Southern Peru, within the context of energy modernisation.
- 9 In order to map out the various dimensions of this spatial reconfiguration process, we have used a variety of sources collected during different field work experiences in Southern Peru, mainly in Cusco, Arequipa and Puno: interviews with actors, field observations and the analysis of written sources, particularly official documents published by the Ministry of Mines and Energy (MINEM), the Regulatory Agency for Investment in Energy and Mining (OSINERGMIN) and the companies participating in the projects like Kuntur. We find it necessary to double-check sources in order to question the official discourse and to understand how energy changes materialise and the kinds of values associated with it. Thirty semi-structured interviews were carried out with company representatives, regulation agencies and State institutions between 2015 and 2019 in order to gather detailed information on the ongoing projects.
- 10 First, we describe the GSP project and its different meanings within the imaginaries of dominant development. We then confront the discourse of modernity with the multiple practical arrangements that have been deployed as substitutes for the still unfinished gas pipeline. We finally cover the ongoing spatial reconfigurations at a regional level provoked by the new conditions of energy access.

A nonexistent gas pipeline supporting a development imaginary

The origins of the GSP

- 11 In 1983, the discovery by the oil company Shell of gas fields next to the village of Camisea was a major turning point in the evolution of the Peruvian energy system. The latter had long been focused on the exploitation of hydropower, which had been mainly developed by the mining sector since the beginning of the 20th century, and the exploitation of oil in the North of the country.
- 12 Once the obstacles to Camisea gas exploitation were overcome, the focal point of power generation in Peru shifted from the high mountains and their water resources, which could be turned into electricity, and from the oil reserves of the Northern coast towards the Andean lowlands, in the region known as the *ceja de selva*². Indeed, although Peru initiated oil production in the 1860s, since the 2000s the energy system has heavily relied on natural gas. According to the MINEM estimates for 2018, natural gas and its derivatives accounted for about 85% of the country's fossil fuel reserves and 86% of primary energy production, whereas oil represented only 10% and 13%. Peru imports 96% of its oil needs. Regarding power generation, the proportion of hydroelectric power decreased due to the availability of natural gas in the energy market, even though hydropower has been on the rise again since 2018.
- 13 Proved reserves of gas are greater in Peru than in Bolivia (British Petroleum 2000), even though the former has no history of using natural gas. Since 2004, natural gas has been extracted and shipped through the Camisea gas pipeline to the capital, Lima, and since 2012, towards the LNG terminal of Pampa Melchorita. The exploitation only started upon the completion of infrastructures crossing the Andes and connecting the gas fields to the main markets.
- 14 The Camisea gas pipeline and the GSP projects emerged at the beginning of the 20th century, when the political economy of Latin America was under the influence of the "neo-development" approaches (Bresser Pereira, 2007, Svampa, 2011). The latter support pro-active state policies encouraging development. In Peru, the usual development indicators (Hurtado, Mesclier and Puerta, 1997) show that the Andean region is, as a whole, less privileged than the capital, although there are also poor populations and neighbourhoods in Lima. These spatial inequalities are common in Latin America, but in Peru they are particularly marked. The national territory is usually represented following three main regions: *Costa*, *Sierra* and *Selva*. The *Sierra*—the mountain—enjoys a strong cultural and historical identity, while suffering from a dominated and exploited peripheral location. The *Selva*—the jungle—is an historically marginalised region, lacking infrastructures of all types.
- 15 In the South, the Andes are presented as a "large mountain chain," the Western slope of which overlaps with the arid diagonal. Olivier Dollfus observed that the Southern Andes were "a conservatory of Indianism," since Andean languages were still spoken by the majority of the inhabitants (Dollfus, 1968 p. 32). He differentiated three sub-regions: the *Altiplano*—the high plateau—, the valleys and mountains of the Cusco region, and the plateau and watershed of Apurímac, where the towns of Ayacucho and Huancavelica are located. In 2020, the Human Development Index and the measure of access to electricity led to reconsider this regionalisation (Figure 1). Arequipa, Tacna

and Moquegua, which are closer to the Pacific Coast, constitute a first dynamic group that is better integrated within the global and national economies. A second subset includes Puno and a significant part of Cusco, the development of which is very uneven. Finally, a third sub-region comprises the regions of Apurímac, Ayacucho and Huancavelica, which are poorly integrated in the national economy and present lower development conditions. In spite of a strong economic growth throughout the 21st century, regional disparities have not been reduced (Gallo *et al.*, 2015).

- 16 It is in Southern Peru that the guerrilla of the Shining Path (*Sendero Luminoso*) originated and subsequently expanded to the whole country in the 1980s and 1990s. It is also the region that has been most affected by the counterinsurgency operations carried out by the Peruvian army. The Peruvian Truth and Reconciliation Commission, which was implemented in order to investigate the conflict, came to the conclusion that the conflict brought to light the social, economic, ethnic and cultural inequalities. “These rural, Andean, Amazonian, Quechua, Asháninka, peasant, poor and less educated regions of Peru” were the most affected (*Comisión de la Verdad y Reconciliación*, 2003, p. 316). In spite of repression, the Shining Path carried out various attacks against energy infrastructures, bombing several times high-voltage lines. In 2012, forty workers of the Camisea fields were held to ransom. The Southern Andes—the region usually known as VRAEM (Valleys of the Apurímac, Ene and Mantaro Rivers)—have been a shelter for the remaining members of the guerrilla. For the Peruvian State, affirming its presence in the South, whilst giving a social dimension to natural gas exploitation, are two sides of a strategy of legitimisation, which is essential to avoid protest movements, to build a positive image of the Central State, as well as to improve and secure the exploitation of underground resources.

Figure 1: Inequalities in Southern Peru

Source: Drawn up by the authors based on INEI (2018) data, 2021.

- 17 In 2011, when the Peru LNG terminal and the natural gas liquefaction facility in Pampa Melchorita were inaugurated by President Alan García Pérez, a violent protest broke out in the towns of Cusco and Arequipa. The *Frente de Defensa de la Macro-Región Sur*, gathering the regional authorities of Arequipa, Tacna, Cusco, Puno, Apurímac and Madre de Dios, organised a strike to protest against natural gas export contracts, which were affecting indigenous lands, and to demand natural gas supply in the urban and rural areas of the Andean region (Arellano, 2008).
- 18 Those political protests brought the GSP initiative to the forefront, which had been endorsed in 2006 by the N° 28,849 law on the decentralisation of natural gas access. Although the word *decentralisation* usually suggests the greater participation of local governments, Peruvian energy policies are still decided in a very centralised manner. The word actually points to the deconcentration of Peru's energy system, with a shift from the central coastal regions towards multiple inland places of energy production and distribution. The GSP project was picked up by the following governments, to cater the needs of Southern regions. Even before the works started, the gas pipeline thus existed as a political object capable of embodying a redistribution programme towards Southern populations, allowing greater access to energy—or more specifically to national natural gas, presented as a modern solution. But the GSP has also become a major construction site around which various additional investments have revolved.
- 19 It was in 2014, during the presidential mandate of Ollanta Humala (2011–2016)—elected in large part thanks to the support of voters from the *Sierra* based on the promise of reducing inequalities—, that the operations really started. On 22 July 2014, the day the first contracts to build the GSP were signed, Ollanta Humala delivered a vibrant speech emphasising the strategic role of natural gas to “bridge the gap of inequality” affecting the Southern regions of Peru and the historical debt with the “forgotten regions.”
- 20 The planned route of the GSP stays above 3000 metres for half of its length and reaches 4890 metres as shown in Figure 2. This schematic illustration, used in many official documents, depicts the rugged route of the pipeline in the *Sierra* and the tropical mountains of the *Selva*. It also conveys the idea that, as opposed to the Camisea gas pipeline that crossed the mountains and brought resources from the *Selva* to the coastal regions, the GSP will include secondary branches to provide the distribution of natural gas in the Andean region.

Figure 2. Profile of the GSP route

Source: Osinergrmin, 2016. The pipeline, depicted in blue at the bottom of the image with its compressor stations, is lined with a liquid pipeline (LNG).

- 21 Those branches were planned to provide power generation in two thermal plants, in response to growing mining activities. In fact, most energy-consuming mining projects (4 out of 5) are located in the Southern Andes, such as the iron mine of Pampa de Pongo (Arequipa), and the copper mines of Quellaveca (Moquegua), Huaquira and los Chancas (Apurimac) (Osinergrmin, 2019).
- 22 Thus, the GSP first existed as a project presented in technical documents and political discourse, and as a symbolic object used to express a development and integration policy for the Southern Andes.

Building a development imaginary

- 23 The GSP project can be described as a mega-infrastructure at the scale of Peru. It echoes other large-scale energy infrastructure projects launched by the Revolutionary Government of the Armed Forces of Peru that ruled between 1968 and 1980, such as the 1313 km oil pipeline built between 1974 and 1977, with a 142-million-dollar budget (Santos-Franero and Barclay, 2002), to transport oil from the fields situated in the North-East to the coast and that was bombed by the Shining Path in 1994.
- 24 Before the inhabitants of Quillabamba and wearing an indigenous costume, Ollanta Humala announced the launching of the GSP's construction works. He participated in building a development imaginary that associated natural gas exploitation with the strengthening of a working-class and indigenous domestic market. These values directly resonate with Andean-Amazonian capitalism promoted by Evo Morales in Bolivia during these same years. Ollanta Humala's government intended to build a residential market for natural gas, including the poorer groups of the population as a priority. It launched the Energy Social Inclusion Fund (FISE), providing the lowest-income households with *bonogas*—that is a monthly voucher used to purchase bottles of liquefied gas, available since 2012. The *Cocina Peru* programme delivers gas cookers intended to replace wood or charcoal cookstoves. According to data published by Osinergrmin³, the regions that benefit most from these programmes are the Andean ones, in particular the areas of Puno, Ayacucho, Huancavelica, Apurimac and Cusco. As a result, even before the construction of the gas pipeline, natural gas is materialised in the Southern regions through domestic artefacts (gas bottles and stoves) intended to

make households change their energy practices. They are also meant to embody the fact that the State is providing deprived regions with a national resource.

- 25 Making visible both natural gas and the uncompleted infrastructure also relies on the production of extensive documentation (Barry, 2013) by different actors, either supporting or opposed to the initiative. This documentation brings into existence facilities in the making. For some actors, the GSP project embodies energy modernisation, gas supply in localities, the possibility of improving households' energy access and building thermal power stations to secure power distribution. For example, the report published by *Apoyo Consultoría*, a consulting firm contracted by the Inter-American Development Bank (IADB), underlines the project's positive impact on the economy. It claims that the project will bring a yearly GDP economic growth of 0.8% until 2033, the "development of Peru's remote Southern regions" and the "strengthening of the Southern borders." The Environmental Impact Assessment drawn up in 2010 mentions the risks for communities and the environment, but presents the project as a way to guarantee the country's energy independence, to improve the national power network, and to develop the Southern regions through the creation of jobs and access to affordable and secure energy (Kuntur and Walsh, 2010). The consulting firm Walsh Peru's assessment was therefore used to support the initiative, relying on vague notions, such as the consolidation of borders and, more generally, development based on economic forecasts which are unrealistically precise (Joly, 2010).
- 26 In 2015, President Ollanta Humala stated that natural gas is essential to "build an inclusive, modern, integrated and prosperous nation," adding that "energy for this new Peru is our natural gas." He gives natural gas a key role in the modernisation of Peruvian Andean society. Natural gas is presented as a "clean" and "reliable" form of energy, an asset for national security and the modernisation of society starting with low-income households.
- 27 Actors from civil society also relay this vision of the gas pipeline. The *Grupo Propuesta Ciudadana*, a partner gathering Peruvian non-governmental organisations to promote inclusive development, underscores the issue of national sovereignty. It affirms that it is not sustainable to "maintain the exclusion of the Peruvian South from the direct benefit resulting from cheaper, cleaner and more efficient energy" in order to "reduce inequalities," and "improve living conditions" (*Grupo Propuesta ciudadana*, 2019, p. 101). The construction of the gas pipeline is considered as "indispensable" to the advent of the "transformation of Southern Peru into a new pole of inclusive and sustainable development" (*Grupo Propuesta Ciudadana*, 2019, p. 9). All the qualifiers used by experts, the State and civilians to describe natural gas are along the same lines. They demonstrate the existence of a consensus regarding energy modernisation based on a major investment plan and common values such as social inclusion, economic development and environmental protection. Typically, they insist on the benefits of natural gas access for households and the valorisation of a national resource symbolised by the construction of a gas pipeline that is, in many respects, problematic. Gas, which is by nature invisible, arrives before the pipeline, heralded by a procession of material objects taking on a symbolic dimension: embodying energy modernisation. Like Italo Calvino's *Nonexistent Knight* (1959), the nonexistent pipeline nevertheless produces effects, but not necessarily those expected.

The difficult materialising of a policy

The resistance of materiality

- 28 Throughout the years, the GSP route has experienced many changes, depending on the interests and investments at stake. Many revisions were made and costs increased, notably due to its complex implementation in the tropical Andes, characterised by their sharp slopes, mudslides and fragile environment.
- 29 In addition to the project's technical difficulties, political and economic obstacles also emerged. The Brazilian judicial investigation known as *Lava Jato* brought under accusations the Brazilian firm Odebrecht for bribing four of the last five Peruvian presidents⁴. Since July 2016, the construction of the GSP has been stopped, and banks suspended all loans to Odebrecht. Parts of the GSP have been built and abandoned, and the thermal plants of Ilo and Mollendo are currently running on diesel, a type of fuel that is far more expensive than natural gas, and that represents a major source of greenhouse gases. The GSP, which was meant to supply clean energy and feed power plants, is responsible for environmental damages on its route. NGOs and the *Defensoría del Pueblo*, the Peruvian ombudsman, denounces the deforestation, the excavation of arable lands, the spillover of toxic liquids and contact with isolated indigenous groups (Soria, 2004, Feather, 2014). Gas exploitation encroaches upon communal land reserves in the *Ceja de Selva*, such as the Kugapakori, Nahua and Nanti reserves, where communities live in voluntary isolation or initial contact⁵.
- 30 What is more, environmental damage has occurred in places that have not yet been reached by the gas pipeline, due to the use of fossil fuels emitting more pollutants than natural gas and the lack of alternative projects, such as renewable energy, for which Peru has a huge potential but that was considered useless since gas was due to arrive.
- 31 As a result, rather than the orderly development of a controlled energy system, the partial construction of the GSP has led to unexpected effects.

Shattered materialities

- 32 The actual gas system resulting from the GSP initiative, conceived from Lima, is still fragmented. The GSP has been built in sections by different contractors, in a shattered way. Only sections A1 and B have been built (green line on the Figure 3), which are located between the Malvinas gas plant and the connection with the Camisea gas pipeline, and at the level of the branches leading to Quillabamba and Cusco. Osinergmin's 2016 report considers that only 36% of the gas pipeline has been built.
- 33 The triumphant realisation of the GSP announced in discourse did not give way to the smooth implementation of the gas pipeline, leading to other paths and arrangements. In the medium-sized towns of the coastal region, like Arequipa, Moquegua and Tacna, residential gas networks have been laid in some peripheral neighbourhoods. In order to feed these first-stage networks, gas is brought by truck from the gas liquefaction plant in Pampa Melchorita and re-gasified on the spot. This transportation option is called by official representatives the "virtual gas pipeline," using the very word "pipeline" even though there is no existing infrastructure. Other technologies have been considered, like tanker transportation for Pampa Melchorita, making up a "floating gas pipeline"—most likely technical nonsense (interview with the Minister of Energy and Mines, 2019).

- 34 New calls have been opened by the Peruvian State to complete the GSP works using different names: in 2020, the project was called the SIT Gas (Integrated Transportation System of Gas to the South), as if the State wanted to move on from this rather inglorious past. The GSP becomes a *chimera* in the double meaning of the word: an imaginary object but also a hybrid one, combining truck transportation and segments of the pipeline, with no local branches that were essential to reach its social goals.
- 35 The project is associated with many initiatives that are loosely coordinated and make up the programme of *Nodo Energético del Sur*—South Energy Node—at the end of the pipeline. The GSP was expected to deliver gas to two thermal plants on the coast, in Ilo and Mollendo—which have been built—to another plant in Quillabamba, to an industrial and chemical pole, to industrial and mining companies and to the residential sector in Southern towns, through regional branches towards Juliaca, Arequipa, Moquegua and Tacna. Nowadays, the projects of a petrochemical pole and of the thermal plant in Quillabamba have been postponed, as well as the local branches of the pipeline.

Energy Change and Spatial Reorganisation

- 36 With the discovery of the Camisea fields, Peru has become a country with large gas reserves and yet, its energy system is defined by a limited use of gas. The valorisation of gas resources was first considered as a matter of technical and economic optimisation, leading to the building of the gas pipeline towards Lima and then towards the Pampa Melchorita LNG plant. Those infrastructures has made it possible to considerably increase the Peruvian economy's energy consumption, thanks to gas availability and exports. At a national level, natural gas increased energy availability and represented in 2020 about one third of the primary supply of energy as opposed to less than 5% twenty years before—two decades during which the total energy consumption doubled. Between 2000 and 2015, the year of the last available inventory, the total greenhouse gas emissions in the energy sector also doubled (*Ministerio Del Ambiente*, 2021). Peru is indeed experiencing a major energy change, but it is not an energy transition towards lesser greenhouse gas emissions.
- 37 The phenomenon is spatially heterogeneous. With the GSP, the benefits of gas supply could have reached Southern regions, that is to say the Andean mountains as well as the coastal towns. Nonetheless, the Andes are highlighted in discourse promoting the gas pipeline because they symbolise a technical obstacle to overcome, less privileged social groups as well as mining sites in need for improved energy access.
- 38 With an uncompleted pipeline and gas delivered through other means of transportation, energy access changes (Figure 3). In the mountains, the residential gas networks have been planned but are yet to be built. The Quillabamba thermal power plant, which could improve power security in the mountains, has not been built either. Instead, there remain large spaces with very limited access to energy networks, but that sometimes benefit from the installation of solar panels.
- 39 In the most Southern regions, in the towns of Tacna, Moquegua and Arequipa, local gas networks have been installed. The *Nodo Energético del Sur* starts to materialise in this region, but this node differs from the one expected, to the detriment of the Andean region where energy modernisation is a broken promise, or a partially fulfilled one

with the *Bonogas* programme. The mountains, crossed by the Camisea gas pipeline, are now bypassed instead of being supplied.

- 40 The ongoing regional reorganising favour regions closer to the coast, which were already best equipped and supplied, leaving the inland, mountain regions unattended. Existing spatial structures are reinforced rather than corrected. This also means that the improvement of energy access benefits mainly towns and mining sites, as opposed to new development initiatives in peripheral regions.

Figure 3. The Southern Peruvian Gas Pipeline and its outcomes: unfinished and fragmented energy modernisation

Source: drawn up by the authors using data from Osinermin, MINEM and INEI, 2021

Conclusion

- 41 As a *pipe dream*, the Southern gas pipeline does not exist. Or, at least, not as a material infrastructure capable of transporting natural gas between Camisea and the Southern departments of Peru. Nevertheless, it has transformed and has had an impact on the region and its energy model.
- 42 This paradoxical effect can be explained by the set of material artefacts that have penetrated these regions and households. New thermal plants, mining projects and cooking equipment point to specific energy modernisation, characterised by an increase in consumption, even though facilities have not been completed, prompting the State to implement temporary solutions to replace the delayed gas pipeline, like the virtual gas pipeline and gas bottles. This stays in line with the idea of energy materiality as a vast and undefined whole, a “messy complexity” (Balmaceda *et al.*, 2016).

- 43 On the other hand, the unfinished pipeline unfolds into a rich set of meanings, which involve the development imaginary, combining symbolic objects and moments, but also political and expert discourse that build up a field of meanings. Relayed by political actors, its staging leads to the strengthening of the regional political economy at large. Large-scale mining and industrial projects and the coastal towns are, in the end, the main beneficiaries of energy modernisation. Meanwhile, corruption scandals undermine the legitimacy of the State's action.
- 44 From the perspective of an energy transition, Peru remains at a stage of its history in which policies are designed to increase the energy consumption of the industry, mines and the population, rather than voluntarily reducing its greenhouse gas emissions. In this respect, natural gas is an opportunity allowing for the expansion of energy access and a limited increase in emissions compared to other fossil fuels. The incomplete materialising of the GSP functions as a technological lock-in, giving priority to gas and other alternative fuels in some places, instead of renewables. If there is indeed a process of energy modernisation favouring gas, it is not a transition that would entail reducing greenhouse gas emissions.

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NOTES

1. *Huaicos* are mudslides in the Andean region.
2. *La ceja de selva* refers to the transition zone located between the mountains and the Amazon rainforest, that is the Eastern slope of the Andes.
3. The agency of investment supervision in the sectors of energy and mining.
4. Alejandro Toledo flew to the United States in spite of the extradition required by Peruvian justice. About to be arrested by the police, Alan García committed suicide on 17 April, 2019. Ollanta Humala was in jail for nine months until May 2018 and Pedro Pablo Kuczynski has been under house arrest.
5. The Supreme Decree No. 028-2003-AG prohibits any activity on these lands, only allowing ethnic groups to make use of these resources for subsistence purposes.

RÉSUMÉS

Since 2004, gas operations in Camisea have been restructuring the Peruvian energy system. The pivot of Peruvian energy production has shifted from the high mountains and their water resources to the Andean foothills, and a vast political programme of gas network construction and gas massification was launched in the mid-2000s. This article aims to question the materiality of the energy change implemented in the Southern Andean region of the country, which does not involve renewable energy, but has crystallised around a gas pipeline project and its outcomes (thermal power plants, urban networks, etc.). From an interpretive framework articulating notions of development imaginaries with a critical approach of the materiality of energy modernisation, this article builds its analysis drawing from a variety of sources that combine field work and the vast number of documents published on the project in order to map energy change in this region, and the values associated to it. While the symbolic object of the Southern Peruvian Gas Pipeline is presented in discourses as the triumphant advent of energy

modernisation in which the State is the central actor, it has given rise to fragmented energy materialities, and a distorted energy change, moving away from its primary social goal.

INDEX

Keywords : energy transition, Andes, gas pipeline, modernisation, materiality, development

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