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# Overview of the regulation of desalination facilities

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March 8, 2024





## SPAIN



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### Introduction

On May 11, 2023, the Council of Ministers published a [press release](#) informing about a significant state investment to tackle the drought and increase the availability of water resources.

Among other initiatives, several actions on the Mediterranean coast were declared to be of general interest. Specifically, the central government will allocate more than €400 million to the construction of desalination plants in Catalonia, Málaga and Almería.

The government also authorized the publicly-owned company Sociedad Estatal de Aguas de las Cuencas Mediterráneas (“**Acuamed**”) to initiate the process to put out to tender the construction of new desalination plants powered by photovoltaic solar energy, for an amount of €600 million.

Last June, the board of directors of Acuamed decided to launch the tender procedure for the desalination plant in Carboneras (Almería, Andalusia).

The above reflects Spain’s current need for water resources as a result of the drought in certain areas.

The construction and operation of desalination plants stand out as a potential solution, as shown in our analysis below.

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### Water desalination

Water desalination involves an activity on public property subject to the general regime under the consolidated text of the Water Act, approved by Royal Legislative Decree 1/2001, of July 20, for the private use of the public water domain. Desalination is thus



subject to concession.

In this regard, article 13(1) of the Water Act provides that seawater or brackish water desalination is subject to the general regime established in the Act for the private use of the public water domain, without prejudice to the authorizations and concessions required under Act 22/1988, of July 28, 1988, on Coasts, and other applicable legislation.

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### Water desalination infrastructure

Water desalination also requires hydraulic works; i.e., construction of the desalination facility itself (article 123(1) of the Water Act).

Consequently, in addition to the concession, certain authorizations are necessary for the construction of the hydraulic infrastructure that will enable desalination. Logically, they can be processed jointly under article 13(4) of the Water Act.

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### Subjective scope of concessions

Any private party may apply for an administrative concession for a desalination plant project (article 104 of the Hydraulic Public Domain Regulation, approved by Royal Decree 849/1986, of April 11). They may also be in charge of the infrastructure works aimed at exploiting the public water resource.

It seems unquestionable that private parties should be entitled to apply for a concession, and that these applications must be processed and resolved without any objective limitations other than the need to consider a rational joint exploitation of surface and groundwater resources.

Article 59(4) of the Water Act subjects these concessions to the provisions of the hydrological plans. However, this should never be a problem when it comes to granting desalination concessions, since hydrological planning should encourage the use of alternative water resources—including desalination. And it certainly should not be a problem when it comes to initiating and processing a concession application.

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### Principles governing the granting of concessions

Desalination concession applications are affected by a subjective limitation: they are subject to the principles of publicity and competitive tendering (competitive grant calls). On equal terms, the concession will be granted to the project that provides for the most rational use of water and the greatest environmental protection.



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As in any competitive procedure, it cannot be guaranteed that the characteristics of the applicant's project make it intrinsically superior to any other that might be submitted. In short, the granting of the concession cannot be guaranteed. But this, again, is not an obstacle for the application to be processed.



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## Portugal



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### Introduction

In Portugal, as in the rest of Europe, the problems of drought and water scarcity have worsened as a consequence of climate change, especially in the interior of the Alentejo and the Algarve regions. In this context, and taking into account that Portugal's coastline extends over 900 kilometers, desalination has been suggested in recent years as the solution to combat water shortages. Nevertheless, Portugal has no firm commitment to desalination. Notably, the island of Porto Santo, in Madeira, was a pioneer in desalination in the country. For more than 40 years, its desalination plant has transformed seawater into water for human consumption. However, in mainland Portugal, a desalination plant is only now being planned for the Algarve and another one is being considered for the Alentejo coast.

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### Water desalination

In Portugal, there is no specific regime governing desalination. Nor is there any guidance from the competent water authorities, and the multiplicity of applicable legal regimes make it difficult for those who wish to pursue this activity.

In any case, desalination involves the collection of salt water. According to the Portuguese Constitution, this resource is part of the public water domain (specifically, the public maritime domain) and is thus owned by the state.

Based on the precautionary and prevention principles, Water Act 58/2005, of December 29, 2005, requires a water use permit for any activity that constitutes a private use of water resources with a significant impact on their condition. This permit will be granted



by the Portuguese Environment Agency (APA).

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### Water desalination infrastructure

Water desalination also requires hydraulic works (the desalination facility itself). Consequently, in addition to the water use permit, certain authorizations are necessary for the construction of the hydraulic infrastructure that will enable desalination.

From the outset, the construction and installation of the desalination plant may be understood as “construction” or “development” works under the Legal Regime of Urban Planning and Building (“RJUE”). As such, the construction and installation of the desalination plant will also be subject to a municipal permit granted according to the RJUE.

Opinions from other public entities may be required depending on the location of the saltwater catchments and the desalination plant construction projects. This will be the case, for example, if the plant is located in classified and protected areas or in areas subject to public utility restrictions or easements, such as Natura Network, the National Agricultural Reserve or National Ecological Reserve.

In addition, an Environmental Impact Assessment (“EIA”) may be required, either because certain thresholds are exceeded (e.g., mandatory EIA for water withdrawals  $\geq 5$  hm<sup>3</sup>) or on the basis of a case-specific analysis, i.e., an individual assessment of the project’s characteristics, location and potential environmental impacts. In this case, it will be necessary to obtain a favorable environmental impact statement before the issuance of the water use permit.

Likewise, the desalination plant activity may be classified as an industrial activity subject to specific industrial licenses and regimes.

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### Subjective scope of licenses or concessions

Any private party may obtain a water use permit for a desalination plant project.

Under the Regime for the Use of Water Resources, permits for the use of public domain water resources are granted in the form of licenses and concessions.

Permits are subject to different legal regimes, so it is necessary to carry out a specific analysis according to the permit in question and the uses for which it is obtained. The intended use of the water catchment will determine the permit. For instance, catchments for public supply or for irrigation of an area of more than 50 ha will require a concession.

The granting of both licenses and concessions may arise from public or private initiative. In the first case, they are granted through a competitive tender procedure. In the second case, any private party may apply for a license or concession, as the case



may be.

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### Principles governing the granting of licenses or concessions

The procedures for awarding licenses or concessions are always subject to publicity, whether they stem from a public tender or from a private application filed with the competent authority.

Public tenders are governed by the principles of publicity and competition, so the submitted proposals are assessed under previously established criteria. The winning candidate may initiate the procedure for the granting of the water use permit.

The competent authority will publish private applications that initiate a procedure for the awarding of a license or concession, so that other interested parties may also apply for the water use permit—or object to its granting. If no concurrent application is filed, the competent authority will initiate the water use permit procedure for the benefit of the private applicant. If other applications are submitted, the authority will initiate a competitive procedure. However, the first applicant will have the right of first refusal provided that, within 10 days from the notification of the decision, it undertakes to be bound by the terms of the selected proposal.

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### Tender for the construction of a desalination plant in the Algarve

Portugal is currently preparing the construction of its first mainland desalination plant. On February 16, [tender announcement 2530/2024](#) was published in the Portuguese official gazette (*Diário da República*), launching an international public tender for the “design, construction and operation of the desalination plant in the Algarve region” (see *Legal Flash* “[Desalination plant tender and drought response measures in the Algarve region](#)”).

The awarding entity is Águas do Algarve, S. A. and the tender base price is €90 million.

The tender will be awarded based on the most economically advantageous proposal, using the “multifactor” method: (i) price (35%) + (ii) normalized net present value of long-term operation (35%) + (iii) technical value (30%).

The contract period is 2210 days.

Bids may be submitted through the electronic platform until 6:00 p.m. on the 66th day after the date the notice was sent for publication, which was February 14, 2024—i.e., until April 20, 2024.



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## Colombia



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### Introduction

In Colombia, as in the rest of Latin America, water desalination has experienced a growing trend in recent years. New projects seek to facilitate the access of vulnerable populations to water, particularly in the islands near the coasts and in desert areas in the north of the country.

In June 2023, a desalination plant was installed on the island of Barú, near Cartagena, in addition to the desalination plant on the island of San Andrés. The national government also announced a project for the construction and operation of a desalination plant in the department of La Guajira (worth approximately €10.5 million).

These projects reflect the urgency of desalination in view of the challenges faced by communities without basic access to water resources. This, in turn, requires technological advances.

The Constitutional Court has repeatedly established that access to drinking water is a fundamental right. Therefore, any new projects must focus on this type of infrastructure—especially in strategic areas for desalination.

Although there is scarce desalination-specific regulation, some applicable rules provide the basis for water concession initiatives regarding the collection of marine, coastal or brackish saline water—and, eventually, for the establishment of public utility companies that provide public water services.

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### Water desalination

Water desalination involves the use of public domain assets, subject to the Regulatory Decree of the Environment and Sustainable Development Sector (1076/2015), which





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governs the use of public domain water for the provision of public services. That is, under applicable law, a water concession is required to provide public services and, in some cases, a permit to discharge wastewater resulting from the process.

According to the current regulation, prior to any infrastructure works, water desalination requires a water concession to provide public services. Also, in some cases, a discharge permit is needed for the water resulting from the process. This regime applies, among others, to sea or brackish water, or both.

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### Water desalination infrastructure

Water desalination requires adequate infrastructure. Once the water concession is obtained, desalination is governed by water purification regulations (Resolution 330/2017).

There are three types of processes (reverse osmosis, reverse electrodialysis or nanofiltration) to remove chlorides, as these water-production processes are less costly than evaporators.

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### Subjective scope of concessions

Both natural and legal persons may apply for a water concession. However, those intended for the provision of public drinking water services are limited to legal entities that meet the specific requirements.

While natural persons may apply for water concessions for domestic use, services to third parties must be provided through a public utility company formally established under Law 142/1994. In both cases, in addition to the application, the procedure requires, among others, an assessment of the hydraulic works plan, compliance with environmental standards, socialization with the neighboring communities, and prior consultation if ethnic communities are affected.

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### Principles governing the granting of concessions

The procedure for requesting and granting a water concession is governed by the principles of integral management, product life cycle, integral responsibility of the generator, sustainable production and consumption, precaution, public participation, internalization of environmental costs, planning, gradualness and risk communication.

The principle of public participation, in particular, is essential and directly applied to the concession granting procedure. Thus, any natural or legal person, community action



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board or community may directly oppose the granting of a concession before the competent environmental authority.

In this procedure, both the applicant and the objector are entitled to justify their position. The granting authority will decide whether to grant the concession based on all the arguments and documents provided. Although this may entail a delay, it does not imply that the procedure is canceled or that the legal entity will be unable to obtain the concession.



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## Chile



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### Introduction

Seawater desalination has gained relevance in Chile due to the scarcity of water resources that affects several areas and to the demand of various productive sectors, especially mining. However, certain gaps and challenges of the legal framework need to be addressed to ensure environmentally and socially sustainable management. To date, there is no specific law on seawater desalination in Chile. Therefore, this activity is regulated in various general and sectorial rules that involve different authorities and public institutions.

This does not hinder the development of these types of projects in Chile. There are 24 desalination plants in operation and more than 20 initiatives planned for their development. The north of Chile, characterized by its desert climate, has been the target of different projects associated with the mining industry and human consumption. As a result, several cities in this area are mainly supplied with desalinated drinking water. Also, the first desalination plant in central Chile is already under construction, which shows the advance of climate change.

As a result of the increase in desalination and the growing demand for water in various productive and human sectors, multiple bills have been introduced to regulate this activity.

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### Water desalination

Water desalination is an industrial process that transforms seawater into water suitable for various uses. This activity involves the use of seawater for consumption—i.e., its extraction, treatment and distribution for a use that is not returned in its entirety.



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This use of seawater for consumption is not expressly regulated in the Water Code, applicable only to inland waters—nor in the Civil Code, which refers to seawater as a national asset for public use but does not establish a right-granting regime.

In view of this normative vacuum, different expert and legislative proposals seek to regulate the consumptive use of seawater and the domain of desalinated water. While some of them are being processed in the National Congress, so far there is no regulation in place that definitively and systematically resolves this matter.

As regards environmental regulation, seawater desalination is not expressly included in the typology of projects or activities that must be submitted to the Environmental Impact Assessment System (SEIA). However, desalination is usually associated with other projects that do require it, such as drinking water systems or mining projects. Recently, the government introduced a bill that, among other reforms to the environmental regulatory and permitting framework, requires desalination or seawater extraction projects to be submitted to the SEIA.

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### Water desalination infrastructure

Desalination infrastructure requires the occupation and use of national public property, such as the territorial sea, beaches, beach land and seabed, which are administered by the Ministry of National Defense through the Directorate General of Maritime Territory and Merchant Marine (DIRECTEMAR). Therefore, a legal permit is required for the private use of these assets, which may be in the form of a maritime concession, an authorization or an occupancy permit, depending on the term, investment and purpose of the activity.

A maritime concession is the most appropriate permit for the installation of desalination infrastructure. It grants the right of use and enjoyment of public property for a period of up to 50 years, renewable on request of the interested party and subject to assessment by the competent authority. This is regulated by Decree with force of law No. 340/1960, on Maritime Concessions, and its implementing regulation. Maritime concessions are granted by supreme decree of the Ministry of National Defense, following a technical report by DIRECTEMAR and subject to compliance with legal and regulatory requirements. The concessionaire must pay a fee for the use of public property and must comply with the obligations and limitations established in the concession decree and applicable regulations.

Maritime concessions allow the installation of infrastructure for the operation of desalination plants, such as seawater intake and discharge pipelines, treatment plants, and desalinated water storage and distribution systems. However, maritime concessions do not refer to the right to dispose of seawater, nor to commercialize desalinated water.

Likewise, the installation of the pipelines that carry the desalinated water for consumption requires obtaining land use rights, such as easements on private or public land, or a concession for private use of public property. However, unlike what happens in the electricity industry for transmission lines, the lack of desalination-specific



regulation prevents these projects from imposing easements on real estate if the owners object.

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### Subjective scope of concessions

Any interested natural or legal person, national or foreign, may apply for a use permit over public property for water desalination purposes, subject to compliance with legal and regulatory requirements.

Maritime concessions are transferable, prior authorization of the Ministry of National Defense and subject to regulatory requirements. They do not grant dominion or ownership over the public property, but only confer the right to use and enjoy it in accordance with the purpose and term established in the granting administrative act.

The environmental qualification resolutions approving the desalination plant projects may be transferred to third parties, providing all the documents required by the environmental authority.

It is mostly private parties that have led and developed desalination projects in Chile. However, in December 2023, Law No. 21,639 was published, with the purpose of making the study, protection and construction of water infrastructure viable. This law empowers the Ministry of Public Works to develop water infrastructure, including desalination plants.

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### Principles governing the granting of licenses or concessions

The procedure for granting licenses or concessions for the consumptive use of seawater and the construction of desalination projects must comply with the principles governing the administrative function—namely, the principle of legality, impartiality, transparency, publicity, efficiency, effectiveness, participation, coordination and collaboration. These principles must guide the actions of the competent authorities when granting the relevant use permits for desalination plant projects.



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## Mexico



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### Introduction

Over the last few years, Mexico has faced severe problems related to the scarcity of water resources. For example, the Cutzamala System—one of the main sources of drinking water for Mexico City—is currently in shortage due to a 50% capacity deficit.

In view of this difficulty, water desalination has emerged as an important alternative. In this regard, some desalination plants supply drinking water to tourist resorts, small communities and, where appropriate, to agriculture. However, they are not sufficient to solve or mitigate this problem.

In this context, the National Water Law (the “**NWL**”) stands as the basic regulatory framework. Among other things, it governs the exploitation and use of national water. According to the NWL, (i) a concession is required to extract inland marine and territorial water for desalination purposes; and (ii) works enabling water supply, purification and desalination that affect two or more states of the republic are considered necessary public works (competence of the federal government).

Recently, the Federal Congress has sponsored a series of initiatives aimed at reforming the NWL to promote the development of desalination infrastructure and technology. Currently, the legislative procedure to amend the NWL is in process. These legislative actions reflect the efforts of the Mexican State to improve and make the water industry more efficient.



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### Water desalination

In general terms, water desalination implies removing salt from sea or brackish water to make it drinkable or use it in other activities. From a strictly regulatory point of view, the NWL regulates “desalination” by requiring a concession to extract inland marine and territorial water for this purpose.

In this sense, the granting of concessions for the use or exploitation of inland and territorial water is governed, among others, by the following regulations: (i) NWL’s general provisions applicable to any other use permit over national water; and (ii) the guidelines for the granting of concessions or allocations of salt groundwater from catchments located in the proximity of the coast (the “**Guidelines**”), issued by the National Water Commission (regulatory, technical and specialized body in this matter).

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### Water desalination infrastructure

The NWL contains a specific section regulating investment in water infrastructure. It provides that works enabling water supply, purification and desalination that affect two or more states will be considered as necessary public works—and will be therefore subject to the jurisdiction of the federal government through the National Water Commission.

Regardless of the above, it is worth noting that to carry out desalination activities, in addition to the concession under the NWL, certain local or federal authorizations, or both, are required (e.g., environmental permits).

The following regulations, among others, provide the legal basis for the public works related to water supply, purification and desalination by the federal government: (i) Public-Private Partnerships Law; (ii) Public Works and Related Services Law; and (iii) Public Sector Procurement, Leasing and Services Law.

According to the national inventory of desalination plants issued by the Mexican Institute of Water Technology, there are currently 475 desalination plants in Mexico.

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### Subjective scope of concessions

Any private party may request the granting of a concession for the use or exploitation of inland marine and territorial water for desalination purposes, subject to compliance with the NWL requirements.

The concession to use or exploit national water will be granted by the National Water Commission for a term of no less than 5 and no more than 30 years. In accordance with



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the NWL, the concessionaire may request extensions for up to the same term and characteristics of the original concession.

The Guidelines will apply to natural or legal persons intending to use or exploit salt water extracted through catchments located in the proximity of the coast (coast or land-sea interface).

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### Principles governing the granting of concessions

The procedure for granting concessions for the use or exploitation of inland marine or territorial water by desalination projects must comply with the principles of economy, speed, efficiency, legality, publicity and good faith.

Among other things, the National Water Commission must take into account the regulations on control of extraction, water use or exploitation. It must also consider the regulated zones, closures and national water reserves existing in the aquifer, hydrological basin or hydrological region in question.





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## Peru



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### Introduction

Desalination is a viable alternative to counteract the lack of water availability that affects the population. It may also provide a response to the current demand for other uses such as industrial, agricultural, mining or energy activities.

There are currently 8 desalination plants in Peru. Only one is exclusively for human consumption, while the others are used in mining, agriculture and energy activities.

However, the benefits of water desalination have led to a growing interest in recent years—and not only from the private sector. Indeed, the Peruvian government is promoting investment projects to encourage the construction of desalination plants to help solve water supply problems.

This growing trend reflects the progress towards sustainable environmental development in Peru.

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### Water desalination

Law No. 31863, published in 2023, declared the public necessity and national interest in constructing seawater desalination plants in the Peruvian coastal departments and the exploitation of brackish groundwater throughout the country.



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However, being merely declaratory, this law did not contain additional provisions to materialize into tangible mechanisms the promotional activities for the intended water desalination and plant construction.

Therefore, to date, this activity is mainly governed by Water Resources Law No. 29338 and its implementing regulation, approved by Supreme Decree No. 001-2010-AG. Their purpose is to regulate water use and management.

Water is national property, being inalienable and imprescriptible. It is a public-use asset subject to availability and the intended use. Thus, its use is based on a priority order established in the regulations (including primary, population and productive consumption).

The collection of water for population and productive purposes requires water use rights granted by the National Water Authority (the “ANA”). These rights will be limited to a specific water source based on availability, intended use, time of use and payment of a fee for the use of a natural resource. The foregoing is without prejudice to the applicable cross-cutting regulations.

Under the water resource regulations, a license for the use of desalinated water is required for extraction and desalination activities. Its granting is subject to water use studies—including, among other aspects of the project, the scope of influence, the targets and specific benefits, the environmental impact and the period of implementation.

As a general rule, water use licenses are granted for the specific purposes of the holder’s own activity. In other words, the water cannot be commercialized to third parties. However, in the case of desalinated water, the Water Resource Law allows the use of this resource for the holder’s own benefit or third-party supply.

Environmental certifications for water desalination projects are granted based on the intended use. The Environmental Impact Assessment System (SEIA) does not include water desalination within the established typology of projects or activities, so the environmental impact assessment will depend largely on the applicable sector-specific regulations related to the activity for which the water is required.

Likewise, holders must obtain all other permits required for their activity.

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### Water desalination infrastructure

The construction and operation of a desalination plant requires the occupation and use of public property, such as the territorial sea, coastal lands and the seabed. The interested party must obtain a permit for the private use of these assets.

The Directorate General of Captaincies and Coast Guard of Peru (the “DICAPI”) is the national maritime authority responsible for the administration of water areas, as well as the activities carried out in them in accordance with the provisions of Legislative Decree No. 1147 and its implementing regulation approved by Supreme Decree No. 015-2014-DE. Project holders must request an authorization from the DICAPI to perform



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desalination activities and construct infrastructure in water areas. It will be granted on obtaining the favorable opinion of the Superintendence of State Assets (SBN) in coordination with the sectors involved. The water area use rights have a term of up to 30 years, which may be renewed, and are subject to the payment of an annual fee for the use of public property.

Notwithstanding the above, project owners may be required to obtain surface rights over the land on which the infrastructure is located. Depending on the ownership of this land, the rights may be acquired through agreements with the state, private parties or rural communities.

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### Subjective scope of concessions

Any interested party may request the relevant authorizations and permits for desalination projects. However, for reasons of national security, the Peruvian Constitution prevents foreigners from holding any right over extractive natural resources, land or energy sources within 50 kilometers of the borders.

Water area use rights are inherent to the purpose for which they were granted. In the event of a transfer of the infrastructure or change of ownership of the activity, the new owner has a preferential right to obtain such rights under the same conditions as the transferor. For these purposes, the transfer must be authorized by the DICAPI, subject to the cancelation of the granted right.

Water use rights are non-transferable, following the same criteria as in the case of water area use. Therefore, to “transfer” the activity for which the water use is intended, the permit must be terminated and reissued by the ANA to the new holder—who has a preferential right to obtain the water use right under the same conditions as the transferor.

Other sectorial permits granted to the activity holder may be transferred for reasons of corporate reorganization or mergers, among others, subject to notification to the competent authorities.

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### Desalination projects

Among the investment projects that encourage the development of water desalination activities for human consumption in Peru is “Provision of Sanitation Services for Southern Districts” / “*Provisión de Servicios de Saneamiento para los Distritos del Sur*” (PROVISUR). This project aims to supply drinking water through a desalination plant.

Likewise, the Private Investment Promotion Agency has opened to private investment the awarding of projects that include the construction of desalination plants, such as the Drinking Water Service Project through seawater desalination in the urban area of the province of Ilo and the Desalination Plant Project for North Lima.



For additional information, please contact our *Knowledge and Innovation Group* lawyers or your regular contact person at Cuatrecasas.



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