

Analysis of the environmental legal status of the Veracruz and Chadin 2 Hydroelectric Projects in the Marañón River

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Environmental Policy and Governance is a program of the Peruvian Society for Environmental Law (SPDA) that promotes and contributes to the development of public policies and regulations for environmental and natural resource management. It also works towards the consolidation of environmental institutionality in Peru, to ensure the development of sustainable investments

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SUMMARY

The Marañón is one of the five great rivers that connect the Andes with the Peruvian Amazon. It is the source of the Amazon River and plays a key role in the flow of sediments into the lower basin and the migration of fish, upon which thousands of inhabitants of the Peruvian Amazon depend.

In 2011, the Peruvian government prioritized the construction of 20 hydroelectric power plants in the Marañón river basin. In addition to these 20 projects, there are two that are of special concern: Veracruz and Chadin 2, because they are located inside the river canyon, in an ecosystem known as the seasonally dry forests of the Marañón. These forests boast some of the highest levels of endemism in Peru.

The development of these dams would take place despite the objectives of the National Energy Policy 2010-2040, which aims to develop an energy sector with minimal environmental impact and low carbon emissions. In addition to generating social impacts such as the flooding of villages, the proposed hydroelectric power plant projects in the Marañón river would impede the flow of sediments and the migration of fish on which hundreds of thousands of inhabitants of the lower basin depend. They would flood thousands of hectares of forests, causing the loss of biological diversity and the emission of greenhouse gases.

In this report, we, the Peruvian Society for Environmental Law (SPDA), analyze the environmental legal status of the Veracruz and Chadin 2 hydroelectric power plant projects and provide recommendations to the Peruvian government. We found that neither of the projects has progressed to obtain the legal permits issued by the Ministry of Culture or by the National Water Authority, which are required to begin construction. Likewise, we verified that the environmental impact assessments of these projects have expired. However, the populations that would be directly affected by these projects have not received formal communication in this regard, nor is there a clear mechanism by which the government communicates to the interested population and potential investors about the validity of environmental impact assessments.

We propose that to make citizen participation effective, the Administrative Registry of Environmental Certifications managed by National Environmental Certification Service for Sustainable Investments (Senace) should, as soon as possible, include a category that allows any interested party to know if the environmental impact assessment of a project is valid.

Neither project accounts for the cumulative impacts these contiguous dams would cause on the Marañón basin and beyond. We find that the current legal framework does highlight the need for cumulative impacts, albeit in a limited way. We urge the Ministry of Environment to provide a clear methodology for quantifying and assessing cumulative impacts, while Senace should pay special attention to this factor when analyzing environmental impact assessments for large infrastructure projects.

Likewise, we verified that the concession granted to A. C. Energia, a subsidiary of Odebrecht, for the development of the Chadin 2 project, has incurred grounds for expiry for not starting works according to the works execution schedule. In the case of the Veracruz project, the company, Enel, argues that it has not complied with its works execution schedule for reasons of *force majeure*. For over a year, this appeal remains under analysis by the General Directorate of Electricity of the Ministry of Energy and Mines, and it is key that it be resolved.

We conclude that both hydroelectric power plants are not legally authorized to start construction works and are therefore unable to begin operating within the scheduled timelines. If they do, they could be penalized for starting works without having the required authorizations from the government. Likewise, we suggest that the Peruvian government review the legal situation of both concession contracts as soon as possible. Currently, neither company is promoting the development of these projects, and they are not included in the portfolio of priority projects of the Economic Operation Committee of the National Interconnected System (COES) for various reasons, in particular:

- Peru currently has an oversupply of energy. The Peruvian government has annulled the call for energy supply from large hydroelectric power stations for the National Interconnected Electricity System of Peru (SEIN).
- In the case of the Chadin 2 project, the local population strongly rejected the project, and Odebrecht was implicated in cases of corruption, which have led Odebrecht to prioritize the sale of its assets.
- In the case of Veracruz, Enel has decided to opt for green, low-carbon growth, and to move away from hydroelectric power plants with large dams due to the social and environmental impacts that these imply. Additionally, Norway's sovereign wealth fund, which participates in Enel, has decided to divest from projects with negative environmental impacts.
- Costs associated with the development of non-conventional renewable energy or run-of-river hydroelectric plants have reduced in recent years. These are viable alternatives in Peru and have significantly lower environmental and social costs.

For these reasons, we urge the Peruvian government to review the current portfolio of energy projects. We also urge that the development of the Marañón River is approached from a holistic perspective that also involves the Ministry of Environment and the Ministry of Culture.

ACRONYMS

In this report, we maintain the common Spanish acronyms for Peruvian government institutions and processes.

ANA	National Water Authority (<i>Autoridad Nacional del Agua</i>)
CIRA	Certificate of Non-Existence of Archaeological Remains (<i>Certificado de Inexistencia de Restos Arqueológicos</i>)
COES	National Interconnected System (<i>Comité de Operación Económica del Sistema Interconectado Nacional</i>)
EAT	Early Environmental Evaluation mechanism (<i>Evaluación Ambiental Temprana</i>)
EIA	Environmental Impact Assessment (<i>Estudio de Impacto Ambiental</i>)
IGA	Environmental Management Assessment (<i>Instrumentos de Gestión Ambiental</i>)
IUCN	International Union for Conservation of Nature (<i>Unión Internacional para la Conservación de la Naturaleza</i>)
OEFA	Organization for Environmental Evaluation and Enforcement (<i>Organismo de Evaluación y Fiscalización Ambiental</i>)
Osinergmin	Supervising Organization of Investment in Energy and Mining (<i>Organismo Supervisor de la Inversión en Energía y Minería</i>)
PEA	Archaeological Evaluation Project (<i>Proyecto de Evaluación Arqueológica</i>)
POC	Commencement of Commercial Operation (<i>Puesta en Operación Comercial</i>)
SEA	Strategic Environmental Assessment (<i>Evaluación Ambiental Estratégica</i>)
SEIN	National Interconnected Electric System (<i>Sistema Eléctrico Interconectado Nacional</i>)
Senace	National Environmental Certification Service for Sustainable Investments (<i>Servicio Nacional de Certificación Ambiental para las Inversiones Sostenibles</i>)
SPDA	Peruvian Society for Environmental Law (<i>Sociedad Peruana de Derecho Ambiental</i>)
UIT	Tax unit (<i>Unidad Impositiva Tributaria</i>)

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1. INTRODUCTION

In a study on the impacts of dam construction on the rivers of the Andean Amazon, Anderson et al. (2018) point out that in recent years, there has been an unprecedented boom in the development of hydroelectric power plant projects. Because these dams would break the connection between headwaters in the Andes and rivers in the Amazonian lowlands, Sutherland et al. (2012) considered this as one of the most urgent conservation problems in the world.

One of the basins that faces threats from the development of hydroelectric dam projects is the Marañon River. This is one of the eight great rivers that connects the Andes with the Amazon, one of the five within Peru (Anderson et al. 2018) and is the main source of the Amazon River (Contos & Tripcevich, 2014). From its source in the Huayhuash mountains, until joining the Ucayali River and forming the Amazon River, the Marañon passes through five regions in Peru. Hundreds of thousands of Peru's inhabitants depend on this majestic river in some way. The Marañon river is a key component of a complex ecological system on which not only the health of the Marañon river basin depends, but also that of the entire Amazon basin.

In 2011, the Peru's government, led by former President Alan Garcia, declared the development of 20 hydroelectric power plants in the Marañon river basin of "national and social interest"¹. Of these 20 projects, none has a definitive or temporary concession. However, there are other projects that, despite not being part of the 20 prioritized projects, have been granted definitive concessions by the State. These are the Chadin 2, Veracruz and Marañon projects. At the time, the Ministry of Energy and Mining also granted temporary concessions to the Chilia, Mazan, Rio Grande I and II projects; however, according to the legal analysis that we have carried out, the latter two have already lost their validity² (see Table 1).

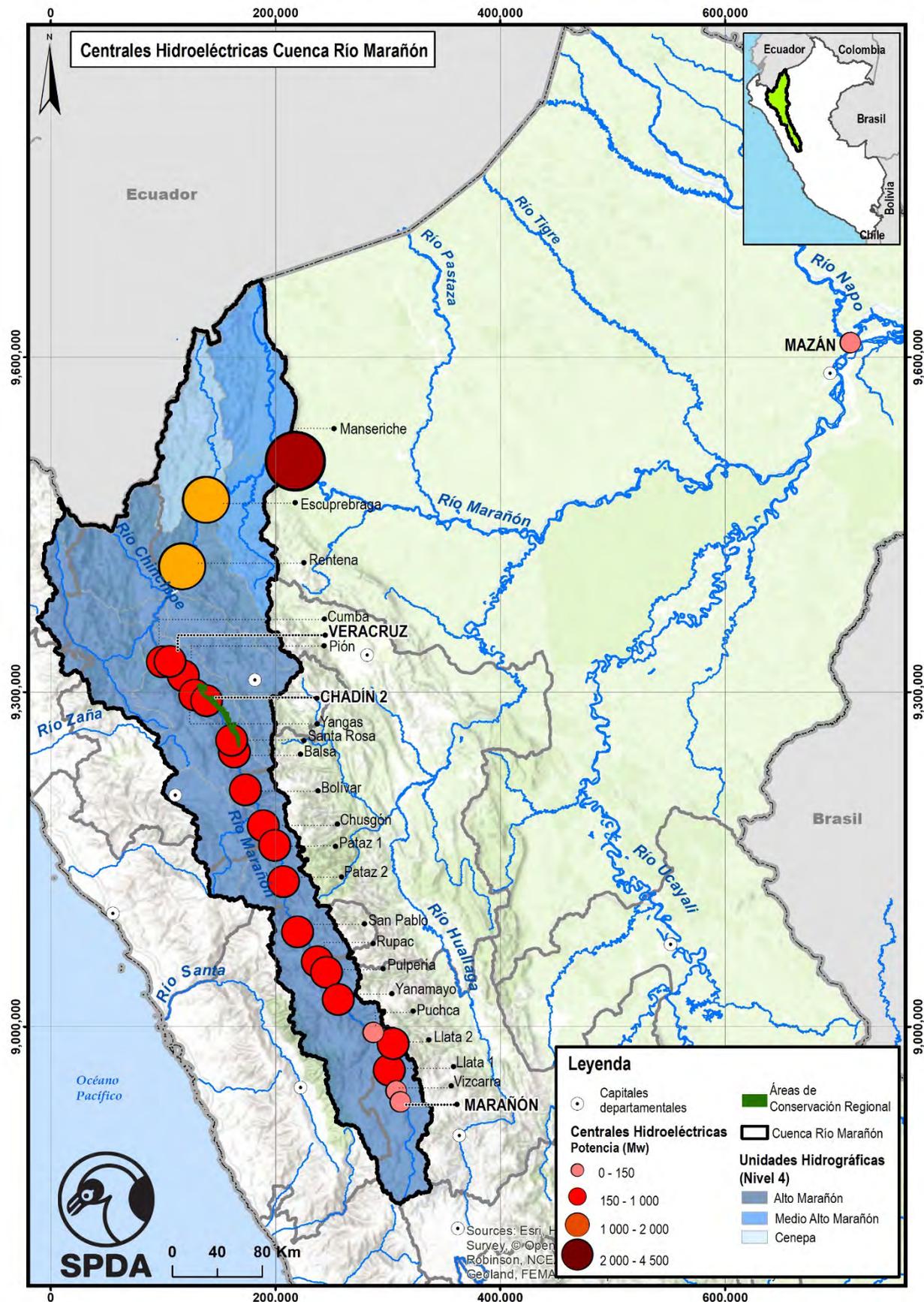
An important difference between a temporary concession and a definitive concession is that the former does not require an environmental impact assessment, because it only approves the development of feasibility studies and does not permit construction activities. Meanwhile, a definitive concession is a prerequisite for allowing construction works to begin. According to article 25 of the Electric Concessions Law, one of the requirements to obtain a definitive concession is to have an approved Environmental Impact Assessment (EIA). There are projects, such as the Chilia hydroelectric power plant, that do not have a temporary concession in force, while having an approved EIA³. This gives the company the authorization to request a definitive concession. On May 11th 2020, we formally consulted the Ministry of Energy and Mining on whether the Chilia project had submitted a request for a definitive concession. As of the closing date of this report, we have not received a response.

¹ The declaration of national and social interest was made through Supreme Decree 020-2011-EM on April 26, 2011.

² According to Article 23 of the Electric Concessions Law, a temporary concession is valid for two years, after which it can be extended once, for another year. Taking into account that the temporary concessions of the Mazan and Rio Grande I and II projects were granted in 2017 and 2014, respectively, it is presumed that both concessions have already lost their validity since at the expiration of said term the concession is fully extinguished.

³ Approved by Directorial Resolution 20-2018 / MEM-DGAEE.

Figure 1. Locations of the proposed hydroelectric power plants on the Marañón River



Source: SPDA

Table 1. State of hydroelectric power projects that have been granted concessions in the Marañón basin.

Proyecto	Empresa	Estado de la concesión	Certificación ambiental
Marañón	CELEPSA Renovables S. C. R. L.	In Operation	Valid
Chadín 2	AC Energía S. A.	Definitive	Invalid due to expiration of legal term
Veracruz	Compañía Energética Veracruz S. A. C.	Definitive	Invalid due to expiration of legal term

Source: SPDA

In this report, we will focus on analyzing the current legal situation of the Chadín 2 and Veracruz projects. Both have definitive concessions. They are they are located contiguously along the Marañón river canyon between the towns of Balsas and Puerto Malleta.

Both dams would flood an ecosystem known as **the seasonally dry forests of the Marañón**, which has some of the highest levels of endemism in Peru. This has been confirmed by various studies, including the technical file prepared by the Regional Environmental Authority of Amazonas (2017), which served as the basis for the creation of the Regional Conservation Area "Seasonally Dry Tropical Forests of the Marañón". These forests are home to various endemic and threatened bird species such as the Gray-Winged Inca Fringyl (*Incaspiza ortizi*), the Yellow-faced Parakeet (*Forpus xanthops*) and the Jaen Sparrow (*Incaspiza watkinsi*), which appear in the Red List of the International Union for Conservation of Nature (IUCN) and are categorized as vulnerable in the Red Book of Threatened Wildlife of Peru (Serfor, 2018).

Figure 2. Jean Sparrow (*Incaspiza watkinsi*), one of the endemic birds that live in the seasonally dry forest of the Marañón.



Foto. Walter Wust

If the Chadin 2 and Veracruz projects go ahead, these would generate serious environmental impacts, many of them irreversible. They would obstruct fish migration and nutrient transport, thereby impairing food supply, spawning, and biota refuge in the river (Anderson et al., 2018). By affecting the migration routes for many fish species, they would impact an important source of protein for indigenous communities like the Awajun and the Wampis, as well as communities living in the lower areas of the river and the Amazon basin (CSF, 2017).

The National Ombudsman (2016) classified the Chadin 2 case as a multiregional socio-environmental conflict, given that the area of influence covered the regions of Cajamarca and Amazonas. The conflict is classified as such because social organizations, rondas campesinas (community justice organizations) and community members of the Cortegana, Chumuch, Pizuquia and Cocabamba districts expressed opposition to the hydroelectric power project. Their reasons were the negative environmental and social impacts that would be generated, and the lack of a prior consultation process with these communities.

Figure 3. The cooperative of coffee producers CECAFÉ operates in areas that would be affected by the projects.



Photo: Joselmer Sánchez / CECAFÉ

In the case of Veracruz, various environmental organizations and adventure tourism companies have opposed this project because it would flood caves, natural pools and areas with great potential for the development of adventure tourism. Likewise, members of the CECAFÉ cooperative in Lonya Grande, dedicated to the cultivation and export of coffee, have spoken out against the project due to the negative implications that the reservoir may have on their coffee crops.

In 2014, the Chadin 2 and Veracruz hydroelectric power projects had approved EIA; also, in 2014 they signed their respective concession contracts with the Peruvian government for the generation of electrical energy. These prerequisites would have allowed both companies to start construction, if, in conjunction, they also received the various other permits required prior to commencing works. However, **to date, neither project has begun construction** - not even pre-construction works - which has resulted not only in the expiry of their EIA, but is also a cause for **expiry of their concession contracts**, as we demonstrate later in this report.

The underlying issue, in addition to the legal aspects detailed below, is that today's reality differs greatly from the context eight years ago, in which the Peruvian government promoted and signed the concession contracts for the development of hydroelectric power plants on the Marañón River. Globally, the image of large dams as a source of clean energy has changed in recent years, due to the high emissions of greenhouse gases, and the serious environmental and social impacts they generate.

Francesco Starace, CEO of Enel, the company behind the Veracruz project has, on various occasions since 2014, stated that the company will not promote large dams because these are not in line with the company's strategies towards a transition to low carbon energy production and economies⁴. This mirrors trends in Europe: According to Dam Removal Europe (2020), in Europe alone, more than 4,900 dams have been removed.

In the case of Odebrecht, the company is selling a diverse range of assets because of the serious corruption scandals in which it has been implicated. Given these new circumstances, it is critical that the Peruvian government analyze whether it is still pertinent to promote dams on one of the most important rivers in the Amazon basin.

Furthermore, prices for the generation of energy using unconventional renewables have significantly reduced. According to the Economic Operation Committee of the National Interconnected System (COES), there is an energy oversupply in Peru and the development of these large dams is not viewed as urgent or economically viable. This explains why the Peruvian government canceled the call for energy supply from large hydroelectric power plants to the National Interconnected Electric System (SEIN).

⁴ One of these declarations was made in an interview with journalist Anne Edwards at the Bloomberg New Energy Finance Summit 2017: <https://YouTube/xUZYouCoZU>

In this context, **neither Enel nor Odebrecht has prioritized the development of these projects in the short term.**

Even in Peru, sustainability is a concept increasingly mirrored in policy. One of the objectives of Peru's National Energy Policy 2010-2040 is to develop an energy sector with minimal environmental impact and low carbon emissions. However, the policy also prioritizes the construction of efficient hydroelectric power plants as the basis for national electricity generation. For this reason, it is important that **the Peruvian government proposes a clear policy regarding the development of large dams**, especially in basins such as the Marañon. Furthermore, **this decision should involve not only the Ministry of Energy and Mining, but also the Ministries of Environment, Culture, Foreign Trade and Tourism, and Agriculture.**

Figure 4. View over the Marañon, one of the eight great rivers that connect the Andes with the Amazon.

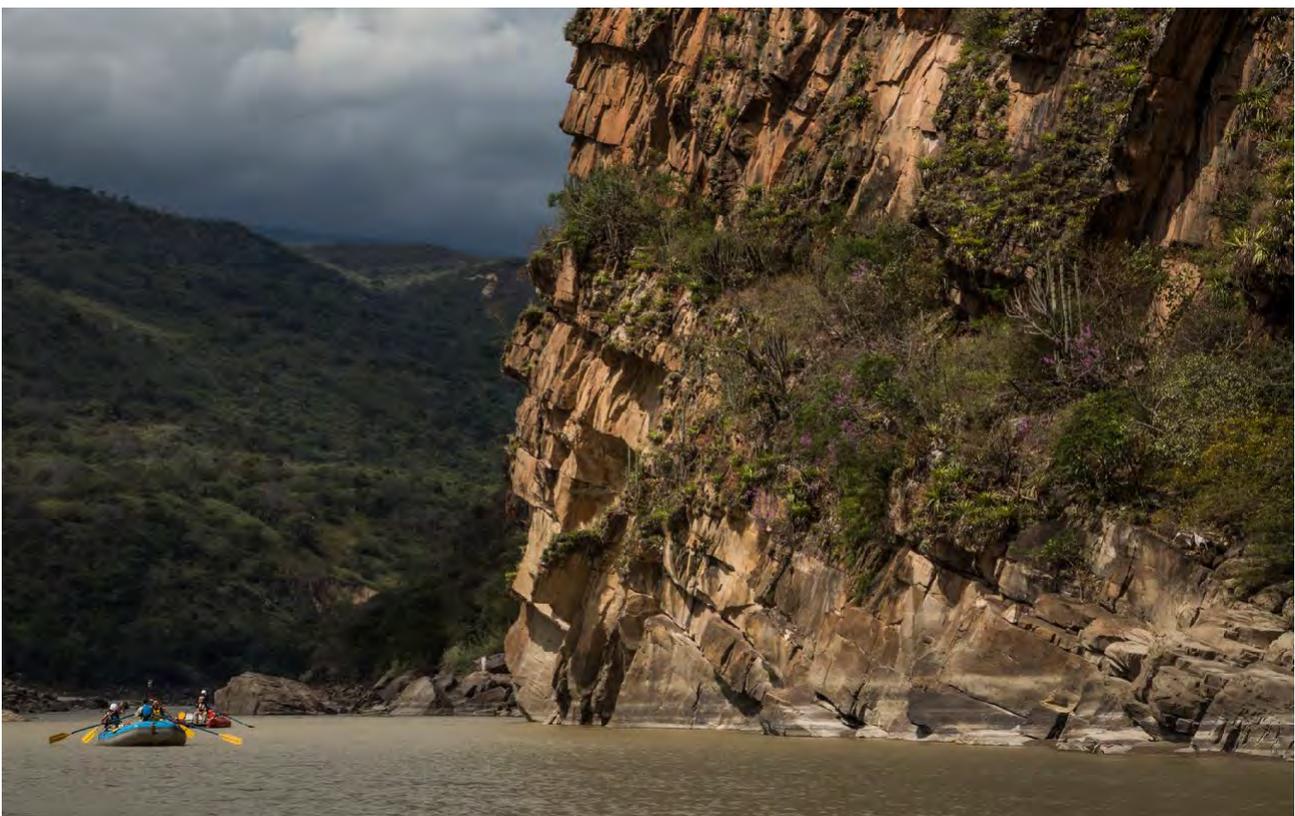
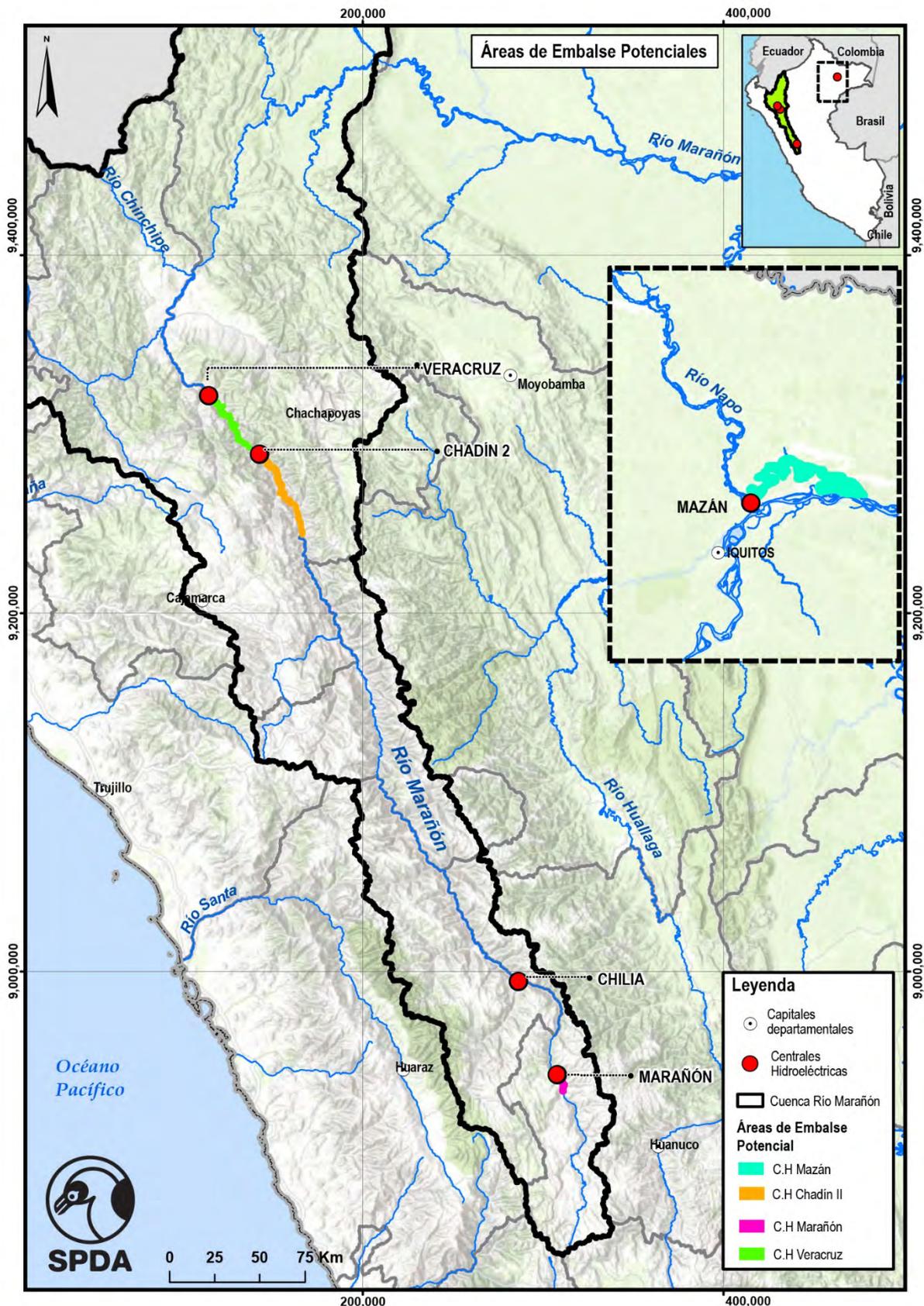


Photo: Bruno Monteferrri / SPDA

Figure 5. Location of the reservoirs for the Chadin 2, Veracruz, Mazan and Marañón hydroelectric power projects.



Source: SPDA (2019)

2. ANALYSIS OF THE CHADIN 2 AND VERACRUZ PROJECTS

According to information from the Supervising Organization of Investment in Energy and Mining (Osinergmin, 2020), the Chadin 2 hydroelectric power plant is expected to have a capacity of 600 MW. It would use a section in the middle basin of the Marañon River to create a reservoir, and install a hydroelectric plant at the foot of a 163m tall dam, with a nominal flow of 385 m³/s.

The project's area of influence includes the districts of Ocumal, Pisuquia and Cocabamba (province of Luya) and the district of Balsas (province of Chachapoyas), in the Amazonas region, as well as the districts of Celendin, Chumuch and Cortegana (province of Celendin), Cajamarca region. The total investment in the project amounts to 2,023 million dollars, of which 12 million dollars have been invested to date. The project is owned by the company AC Energía S.A., a subsidiary of Odebrecht.

The Veracruz hydroelectric power plant is expected to have a capacity of 635 MW, also using the middle basin of the Marañon river, by means of a reservoir on the river and the installation of a hydroelectric plant at the base of a 160m tall dam, with an average nominal flow of 385 m³/s.

The area of influence includes the districts of Yamon and Lonya Grande (province of Utcubamba) and the district of Camporredondo (province of Luya), region of Amazonas, as well as the district of Cujillo (province of Cutervo) and the district of Pion (province of Chota), Cajamarca region. The total investment for the project amounts to 1443 million dollars, of which 23 million have been invested to date. The project is owned by Compañía Energética Veracruz S.A.C., a subsidiary of Enel.

2.1. PRINCIPAL ENVIRONMENTAL AND SOCIAL IMPACTS THAT WOULD BE GENERATED BY THE VERACRUZ AND CHADIN PROJECTS

Environmental impacts are the damages that an activity generates in ecosystems, in environmental quality (soil, air and water), and in wild fauna and flora. Social impacts are those damages caused by an activity that affect a population's health, economy, property, customs, quality of life, etc.

For this report, we have compiled the environmental and social impacts presented in the EIA of Veracruz and Chadin 2 projects, and those analyzed by Conservation Strategy Fund (2017).

Table 2. Principal social and environmental impacts that the Chadin 2 project would generate.

Environmental Impacts	Social Impacts
<ul style="list-style-type: none"> • Alteration of the landscape and risk of affecting cultural heritage, such as archaeological remains and pictographs found in the area. • Alteration to the quality of the soil, which can cause the loss of vegetation cover and alteration of wildlife habitats. • Impact on the quality, oxygen content and turbidity of the water due to the reservoir. • Effects on the fertility of the soil by the flooding of agricultural land and natural vegetation. • Change in flow and morphology of the Marañon river bed. • Erosion and accumulation of organic matter due to the creation of a barrier in the Marañon river. • An area of 32.5 km² would be flooded, within which 244.8 ha. of agricultural area would be lost, valued at S / 3.5 million. Likewise, the reservoir would generate the emission of greenhouse gases (CSF, 2017). • Annually 10.14 million tons of sediments would be retained in the dam. The EIA does not provide methods for mitigation (for example, percentage of reduction of siltation, percentage of sediments planned to be returned to the river (CSF, 2017)). 	<ul style="list-style-type: none"> • 9 villages in the lower middle Marañon basin would be flooded (CSF, 2017). • Fishing is a subsistence activity of local populations in the area, and could be affected by the alteration of 182 km of migratory fish routes, and by the obstruction of the entire river section, which would hinder the passage of the fish (CSF, 2017). • Disordered human migration to the area, which can cause alteration to the current way of life of the populations close to the project (CSF, 2017). • Impact on current economic activities, such as agriculture and tourism as a potential source of income for populations (CSF, 2017).

Source: SPDA

Table 3. Principal environmental and social impacts that the Veracruz Project would generate.

Environmental Impacts	Social Impacts
<ul style="list-style-type: none"> • Air pollution through gases and particles, product of the transport of materials, excavation for the installation of structures, etc. • Risk of affecting archaeological remains and rock art found in the area. • Alteration of soil quality, which can cause the loss of the vegetation cover and alteration of the wildlife habitats. • Effects on the quality of the soil, resulting from of the contamination and erosion of the soil of the river bank. • 10.33 million tons of sediment would be retained annually in the dam reservoir, on which the EIA has not put forward any mitigation measures that will be adopted (for example, the reduction percentages in its silting, the percentages of sediments that are would be returned to the river, etc.) (CSF, 2017). • 36 km² of area would be flooded, within which 74.37 ha of agricultural area would be lost, valued at S / 950 thousand soles (CSF, 2017). • Emission of greenhouse gasses caused by the inundation of forests. 	<ul style="list-style-type: none"> • Possibility of involuntary resettlement of surrounding populations. • Impact on current economic activities, such as agriculture and tourism as a potential source of income for populations (CSF, 2017). • 11 populated areas in the lower middle Marañon basin would be flooded (CSF, 2017) • Fishing is a subsistence activity of local populations in the area, and could be affected by the alteration of 334 kilometers of migratory fish routes, and by obstruction of the entire river section, which would hinder the passage of the fish (CSF, 2017).

Source: SPDA

2.2. CUMULATIVE IMPACTS IN THE MARAÑON BASIN

The EIA of the Veracruz and Chadin 2 projects were evaluated on an individual basis – even though the dams would be contiguous, one right after the other, on the Marañon River. The EIA do not mention the cumulative environmental impacts that would result. Neither did the Peruvian government consider the cumulative and synergistic effects that the 20 hydroelectric power stations prioritized for the Marañon River would have. We consider that hydropower projects planned for river basins as large and important as the Marañon basin should be preceded by extensive evaluations of the synergistic and cumulative effects and risks.

To avoid this problem in the future, we consider it vital that the legal framework is consolidated, allowing for Senace (National Environmental Certification Service for Sustainable Investments) and other authorities that evaluate the EIA to consider direct and indirect cumulative environmental impacts of infrastructure projects. At the moment, the need to evaluate and prevent cumulative impacts is an obligation for projects that require a semi-detailed or detailed EIA, however, there are no clear guidelines or criteria on how companies should comply with the law, nor for how authorities should verify compliance.

The general obligation to evaluate cumulative and synergistic impacts was established in 2009 with the Regulations of the Environmental Impact Assessments System⁵. For hydropower projects, this was confirmed when the Ministry for Energy and Mining approved the terms of reference for the EIA of hydroelectric power plants in 2013⁶, and in 2019 through the approval of the Regulations for Environmental Protection in Electrical Activities⁷. Table 4 describes the existing legal obligations for evaluating and preventing cumulative impacts in the context of hydroelectric power stations.

⁵ Approved by DS 019-2009-MINAM

⁶ Approved by RM 547-2013-MEM/DM

⁷ Approved by DS 014-2019-EM.

Table 4. Legal obligations to evaluate and prevent cumulative impacts in the case of hydroelectric power stations.

Regulation	Year	Reference to cumulative impacts
Regulation of the Law of the Environmental Impact Assessments System	2009	Projects' cumulative impacts should be evaluated in the case of Strategic Environmental Evaluations. In addition, in Annexes III and IV, which contain the basic terms of reference for semi-detailed and detailed Environmental Impact Assessments, the following obligation is stated in the section "Characterizing Environmental Impact": "using quantitative methods, measures should be evaluated for preventing cumulative and synergistic impacts on components of the environment, landscape, social and cultural factors, and health of the populations."
Terms of Reference for the EIA of Hydroelectric power stations ⁸	2013	In the section "Characterizing Environmental Impact" the cumulative and synergistic impacts of a project should be evaluated, among other aspects. This evaluation should be based on a methodology established and/or approved by the Ministry of Environment or a methodology accepted internationally.
Regulation for Environmental Protection in Electrical Activities	2019	The identification, characterization and evaluation of environmental impacts should target the principal and auxiliary components of the project, throughout all phases, in a holistic manner. The process should consider the risks presented by activities in these phases, as well as the impacts on the carrying capacity and pressure on the surroundings. This implies that the cumulative environmental impacts should be considered during the development and the evaluation of an EIA.

According to the 2013 **terms of reference for EIA of hydroelectric power stations**, these should include cumulative and synergistic impacts of the planned projects. The evaluation should be conducted using a methodology established and/or approved by the Ministry of Environment, or a methodology accepted internationally. This methodology was approved by the Ministry of Environment in 2018 ("Guide for the identification and characterization of environmental impacts"), however, the Guide **does not include a methodology for evaluating cumulative and synergistic impacts**.

In the case of Chadin 2 and Veracruz, the requests for approval for both EIA were presented before the terms of reference for EIA of hydroelectric power stations were published in 2013, which means that the more stringent requirements contained therein do not apply. However, the terms of reference approved by the Ministry of Environment in 2009 *do* establish the need for assessing the prevention of cumulative and synergistic impacts (see Table 4) – and we believe that Senace should have noted this in the evaluation of the Chadin 2 and Veracruz EIA.

At the moment, the law allows for companies to determine what international standards to follow for assessing cumulative impacts. It is also unclear whether Senace is verifying compliance with this obligation: for Veracruz and Chadin 2, whose EIA lack a review of cumulative impacts, this was not flagged by Senace. Therefore, **we consider it urgent that the Ministry of Environment**

⁸ Published on December 13th, 2013, and using as a base letter "e" of Article 8, and Article 39, of the Regulation of the Law of the Environmental Impact Assessment System. These establish that the authorities responsible for evaluating EIA are in charge of, among other things, approving the terms of reference for the creation of semi-detailed and detailed EIA.

modifies the existing “Guide for the Identification and Characterization of Environmental Impacts” so that these include a methodology for assessing cumulative impacts. This would be in line with the terms of reference for EIA of hydroelectric power stations from 2013, and the 2019 Regulation for Environmental Protection in Electrical Activities – the latter having even been endorsed by the Minister of Environment. Finally, Senace should prioritize the issue of cumulative impacts of projects in its review of semi-detailed and detailed EIA.

Figure 6. Communities near the Marañón River would be affected by dams, displacing more than 1,500 people.



Source: documentary “Confluir” (2018, dir.: Henry Worobec)

2.3. ADDITIONAL ENVIRONMENTAL CERTIFICATIONS REQUIRED TO EXECUTE AN ELECTRICITY GENERATION PROJECT

An energy generation project requires an electrical concession, an approved EIA, as well as a series of permits aimed at protecting the environment, water resources, forest resources and cultural heritage, among others. Below, we explain the permits issued by the National Water Authority (ANA) and the Ministry of Culture.

2.3.1. Permissions granted by the National Water Authority

The use of water is contingent on a series of rights. Water use is prioritized for i) primary use, ii) use by a population, and iii) productive use. Primary use does not require use rights, because it refers to manual use for basic human needs, such as cooking, personal care etc. However, the other two categories do require permits. A community or population requires a right to extract water and use it for a community's water supply. The use of water in productive activities, meanwhile, requires the right to extract water and use it for productive activities.

The Law of Water Resources⁹ establishes the following ranking of priority productive uses for water, in the case of simultaneous use requests:

- i) Agriculture, aquaculture and fishing;
- ii) Energy, industry, medicine and mining;
- iii) Recreation, tourism and transport;
- iv) Other uses.

Notably, agriculture and fishing are given priority over energy uses in the Law of Water Resources. This is relevant in the Marañon River context, considering that there is a large number of people that depend on agriculture and fishing in the basin.

Water regulations consider three types of use rights: permits, authorizations and licenses. A water use permit allows the use of surface water under exceptional circumstance. Authorizations enable the execution of studies and works, for a maximum period of 2 years, extendable for a further 2 years. Finally, licenses enable the use of water for permanent productive activities. A hydroelectric project requires both authorizations and a water use license. Obtaining a water use license is contingent on a series of authorizations, which must be obtained in the following order: (i) authorization to carry out water availability studies (this is optional), (ii) accreditation of water availability (obligatory) and (iii) authorization to carry out water use works (obligatory).

⁹ Article 62 of the Law of Water Resources.

The authorization to carry out water availability studies is optional, subject to positive administrative silence¹⁰ and is not exclusive to one user. It does not authorize the use of water or the execution of works, and does not require an existing EIA, but merely a technical file of the project.

Next, the accreditation of water availability certifies the existence of water in conditions appropriate for a given project. The accreditation is obtained by means of a Resolution of Approval of Water Availability or a Favorable Technical Opinion of Water Availability within the EIA. This accreditation does not entitle the petitioner to use water or carry out works, nor is it exclusive to the requesting user.

Finally, the authorization for the execution of water use works is an administrative act that is subject to positive administrative silence. To approve this authorization, the project must have a valid EIA. Once a project has the authorization for the execution of water works, it is guaranteed a water use license once construction has been completed, requiring only a verification that construction was carried out in accordance with the authorization granted. The authorization also includes the approval of the Water Use Plan and the Hydraulic Scheme.

Against this backdrop, on January 21st, 2020, we requested that ANA inform us about the state of Chadin 2 and Veracruz's permits, licenses and authorizations in relation to water use. That same month, ANA responded that the Veracruz company had, in 2012, requested a permit to conduct water use studies, however, it is unclear whether these were carried out. By now, these permits have expired. More importantly, the Veracruz project does not have the next levels of authorizations it would need to use water resources for the hydroelectric power station, such as the authorization for the execution of water use works.

Meanwhile, for Chadin 2, AC Energía S.A. conducted both a study of water use and obtained an authorization for the execution of water use works for energy generation, with the latter in force until 2024. The law leaves the relationship between the expiry of the project's EIA (discussed further on in this report) and the authorization for the execution of water use works unclear, i.e. whether a new authorization has to be requested given that the EIA is expired.

2.3.2. Permissions granted by the Ministry of Culture

For the development of a hydroelectric power station, the regulations require that the project owner comply with obtaining a **Certificate of Non-Existence of Archaeological Remains (CIRA)**, a document issued by the Ministry of Culture in order to certify that in a specified area, there are no archaeological remains¹¹.

¹⁰ Positive administrative silence: to ensure that the public's requests are addressed, in some cases, it has been established that if a request is not responded to by the authority within 30 days, the request is considered to have been granted (e.g. an authorization). There are also areas where the opposite applies – negative administrative silence – where, if a request is not responded to in 30 days, it is considered denied.

¹¹ This is based on Article 54 of the Archaeological Intervention Regulations (approved by Supreme Decree 003-2014-MC).

We made public information requests to the Ministry of Culture to find out whether the Veracruz and Chadin 2 projects have any authorizations for archaeological intervention. The Ministry of Culture reported that Chadin 2 has not submitted any request for the authorization of archaeological intervention. On the other hand, Veracruz has submitted applications to carry out archaeological interventions, but these have not yet been approved¹².

There are various types of authorizations for carrying out archaeological interventions. These include the aforementioned CIRA, and the Archaeological Evaluation Project (PEA). The CIRA is granted by the decentralized Directorates of Culture of the region in which the project will be carried out, while the PEA is processed the Ministry of Culture in Lima. The regulations for approval of a CIRA indicate that if the area in question contains archaeological remains, the relevant decentralized Directorate of Culture will reject the application¹³. If the applicant desires to continue with the investment project, a PEA is necessary, with restricted excavations for delimitation purposes.

Since part of the project is located between the regions of Cajamarca and Amazonas, the **Veracruz company requested the CIRA** from the decentralized Directorates of Culture of both regional governments: on November 4, 2015 in Cajamarca¹⁴, and on November 12, 2015, it requested four CIRA in Chachapoyas¹⁵. **Veracruz' request presented to Cajamarca was declared inadmissible** because archaeological remains were identified in the project influence area. Similarly, their **request to Amazonas was also declared inadmissible** because the two projects were located within the Great Archaeological Reserve Zone¹⁶. This zone is comprised of the geographical area of the provinces of Bongara, Utcubamba, Luya, Rodriguez de Mendoza and Chachapoyas in Amazonas.

The regional government of Cajamarca, while declaring Veracruz' CIRA application inadmissible, recommended that the Veracruz company complete a PEA through the headquarters of the Ministry of Culture. The PEA is an archaeological intervention that defines the existence of archaeological remains in a given area¹⁷. It can be carried out for the development of productive, extractive and / or service projects, in order to protect cultural heritage. The objective of the PEA is to evaluate, prevent and determine the mitigation measures that are necessary. It includes reconnaissance works with restricted excavations within the area subject to evaluation to define the presence of pre-Hispanic and historical monuments, as well as their archaeological potential.

¹² This information was emitted by the Ministry of Culture through Report D000180-2019-DCIA-LFT / MC of December 6, 2019.

¹³ Article 7.3.4 of Directive 001-2013-VMPCIC / MC Rules and Procedures for the issuance of CIRA (approved by Vice-Ministerial Resolution 037-2013-VMPCIC-MC).

¹⁴ This information was communicated in correspondence D000155-2019-DDC-CAJ-WGP/MC on 17 December 2019

¹⁵ This information was communicated in correspondence D000406-2019-DDC-AMA-JCA/MC on 13 December 2019.

¹⁶ Recognized as such by Supreme Decree No. 022-2000 -ED

¹⁷ In accordance with Article 11.3 of the Archaeological Intervention Regulations.

The Ministry of Culture authorized the Veracruz company to carry out a PEA¹⁸. However, that request was annulled¹⁹ at request of Veracruz itself²⁰, due to the social conflicts caused during the informative workshops undertaken as part of the EIA process.

According to the information provided by the General Directorate of Archaeological Heritage of the Ministry of Culture²¹, we learned that no application is currently being processed for the authorization of archaeological interventions by the Chadin 2 and Veracruz projects. This means that **neither company can initiate works, given that they do not have the necessary permits from the Ministry of Culture.**

Figure 7. Rock paintings beside the Marañon River, located inside the inundation zone of the Veracruz hydroelectric dam

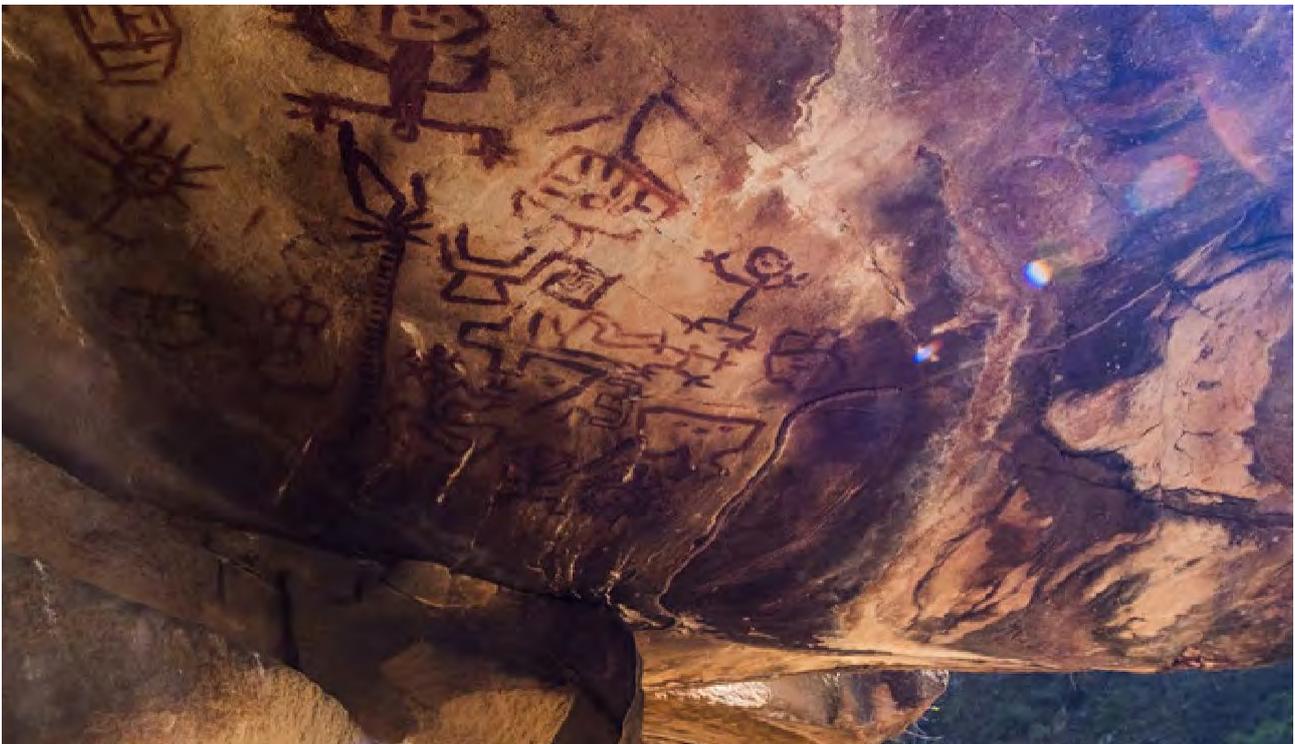


Photo: Benjamin Webb / Marañon Waterkeeper

¹⁸ By means of Directorial Resolution 063 / INC of January 14, 2010 from the National Director of the National Institute of Culture.

¹⁹ By National Directorial Resolution 1566 / INC on July 16, 2010.

²⁰ In letter CVC-032/10 on April 29, 2010.

²¹ Through report D000180-2019-DCIA-LFT / MC on December 6, 2019.

Figure 8. Detail of petroglyphs found in the surroundings of the Marañon river



Photo: Walter Wust

24. EXPIRY OF THE ENVIRONMENTAL IMPACT ASSESSMENTS OF THE CHADIN 2 AND VERACRUZ PROJECTS

All economic activities capable of generating environmental impacts must have an approved EIA before starting works²². The purpose of the EIA is to evaluate the possible impacts on the environment, and how these could be avoided, minimized, mitigated and/or compensated, when appropriate. The EIA is approved through the Instrument of Environmental Management (IGA), which, depending on the scope of the impacts, can be classified into a detailed EIA, a semi-detailed EIA or a declaration of environmental impact.

On April 1, 2013, the Ministry of Energy and Mines approved the EIA of the Veracruz hydroelectric power project²³. On February 20, 2014, Ministry also approved the EIA of the Chadin 2 hydroelectric power project²⁴.

²² Article 5 of the regulation of the Law for the National System of Environmental Impact Evaluation.

²³ Through Vice-Ministerial Resolution 045-2013-MEM / VME.

²⁴ Through Directorial Resolution 058-2014-MEM / AAE.

According to the Law of the National System of Environmental Impact Assessments, "**Environmental Certification loses validity when, within a maximum period of five (5) years, the owner does not commence works**"²⁵. Also, "the Environmental Certification loses validity if, within a maximum period of three (3) years after its issuance, the owner does not start the works for the execution of the project. This may be extended by the relevant authority, once, and at the sustained request of the owner, for up to two (2) additional years."²⁶ **After this period, the EIA's validity is lost, and the company would have to complete the EIA process again to commence works.**

This reasoning by which EIA lose their validity is based on the need to have up-to-date information on the characteristics of the area to be affected. Even an approved IGA is updated every five years and must be modified when there is a planned increase or change in the activities initially proposed.

The EIA of the Veracruz project was approved on April 1st, 2013, and the EIA of the Chadin 2 project was approved on February 20th, 2014, with both EIA in force for three years from date of approval. As the norm allows the extension of this term up to two additional years, both companies requested extensions, which were granted by Senace²⁷.

We obtained several instances of proof that neither project initiated works in the specified time. Recently, on January 20, 2020, OEFA, the Organization for Environmental Evaluation and Enforcement, reported that it has never carried out any supervision of the Veracruz project²⁸. In contrast, the Chadin 2 project has had three supervisions. Of these three, the last supervision was carried out from August 2 to 8, 2018, and these concluded that the project had not started works by those dates. Regulations state that within 30 business days after the official works start date mentioned in the EIA, the project owner must communicate said fact to OEFA²⁹. OEFA reported the Veracruz and Chadin 2 projects had not informed them of the start of works³⁰, with which it verifies that neither project has complied with executing works within the period established in the EIA. Similarly, the Ministry of Energy and Mining also reported that the Veracruz and Chadin 2 projects had not started works³¹.

Therefore, based on existing regulations³², **the Veracruz and Chadin 2 projects have already lost the validity of their EIA on April 1, 2018 and February 20, 2019, respectively, for not starting construction work within the respective 5 years from the EIAs' approval.**

²⁵ Section 12.2 of Article 12 of the Law of the National System of Environmental Impact Assessments, modified on September 6, 2018 by Legislative Decree 1394.

²⁶ Article 57 of the Regulations of the Law of the National System of Environmental Impact Assessments, modified on September 6, 2018 by Legislative Decree 1394.

²⁷ Board Resolutions 041-2016-Senace / DCA and 051-2017-Senace / DCA.

²⁸ Through letter 85-2020-OEFA / RAI.

²⁹ Article 67 of the Regulation for Environmental Protection in Electrical Activities (approved by Supreme Decree 014-2019-EM).

³⁰ Through letter 85-2020-OEFA / RAI of January 20, 2020.

³¹ Through official letter 760-2018-MEM / SG of June 24, 2018.

³² In accordance with the provisions of Article 12 of the Law of the National System of Environmental Impact Assessment and Article 57 of its Regulations.

2.4.1. Explicit declaration of the expiry of an Environmental Impact Assessment

We asked Senace on August 19th, 2019 to confirm the expiry of the EIA's of the Veracruz and Chadin 2 projects³³. Note that earlier, on April 25th of the same year, Senace communicated to SPDA that it "does not issue a pronouncement ex officio declaring the loss of validity of an EIA." We then requested Senace to emit a resolution or other declaratory document to confirm the loss of validity of the EIA of both projects.

Senace answered³⁴ that the Law of the National Evaluation System for Environmental Impact does not "foresee the issuance of any pronouncement by the authority on the loss of validity of the environmental certification. This would occur as a result of the law if the owner does not initiate activities." In addition, it specifies that the 'Regulation of Organization and Functions' of **Senace only has the function of evaluation and extension of validities of EIA, but not the declaration about loss of validity of EIA.**

This same interpretation was shared by the General Directorate of Environmental Management Policies and Instruments, part of the Ministry of Environment, which exercises the stewardship and is responsible for conducting the National System of Environmental Impact Assessment³⁵. When we asked whether there is currently a formal mechanism that obliges the environmental authorities with powers in environmental certification to issue any pronouncement or resolution that announces the loss of validity of an EIA, the directorate concluded that this was not required of the authorities. **Once the term of five (5) years elapses without works having started, the validity of the EIA is automatically lost³⁶.**

Our position, as SPDA, is that we agree that the pronouncement of the authority, in this specific case, does not give or extinguish any rights – an EIA simply expires automatically when the specified time period has elapsed. However, this scenario generates uncertainty for the population living in the area of direct and indirect influence of these hydroelectric power projects, because there is no mechanism that ensures that they are informed of the projects' legal status. For instance, landholders whose territory would be flooded or otherwise impacted would not be aware of developments such as an EIA's expiry, unless they regularly checked with Senace. For this reason, we consider it essential that a mechanism is created that ensures better levels of public information and citizen participation.

³³ Pursuant to the provisions of Article 117 of the Single Ordered Text of Law 27444, the General Administrative Procedure Law, approved by Supreme Decree No. 004-2019-JUS, any administrative party, individual or collective, may promote the initiation of an administrative procedure, exercising the right of petition recognized in Article 2 Subsection 20 of the Political Constitution of the State. This right includes the powers to present requests in the private interest of the administered, to make requests in the general interest of the community, to contradict administrative acts, the powers to request information, to make inquiries and to present requests for grace. In accordance with the provisions of Article 118 of the aforementioned norm, any administered party with legal capacity has the right to appear before the administrative authority, to request in writing the obtaining of a formal declaration, the record of a fact, or the recognition or extinction of a right.

³⁴ Through letter 0358-2019-Senace-PE / DEAR of December 2nd, 2019 and Report 0972-2019-Senace-PE / DEAR.

³⁵ As established by article 66 in the Organization and Functions Regulation of this entity.

³⁶ That response was delivered through letter 00348-2019-MINAM/VMGA/DGPIGA on 9 December, 2019, in response to a question formulated by SPDA on 12 September, 2019 through letter 038-2019/SPDA.

As SPDA, we are sending the Ministry of Environment our comments and contributions within the framework of the public consultation process³⁷ to modify the regulations of the Law of the National System of Environmental Impact. **One of our main proposals relates to a communication mechanism for the loss of environmental certification. We propose that within 30 working days of an EIA losing its validity, the updated status of the EIA is reported to the populations that are within the direct and indirect area of influence, who are identified within the EIA.**

Meanwhile, Senace must administer the National Registry of Environmental Consultants and the Administrative Registry of Environmental Certifications, in a public and timely manner³⁸. This registry is virtual, but currently only shows the name of the project and the downloadable version of the EIA: it does not specify whether the EIA is valid or not.

Senace is responsible for approving the regulations that dictate the implementation of the Administrative Registry of Environmental Certifications³⁹. However, to date, these regulatory standards have not been approved. Therefore, we consider that **Senace should, through its virtual registry, inform citizens not only about the content of an EIA, but also the legal status of said environmental certification:** that is, if the environmental impact study is valid or not. Indeed, on February 3, 2020, a Supreme Decree established the minimum content of public administrative records⁴⁰. According to this, **Senace must, within a period of no more than 90 business days from when the law entered into force, indicate the status of EIA in its virtual registry.**

We have verified that Senace is already implementing these measures and, among the search categories that appear in its registry, it has incorporated the criterion "state". The search includes 16 options, among which are "abandoned", "approved", "denied", "desisted", "inadmissible", "not presented", "suspended", among others. However, **the option "not valid" or "validity lost" is not found.** Furthermore, although "status" has been included among the search criteria, it has not yet been implemented in the search results. In our view, the expression "status" not only means indicating the status of the environmental certification process, but also the status of the EIA that have been approved: their validity or expiration. Therefore, we suggest that this criterion be included in both the search and the results, and the option "not valid" or "validity lost" be included.

We remain hopeful that Senace complies with implementing the suggested provision in its registry. It is currently the only platform that could alert the public about whether infrastructure project like the Veracruz and Chadin 2 hydroelectric power plants are about to commence works.

³⁷ Draft of the Supreme Decree that modifies the regulation of the Law 27446, Law of the National System of Environmental Impact (approved by Supreme Decree No. 019-2009-MINAM).

³⁸ In accordance with Article 3 of Law 29968, which created Senace.

³⁹ The First Final Complementary Provision of the Law creating Senace.

⁴⁰ Supreme Decree No. 016-2020-PCM.

2.4.2. Legal consequences of expiry of Environmental Impact Assessments

As discussed above, both Senace and the Ministry of Environment have confirmed that EIA expire automatically when a project has not started works within five years. Hence, the EIA of both Chadin 2 and Veracruz projects have lost their validity. It is therefore prohibited for either company to commence works within their concessions. Should they commence works regardless, they would incur an administrative offense punishable by the OEFA. OEFA could not only fine them, but also dictate administrative measures, including halting activities, confiscation of the equipment used for development of illegal works, etc.

According to the classification of infractions and sanctions related to the Environmental Management Instruments (in this case the EIA)⁴¹, the development of projects or activities without the respective Environmental Management Instrument is considered a very serious offense, punishable by up to 30,000 tax units (UIT, currently around 129 million soles) – this is the maximum limit for an administrative fine in the environmental context⁴². **Carrying out works without a valid EIA is the highest offence sanctioned by OEFA.** To date, this has only ever been applied in cases of illegal mining.

Should the companies decide to **relaunch the projects, they would have to present new EIA, based on new technical baseline studies.** The new regulations discussed above set a higher benchmark for EIA, which must now also include cumulative impacts and environmental compensation mechanisms in the case of unavoidable impacts. As discussed above, the Ministry of Environment should include an objective methodology for assessing cumulative impacts in its “Guide for the identification and characterization of environmental impacts”. Currently, enterprises are obliged to carry out these evaluations for semi-detailed and detailed EIA, using an “internationally accepted methodology”.

The 2019 Regulation for Environmental Protection in Electrical Activities now also require projects to discuss project alternatives in their EIA – for instance, installing the planned dams in other sites and how this would compare the current plans. These analyses must account for environmental, economic, and social factors. Minimum social considerations include the health risks to local populations, the implications of relocation of populations, and the impacts on other economic activities carried out in the project's area of influence. Minimum environmental considerations include the environmental costs, the risk of loss of ecosystems and their functionality, physical vulnerability, protected areas, climatic risks, application of the mitigation hierarchy, mitigation measures and adaptation to climate change.

⁴¹ Approved by Resolution of the Board of Directors 006-2018-OEFA / CD).

⁴² According to the provisions of article 136 of the General Environmental Law.

Finally, new EIA would also involve a new public participation process, involving all stakeholders that would be influenced directly and indirectly by the social and environmental impacts of the projects.

2.5. EXPIRATION OF ELECTRICITY CONCESSIONS

The concession is an act by which the management and exploitation of a public service or the exploitation and use of state-owned assets is granted to an individual (Fraga, 2003). Electricity concessions are classified into two groups: temporary and definitive concessions. The first are those that are granted to carry out feasibility studies and are formalized through a Ministerial Resolution. The latter are approved by Supreme Resolution, and are framed in a concession contract, which contains a series of contractual rights and obligations.

A definitive concession is required for the development of electric power generation projects that use water resources, with installed power greater than 500 KW⁴³. In the case of the Chadin 2 and Veracruz projects, both require definitive concessions, given their projected capacity of 600 MW and 635 MW, respectively.

The only way in which a concessionaire can lose the concession is under the legal figure of "expiration"⁴⁴. Expiration implies the extinction of a right for non-compliance attributable to one of the parties in the contractual relationship.

Academic doctrine notes the following in this regard:

"The declaration of expiration is not considered an exercise of a sanctioning power, despite it being seen as a real sanction against the concessionaire. Expiration is an administrative power that is justified in the protection of the public interests specified in the concession title, trying to guarantee that the conditions that justified its granting are complied with and maintained at all times, thus avoiding that the breaches that the concessionaire may commit to harm to those interests " (Mestre Delgado and Lozano Cutanda, 2014).

There are several reasons that could lead to expiry of a definitive concession, but notably, among them is when the concessionaire does not comply with executing the works in accordance with the works schedule⁴⁵. This unless the concessionaire has shown that works were impeded by fortuitous occurrences or *force majeure*, as qualified by the Ministry of Energy and Mining. The companies behind Chadin 2 and Veracruz have both tried to argue for *force majeure* to the Ministry, as detailed below. In the case of Chadin 2, said argument has already been rejected by the Ministry. Veracruz' request, meanwhile, is still being processed. We now discuss both processes in more detail.

⁴³ Article 3 of Decree Law 25844, the Electric Concessions Law.

⁴⁴ According to Article 35 of the Electric Concessions Law.

⁴⁵ Pursuant to Article 36 of the Electric Concessions Law.

2.5.1. Expiration of the concession for the Chadín 2 project

On October 18, 2014, the Peruvian government granted AC Energía S.A. (Odebrecht) the definitive concession for generation of electricity through the Chadín 2 hydroelectric power plant⁴⁶. Commencement of works was scheduled for August 1, 2017 and the date of Commencement of Commercial Operation (POC) on July 12, 2023.

Three years later, on December 22, 2017, the company AC Energía S.A., invoking reasons of *force majeure*, requested the modification of its concession contract. It cited heavy rains and the resulting sanitary and security issues, as well as opposition to the project by local governors, as causes of *force majeure*. It asked for the date of commencement of works to be extended to October 1, 2019 and the POC until September 12, 2025⁴⁷. However, a few months later, the General Directorate of Electricity declared the request inadmissible, arguing that the reasons invoked did not qualify as *force majeure*⁴⁸. Although the company appealed this decision, the appeal was declared unfounded by the Ministry of Energy and Mining⁴⁹.

Our conclusion, therefore, is that given that works did not commence on time, one **cause for concession expiry for the Chadín 2 hydroelectric power plant project has been incurred**⁵⁰.

2.5.2. Expiration of the concession for the Veracruz project.

Meanwhile, on November 5, 2014, Compañía Energética Veracruz S.A.C. (Enel) was granted a definitive concession for the generation of electricity through the Veracruz hydroelectric power plant⁵¹. Works were set to commence on June 19, 2017 and the POC date on January 9, 2022.

On February 28th, 2018, the Veracruz company requested that because it had found cave paintings in three areas of the Yamon district, this event be classified as *force majeure*, preventing their compliance with their concession contract⁵². The cave paintings would be impacted the dam's reservoir. The company also requested that the obligations set forth in their contract be temporarily suspended while the cause of *force majeure* remained. A few months later, the company further supplemented their request, suggesting a new POC date of April 18th, 2029⁵³. To date, their request has been is pending resolution by the General Directorate of Electricity of the Ministry of Energy and Mining.

⁴⁶ By Supreme Resolution 073-2014-EM, approving Concession Contract 458-2014.

⁴⁷ Requested by document with registration 27771981.

⁴⁸ By means of Directorial Resolution 0071-2018-MEM / DGE, on April 6, 2018.

⁴⁹ The appeal was presented by AC Energía S.A. via document registration 2809098 of April 30, 2018, which was declared unfounded by Vice-Ministerial Resolution 006-2018-MEM / VME of July 16, 2018

⁵⁰ Cause of concession expiry referred to in article 36 of the Electric Concessions Law

⁵¹ By means of Supreme Resolution 076-2014, approving Concession Contract was approved 456-2014.

⁵² Through letter AL-002-2018 with registration 2789778, dated February 23, 2018, from Compañía Energética Veracruz S.A.C.

⁵³ Through letter AL-005-2018 of July 11, 2018

According to Osinergmin (2020), the Veracruz company has proposed the relocation of the dam 13 kilometers upstream from its original proposed location, thus aiming to minimize the geological and environmental risks of the project and reducing installed power to 635 MW. Osinergmin also specifies that the main obstacle for the Veracruz project is the Peruvian government's decision to cancel the call for energy supplied from large hydroelectric power plants.

In conclusion, the Veracruz company has not commenced works within its specified schedule. If the Ministry of Energy and Mining rejects its request to consider the delay as due to *force majeure*, the company incurs a cause for the expiration of its concession contract.

2.5.3. Procedure for the declaration of expiration of an electrical concession

The expiration of an electrical concession must be declared via a Supreme Resolution, published in the official legal newspaper, *El Peruano*⁵⁴.

Prior to when a concession contract is renewed, its timeline extended, and/or terms renegotiated, Osinergmin must publish an official opinion⁵⁵. Osinergmin publishes an evaluation on the compliance of the concession company with the obligations in the concession contract and in the sector's regulations. Then, the following is the process by which an electrical concession is declared as expired⁵⁶:

- The General Directorate of Electricity will create a file in which the cause that merits expiration will be documented, and the concessionaire must be notified of this fact.
- The concessionaire, once the notification has been received, can make a defense presenting the evidence it deems appropriate, within the term of ten business days of receipt of the notarized letter. Upon expiration of the term without the concessionaire presenting its defense, the expiration will be declared.
- The defense presented by the concessionaire will be evaluated by the General Directorate of Electricity and, if applicable, a Supreme Resolution will be issued declaring the expiration within a maximum period of thirty business days.

We are currently analyzing whether there are sufficient grounds for the Chadin 2 project to be declared as expired by the Peruvian government. In the case of Veracruz, the *force majeure* request from the company, if accepted by the Ministry of Energy and Mining, could provide an opportunity for the government and the company to mutually agree to resolve the contract.

⁵⁴ Article 74 of the Regulations of the Electricity Concessions Law

⁵⁵ Article 33 of the General regulation of the Osinergmin, approved by Supreme Decree No. 054-2001-PCM.

⁵⁶ Article 73 of the Regulation of the Electric Concessions Law.

2.6. ISSUES RELATED TO THE ENVIRONMENTAL MANAGEMENT OF HYDROELECTRIC POWER PLANTS

2.6.1. Citizen participation in electrical projects

The guidelines for citizen participation in electricity activities⁵⁷ are intended to promote greater participation of the affected populations as well as the regional, local, communal authorities and representative entities. The idea is to understand these actors' perceptions, exchange opinions, and analyze observations and suggestions about the environmental and social aspects related to the proposed electricity project. These participation guidelines are applicable from the granting of temporary concessions, preparation and approval of EIA, as well as the operation and termination of activities.

The table below summarizes the citizen participation mechanisms included in the aforementioned guidelines.

⁵⁷ Approved by Ministerial Resolution 233-2010-MEM / DM in May 2010.

Table 5. Mechanisms for citizen consultation and participation in electrical activities

Mechanism	Definition	Occasion	Character
Face-to-face event	Public event during granting of temporary concessions for electricity generation.	During granting of temporary concession	Optional
Participative Workshop	Establish dialogue between the State, the project owner and the population involved to provide information about the project, its possible impacts and the prevention, control, mitigation or other measures to adapt.	During the process of preparing an EIA	Obligatory
Public Audience	Understand what the local perceptions are with the goal to avoid the creation of social, cultural and economic impacts	During the evaluation of the EIA	Obligatory
Suggestions Mailbox	Public act in which the EIA is presented and the observations and suggestions of the participants are recorded in order to include them in the evaluation of the EIA.	Throughout the preparation and evaluation of the EIA and during execution of the project.	Optional
Guided Visits	Carried out by specialized personnel arranged by the owner of the project in order to show the characteristics of the project.	Throughout execution of the project.	Optional
Promotion team	Group of professionals hired by the project owner to carry out visits in the project's area of influence to inform and collect perceptions about the EIA.	Throughout preparation and evaluation of the EIA	Optional
Information Office	Establishment of a physical environment that provides the population involved with information on the EIA and its compliance.	During the preparation and evaluation of the EIA and during the execution of the project.	Optional
Other mechanisms of citizen participation	The owner of the project can use other mechanisms of citizen participation, such as, making presentations before the local population or community, the dissemination of reports, interviews and any other that is proposed.	During the preparation and evaluation of the environmental management instrument and during the execution of the project.	Optional

Source: SPDA

In addition, **we suggest two further participatory mechanisms** which, while not established under the above guidelines, may consolidate citizen participation. The first is the Early Environmental Evaluation mechanism (EAT), conducted by OEFA that seeks information on the state of a project's area of influence before works commence. This allows OEFA to later measure the impact of activities. **The EAT process includes a participatory monitoring tool** that may strengthen and add transparency to data collection. **The second opportunity for public participation is during the creation phase of baseline environmental studies⁵⁸.**

Should the Chadin 2 and Veracruz projects choose to re-activate their concessions, they would have to process new EIA, using public participation standards substantive enough to allow early internalization of environmental impacts.

2.6.2. Environmental compensation applicable to investment projects

Environmental compensation measures are necessary for those negative environmental impacts that are tolerable but could not be prevented or mitigated, that is, the residual ones⁵⁹. It is very important to mention that environmental compensation is exceptional because it closes the chain of impact management. **Environmental compensation is part of the mitigation hierarchy**, according to which actions run sequentially:

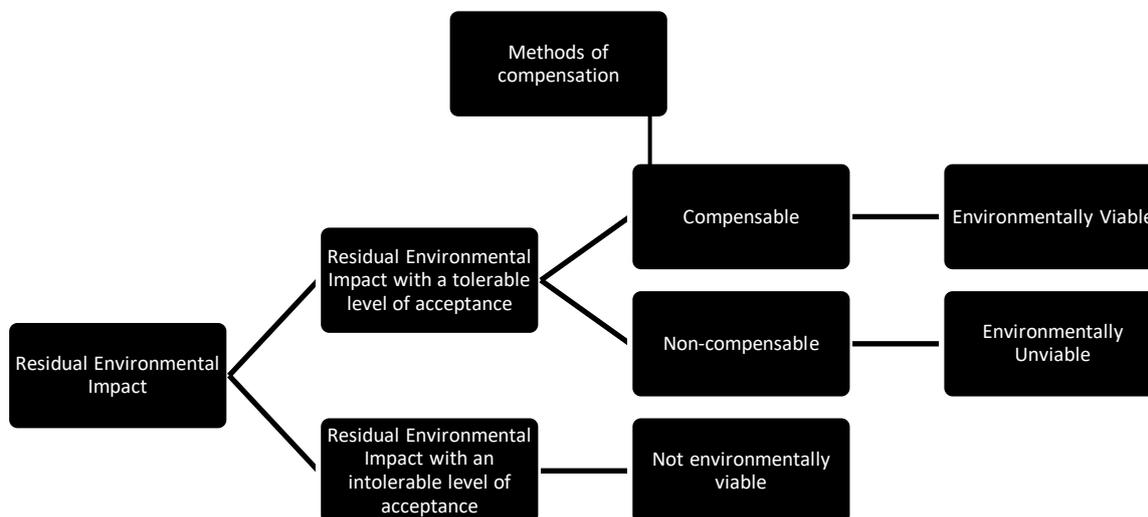
- **Prevention measures:** avoid and prevent the negative environmental impacts of a project.
- **Minimization measures:** reduce, mitigate or correct the duration, intensity and / or degree of negative environmental impacts that could not be prevented or avoided.
- **Rehabilitation measures:** recover one or several elements or functions of the ecosystem that were altered by the project activities and that could not be prevented or avoided.

Although the environmental compensation regulations refer to the voluntary nature of the tool, the steps of the mitigation pyramid are nevertheless part of the regulations in the National System for EIA, in force since 2001. **Any new EIA for hydroelectric power plants must contain a proposal for environmental compensation if the conditions are triggered. Importantly, under no circumstances should environmental compensation be understood as an authorization to intervene or affect spaces, resources or ecosystem functions.** We consider that in certain cases, an investment project may not be feasible considering the special and unique characteristics in terms of environmental values, making compensation impossible. In the figure below, we schematize the logic of environmental feasibility as employed by the Ministry for Environment.

⁵⁸ Article 20 of the Regulation of Environmental Protection in Electrical Activities.

⁵⁹ In accordance with the provisions of the Guidelines for Environmental Compensation in the Framework of the National System of Environmental Impact Assessment (approved by Ministerial Resolution 398-2014-MINAM), as well as the Guide for the Environmental Compensation Plan (approved by Ministerial Resolution N ° 066-2016-MINAM).

Figure 11. Determining the environmental feasibility of environmental compensation



Therefore, in those cases in which the residual impacts generated by a project are not tolerable - or when these are tolerable but not compensable - the investment projects would not be environmentally viable. **If a project is not environmentally viable, it cannot go ahead.** To determine whether a tolerable residual environmental impact is compensable or not, the General Guide for Environmental Compensation Planning⁶⁰ describes the following aspects to consider:

- The risk of loss of the ecosystem, as well as its fragility before the impact, evaluated through a qualitative analysis of the threat category of the flora and fauna present, based on rarity, vulnerability, impossibility of replacement, complexity and fragility of the ecosystem.
- The indicators of success of the environmental compensation related to the significance of the impact, availability of areas to compensate and feasibility of the compensation.

Therefore, if Senace concludes that there is an unacceptable risk of permanent and irreplaceable loss of ecological value in the area due to the residual environmental impact, the investment projects will not be environmentally viable, at least with their current design. This is in line with the recommendations of the International Union for Conservation Nature (IUCN) Policy on Biodiversity Compensation (IUCN, 2012), which establishes limits to compensation thus:

⁶⁰ The General Guide for Environmental Compensation Planning was approved through Ministerial 066-2016-MINAM.

- Where impacts are likely to pose a high risk to push one or more species and / or ecosystems that were not previously threatened into the vulnerable, endangered, critically endangered, extinct in the wild or extinct categories on the IUCN Red List or to one or more species and / or ecosystems already threatened to a higher threat category of the IUCN Red List;
- When the success of a compensation measure is very uncertain due to a lack of knowledge;
- When there is a considerable risk that the investments generated by the compensations will replace other investments in conservation instead of adding to them;
- When the exchanges associated with the residual project losses and the anticipated gains from compensation are deemed socially or culturally unacceptable to relevant stakeholders;
- When the values to be lost are specific to a specific place, and therefore cannot be found elsewhere or adequately protected or recreated.

Should the companies behind Veracruz and Chadin 2 choose to re-active their projects, they would have to process new EIA. Since the guidelines for EIA have now become more stringent, this process would mean that Senace evaluates whether the environmental impacts are viable or compensable, as part of the mitigation pyramid described here.

3. CONCLUSIONS

Our analysis of the current situation surrounding the Chadín 2 and Veracruz projects leads us to a series of conclusions, listed below, which include actions recommended particularly for the Peruvian government, at both the policy level and in the specific context of the discussed projects.

- **Cumulative negative environmental impacts:** Studies have shown that the construction of the **hydroelectric power plants planned for the Marañón river basin would have extensive cumulative negative impacts on biodiversity and the people who depend on it.** These effects would extend beyond the lower Marañón river basin into the larger in the Amazon basin. The EIA for the Veracruz and Chadín 2 projects evaluate environmental impacts individually, but do not consider how these would interact with the construction of further dams on the river. Senace made no mention of this in its evaluation of the EIA, despite the fact that cumulative impacts are mentioned in the Annexes of the Regulations of the Environmental Impact Assessment System. Therefore, it is key that the Ministry of Environment modifies the “Guide for the identification and characterization of environmental impacts” to include an objective methodology for the evaluation of cumulative impacts, in line with the terms of reference for EIA of hydroelectric power stations, and the Regulation for Environmental Protection in Electrical Activities. This guide should define the area in which the cumulative impacts should be evaluated (i.e. whether it involves only the direct area of influence, or also areas of indirect influence) and what types of other projects – and at which level of approval – should be considered.
- **Senace’s role in informing about expiry of an EIA:** The EIA of the Veracruz and Chadín 2 hydroelectric power plant projects expired on April 1, 2018 and February 20, 2019, respectively. However, Senace informed us that although the EIA have automatically expired by law, Senace cannot emit an official statement confirming the expiry of an EIA – note, as discussed above, that the virtual registry does not include a classification of “valid” or “expired” for an EIA’s status. **We consider it vital that as a minimum, Senace include, in its virtual registry, the status of validity of an EIA, in order to provide public information highly relevant to populations that would be affected by a large infrastructure project.**
- **Consequences of expired EIA for Veracruz and Chadín 2:** With expired EIA, should the companies behind Veracruz and Chadín 2 hope to re-start their projects, they would have to conduct new EIA. This would involve new technical studies and public participation processes with all the actors that would be affected by the development of these projects. Meanwhile, if either company carries out works without having a new EIA approved, they could be sanctioned with the highest possible fine emitted by OEFA (up to 30,000 UIT, or 129 million soles), in addition to having to obtain a new EIA anyway.

- **Cause of expiry of concession contracts: The Chadín 2 and Veracruz hydroelectric projects may have incurred a cause for the expiration of their concessions**, having failed to comply with their works schedules which both expired in 2017. Both projects have attempted to argue for *force majeure* to explain the delay. The Chadín 2 appeal was rejected, and its options for appeal have been exhausted. In the case of Veracruz, for over a year, the appeal has remained under analysis by the General Directorate of Electricity of the Ministry of Energy and Mines, and is pending resolution.
- **Permits from the Ministry of Culture:** Neither Chadín 2 nor Veracruz can initiate works without the relevant permissions granted by the Ministry of Culture. In the case of Chadín 2, this company has not submitted any request for the authorization of archaeological intervention projects. On the other hand, Veracruz has submitted requests to carry out archaeological intervention projects, but it has not received authorizations to date.
- **Unfavorable contexts for large hydroelectric power projects:** Changing opinions at the international level have cast a shadow over the idea that large hydrodams are the answer to Peru's energy needs, particularly in light of enormous social and environmental costs. Enel is openly moving away from hydrodams and towards greener and low-carbon options, while Odebrecht remains embroiled in a corruption scandal. Prices of non-conventional renewable energy technologies have lowered, and this in a context of energy over-supply in Peru. Even the Peruvian government, despite prioritizing the hydrodams on the Marañón a few years ago, canceled the call for energy supply from large hydroelectric power plants.

Decisions on Peru's national energy policy require careful a careful understanding of the country's energy needs, the availability of new energy-generating technology, and the environmental and social costs of infrastructure projects. A country as rich as Peru in pristine, wild ecosystems on which thousands of local and indigenous peoples depend must make decisions on using its natural resources in a holistic, multi-sectoral way, to ensure development is indeed sustainable. National-level planning on construction of hydrodams in basins such as the Marañón must involve not only the Ministry of Energy and Mining, but also other relevant Ministries such as those of the Environment, Culture, Foreign Trade and Tourism, and Agriculture. At all stages, public participation is paramount, as is large-scale understanding and planning approach for complex landscapes such as the Andean Amazon.

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