TURNING THE TIDES: An Analysis of the Implications of the Water Code and *IDEALS, Inc. vs. PSALM* on Foreign Investment in Run-of-River Hydroelectric and Ocean Energy Power Generation vis-à-vis DOE Department Circular No. DC2022-11-0034 Allowing Full Foreign Ownership on the Exploration, Development, and Utilization of Renewable Energy Resources

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ABSTRACT

The Philippines is currently facing an energy crisis, marked by critically low electricity supply, frequent power outages, and some of the highest electricity costs in Southeast Asia. In response, the government has set ambitious renewable energy (RE) targets: 35% of the energy mix by 2030, 50% by 2040, and more than 50% by 2050. To support this transition, the Department of Energy (DOE) issued Department Circular No. DC2022-11-0034, amending the Implementing Rules and Regulations of the Renewable Energy Act of 2008 to allow full foreign ownership in RE projects.

However, under the Water Code, a water permit is required to utilize water resources for power generation, and such permits are restricted to Filipino citizens or entities that are at least 60% Filipino-owned. The 2012 Supreme Court decision in IDEALS, Inc. v. PSALM further clarified that water appropriated directly from a natural source requires a permit, whereas water stored in dams, having become an artificial source, does not. Despite this, DOE Department Circular No. DC2022-11-0034 did not explicitly state that Water Code nationality restrictions still apply to hydro and ocean energy projects.

This Thesis examines the operational characteristics of run-of-river hydroelectric plants and ocean energy technologies, contending that their use of water directly from natural sources constitutes appropriation under the Water Code. As such, existing nationality restrictions would apply — potentially undermining the DOE's move to liberalize the RE sector.

Between the Water Code and current energy laws, the latter better reflects today's state policies on energy. The Water Code, a nearly 50-year-old law, was designed to respond to the evolving needs of the State and must be reconciled with more recent legislation such as the Electric Power Industry Reform Act (EPIRA), the Amended Public Service Act, and the RE Act of 2008, as well as executive issuances like DOE Department Circular No. DC2022-11-0034.

Finally, this Thesis also addresses the broader constitutional question of whether renewable energy qualifies as a "natural resource." It advocates an interpretation that differentiates renewable energy from traditional natural resources, emphasizing the self-replenishing nature of sources like water, wind, and ocean currents. A distinction must be made between the physical corpus of water and the kinetic energy harnessed from it. Renewable energy should not be categorized under "forces of potential energy" in the constitutional sense, as it primarily involves kinetic energy. On this basis, the Thesis supports the validity of DOE Department Circular No. DC2022-11-0034.

Relaxing foreign equity restrictions in the issuance of water permits will enhance competitiveness in the hydroelectric power industry and unlock the potential of ocean energy resources. In doing so, the Philippines can move closer to energy security, reduce electricity costs, and avert future energy crises by increasing the share of renewable energy in the national energy mix. Ultimately, the State's primary goal of achieving energy security for all Filipinos will be realized. Increasing the percentage of renewable energy in the energy mix to meet the ever-growing demand for electricity would help prevent looming energy crises in the country while also reducing electricity costs.

Keywords: renewable energy resources, natural resources, foreign investment, run-of-river hydroelectric power, ocean energy systems

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CHAPTER 1: INTRODUCTION

I. Background of the Study

A. Shift to Clean Energy

The Paris Agreement, a monumental instrument aimed at addressing the daunting effects of climate change, has as one of its objectives to "[pursue] efforts to limit the temperature increase to 1.5°C[.]"[1] Consequently, the demand for clean energy to address both rising electricity consumption and climate justice concerns has fueled a global shift towards the utilization of renewable energy resources. As there is an increasing consensus on the essential role of the power sector in reducing carbon emissions, calls for a transition from fossil fuels to more electricity-efficient technologies have gained momentum.[2] According to a report by the International Energy Agency, electricity generation from renewables, including solar, wind, hydro, and nuclear power, is expected to decrease fossil fuel consumption for electricity production and meet all electricity demand towards 2026.[3] Forecasts indicate that renewables are projected to generate more than one-third of the world's electricity by 2025, overtaking coal.[4] By the end of 2026, renewables are expected to account for 46% of the world's electricity generation mix.[5]

Following this global shift, there has been a significant increase in investments in renewable energy within the past two decades.[6] In 2023, global energy investments in renewables reached a staggering $1.47 billion, marking a 65% increase compared to investments in fossil fuels for the same year — a result of "recovery from the Covid-19 pandemic and [ ] response to the global energy

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[1] Paris Agreement art. 2 (1) (a), *adopted* Dec. 12, 2015, 3156 U.N.T.S. 79.

[2] Richard Baron, Energy Transition After the Paris Agreement: Policy and Corporate Challenges (Background Paper for the 34th Round Table on Sustainable Development, September 28-29, 2016), at 5, *available at* https://www.oecd.org/sd-roundtable/papersandpublications/Energy%20Transition%20after%20the%20Paris%20Agreement.pdf (last accessed Apr. 15, 2024).

[3] International Energy Agency, Electricity 2024: Analysis and Forecast to 2026, at 40, *available at* https://iea.blob.core.windows.net/assets/6b2fd954-2017-408e-bf08-952fdd62118a/Electricity2024-Analysisandforecastto2026.pdf (last accessed Apr. 15, 2024).

[4] *Id.*

[5] *Id.*

[6] *See* KPMG, Global Trends in Renewable Energy, at 2, *available at* https://assets.kpmg.com/content/dam/kpmg/sg/pdf/2016/11/Global-Trends-in-Renewable-Energy.pdf (last accessed Apr. 15, 2024).

crisis."[7] The transition towards renewables is further highlighted when comparing this data to figures from 2015, as shown in the graph below.

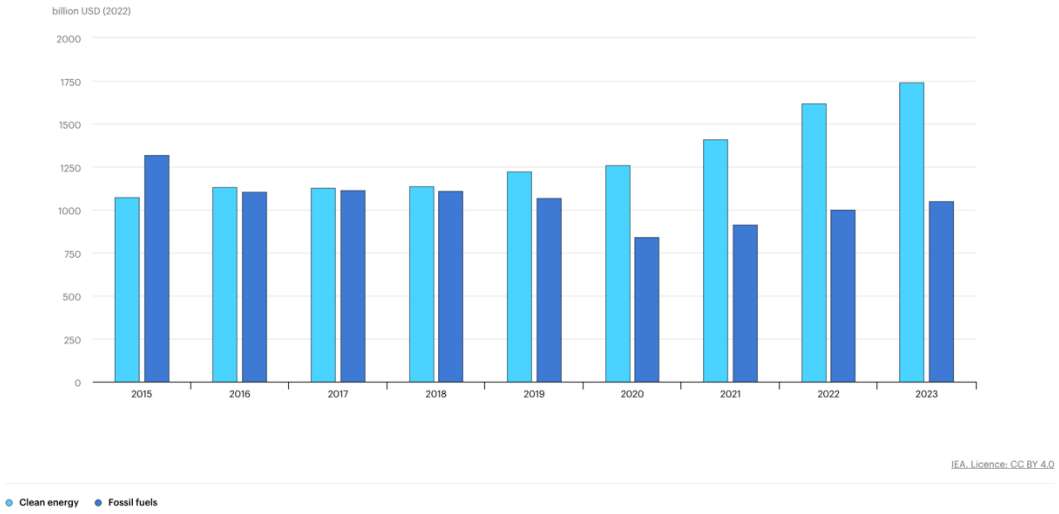

Figure 1. Global energy investment in clean energy and in fossil fuels, 2015-2023[8]

A study by the International Renewable Energy Agency (IRENA), an intergovernmental organization promoting sustainable energy, reveals that 75% of global investments in renewables come from the private sector.[9] However, a significant portion of these investments is concentrated in developed economies, which are perceived to have lower risks.[10] Capital mobilization poses a challenge for renewable energy investment especially in developing countries.[11] Given the substantial capital requirements of renewable energy projects, developing countries with limited financial resources often rely on private sector and foreign investor funding.[12]

B. The Philippines' Pathway Towards Clean Energy

The Department of Energy (DOE) is mandated by law to "[d]evelop and update annually the existing Philippine Energy Plan[ ]" which is ought to be submitted to Congress.[13] Specifically, the Philippine Energy Plan shall: (1)

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[7] International Energy Agency, Energy Investment in 2023, *available at* https://www.iea.org/reports/world-energy-investment-2023/overview-and-key-findings (last accessed Apr. 15, 2024).

[8] *Id.*

[9] INTERNATIONAL RENEWABLE ENERGY AGENCY, WORLD ENERGY TRANSITIONS OUTLOOK 2023 168 (2023).

[10] *Id.*

[11] Jose Barroco & Maria Herrera, *Clearing Barriers to Project Finance for Renewable Energy in Developing Countries: A Philippines Case Study*, ENERGY POLICY, Volume No. 135, at 1.

[12] *Id.*

[13] An Act Ordaining Reforms in the Electric Power Industry, Amending for the Purpose Certain Laws and for Other Purposes [Electric Power Industry Reform Act of 2001], Republic Act No. 9136, § 37 (b).

"provide for an integrated and comprehensive exploration, development, utilization, distribution, and conservation of energy resources, with preferential bias for environment-friendly, indigenous, and low-cost sources of energy"; and (2) "include a policy direction towards the privatization of government agencies related to energy, deregulation of the power and energy industry, and reduction of dependency on oil-fired plants."[14]

The Philippine Energy Plan was last updated in 2023. Under the revised plan, the country aims to allocate 35% of its power generation mix to renewable energy by 2030, 50% by 2040, and more than 50% by 2050.[15] This target is based on the clean energy scenario, which is more ideal than the reference scenario, and requires an "additional 73,868 MW of renewable energy capacity" and "pre-development investments [...] of more than ₱25.3 billion."[16]

At present, the power situation in the Philippines is now considered a "calamity" due to the insufficient electricity supply that fails to meet the steadily-increasing demand.[17] Worse, electricity costs in the country are among the highest in Southeast Asia.[18] In a report released by the Institute for Energy Economics and Financial Analysis, increasing the share of renewable energy in the market has "the potential to cut wholesale power prices by 30%[.]"[19] As the country faces the threat of an energy crisis brought about by the looming depletion of the Malampaya gas field,[20] calls for a shift to reliance on renewable

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[14] *Id.*

[15] Department of Energy, Philippine Energy Plan 2023-2050 Volume I, at 4, *available at* https://doe.gov.ph/sites/default/files/pdf/pep/PEP_2023-2050_%28Volume_I%29.pdf (last accessed Aug. 23, 2024) [hereinafter Philippine Energy Plan 2023-2050].

[16] IRENA Coalition for Action, Scaling Up Renewable Energy Investment in the Philippines, at 1, *available at* https://coalition.irena.org/-/media/Files/IRENA/Coalition-for-Action/Coalition-for-Action-_Scaling-up-RE-Investment-Philippines.pdf (last accessed Apr. 17, 2024).

[17] Alvin Elchico, *Power Situation Now a "Calamity" Says DOE*, ABS-CBN NEWS, Apr. 25, 2024, *available at* https://news.abs-cbn.com/business/2024/4/25/power-situation-now-a-calamity-says-doe-1554 (last accessed Aug. 23, 2024).

[18] ASEAN Energy Database System, Renewable Energy Could Cut Electricity Rates by 30% — Report, *available at* https://aseanenergy.org/news-clipping/renewable-energy-could-cut-electricity-rates-by-30-report (last accessed Aug. 24, 2024).

[19] *Id.*

[20] Jordeene B. Lagare, *Philippine Natural Gas Future Uncertain With Malampaya Depletion*, PHIL. DAILY INQ., Feb. 16, 2023, *available at* https://business.inquirer.net/386788/countrys-natgas-future-uncertain-with-malampaya-depletion (last accessed Apr. 17, 2024). *See also* Reuters, *Philippines' Marcos Signs 15-Year Malampaya Gas Contract Renewal*, REUTERS, May 15, 2023, *available at* https://www.reuters.com/business/energy/philippines-marcos-signs-15-year-malampaya-gas-contract-renewal-2023-05-15 (last accessed Apr. 14, 2024).

energy sources have been amplified.[21] In an event organized by Yokogawa Philippines titled "*Driving the Future of Renewable Energy in the Philippines*", DOE Assistant Secretary Mylene Capongcol, expressed that there is a "need to identify how to access investors within the renewables market."[22]

One of the ways the government has sought to achieve the desired renewable energy mix is by relaxing foreign ownership restrictions on the exploration, development, and utilization of renewable energy sources.

C. Relaxation of Foreign Ownership Restrictions on Renewable Energy Operations

The Renewable Energy Act (RE) of 2008[23] is the law governing the development, utilization, and commercialization of renewable energy resources, among others. Under the said law, the DOE is "mandated to implement" its provisions which includes issuing the Implementing Rules and Regulations (IRR).[24] On 25 May 2009, the DOE issued the IRR of the law and included a provision that restricts the exploration, development, production, and utilization of renewable energy sources, to wit —

> Sec. 19. Renewable Energy Service/Operating Contract
>
> ...
>
> B. Parties to a Service/Operating Contract
>
> The exploration, development, production, and utilization of natural resources shall be under the full control and supervision of the State.
>
> The State may directly undertake such activities, or it may enter into co-production, joint venture or co-production sharing agreements with Filipino citizens or corporations or associations **at least sixty (60%) of whose capital is owned by Filipinos**. Foreign RE Developers may also be allowed to undertake RE development through an RE Service/Operating Contract with the government, subject to Article XII, Section 2 of the Philippine Constitution.[25] (emphasis supplied)

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[21] Marissa Carruthers, Why Renewable Energy Has the Potential to Power the Philippines' Future, *available at* https://www.eco-business.com/news/why-renewable-energy-has-the-potential-to-power-the-philippines-future (last accessed Apr. 17, 2024).

[22] *Id.*

[23] An Act Promoting the Development, Utilization, and Commercialization of Renewable Energy Resources and For Other Purposes [Renewable Energy Act of 2008], Republic Act No. 9513.

[24] *Id.* § 5.

[25] Department of Energy, Rules and Regulations Implementing the Renewable Energy Act of 2008, Republic Act No. 9513, rule 6, § 19 (B) (2009).

This provision was subsequently amended by DOE Department Circular No. DC2022-11-0034[26] which effectively removed the foreign ownership restriction and allowed for a 100% foreign ownership in the exploration, development, production, and utilization of renewable energy sources. The amended Section 19[27] of the IRR emphasized that the State may enter into RE Service/Operating Contracts with Filipino and/or foreign citizens or Filipino and/or foreign-owned corporations or associations, to wit:

> B. Parties to a Service/Operating Contract
>
> The State may directly undertake the exploration, development, production[,] and utilization of RE resources, or it may enter into RE Service or Operating Contracts with Filipino and/or **foreign citizens** or Filipino and/or **foreign-owned corporations or associations**.[28] (emphases supplied)

The aforementioned Department Circular cited the 29 September 2022 Department of Justice (DOJ) Opinion[29] which stated that the renewable resources are beyond the ambit of "natural resources" as the latter contemplates those that are susceptible to depletion, viz.:

> exploration, development[,] and utilization of solar, wind, hydro[,] and ocean or tidal energy should not be subject to the forty percent (40%) foreign equity limitation since these resources are (1) inexhaustible, hence, beyond the ambit of the term 'natural resources' in Section 2, Article XII of the Constitution which contemplates only those resources that are susceptible of appropriation as understood under the constitutional provision, limited and exhaustible[;] and (2) considered as kinetic energy and therefore excluded from the term 'all forces of potential energy[.']30

The DOJ, however, made a qualification that with respect to the appropriation of waters, direct from source for power generation, the Water Code[31] and the Supreme Court ruling in *IDEALS, Inc. v. PSALM*[32] "shall

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[26] Department of Energy, Prescribing Amendments to Section 19 of Department Circular No. DC2009-05-0008 Titled, Rules and Regulations Implementing Republic Act No. 9513, Otherwise Known as "The Renewable Energy Act of 2008", Department Circular No. DC2022-11-0034, Series of 2022 [DOE D.C. No. DC2022-11-0034, s. 2022] (Nov. 15, 2022).

[27] Section 19 (A) has been deleted. *Id.* § 1.

[28] *Id.* § 2.

[29] Department of Justice, Opinion No. 21, Series of 2022 (Sept. 29, 2022).

[30] DOE D.C. No. DC2022-11-0034, s. 2022, whereas cl. 7 (citing DOJ, Opinion No. 21, s. 2022, at 6).

[31] A Decree Instituting a Water Code, Thereby Revising and Consolidating the Laws Governing the Ownership, Appropriation, Utilization, Exploitation, Development, Conservation and Protection of Water Resources [WATER CODE], Presidential Decree No. 1067 (1976).

[32] IDEALS, Inc. v. PSALM, G.R. No. 192088, 682 SCRA 602 (2012).

continue to prevail, unless repealed or reversed."[33] In the aforementioned case, the Supreme Court held that the concept of appropriating water under the Water Code involves the "taking or diverting of waters from a natural source in the manner and for any purpose allowed by law."[34] Under the Water Code, water may be appropriated for power generation.[35] Thus, the collection of water directly from its source for power generation constitutes appropriation and is therefore subject to the foreign ownership restriction provided by law.[36] A more comprehensive discussion of the salient provisions of the Water Code and the ruling in the *IDEALS, Inc.* case is found in the subsequent chapters of this Thesis.

II. Statement of the Problem

The Philippine government, through the DOE, has issued policies to strengthen and promote the use of renewable energy sources, aligning with its objectives under the Philippine Energy Plan and its commitments under the Paris Agreement. One significant policy shift is the issuance of DOE Department Circular No. DC2022-11-0034, which allows foreign ownership of the exploration, development, and utilization of renewable energy sources.

Renewable energy operations, such as hydroelectric and ocean energy projects, are capital-intensive.[37] Given this financial requirement, the necessity for private and foreign investments in the renewable energy sector becomes increasingly relevant.

However, DOE Department Circular No. DC2022-11-0034 presents a legal dilemma. It appears to conflict with the provisions of the Water Code and the Supreme Court ruling in *IDEALS, Inc. v. PSALM*. The latter reiterated the provisions of the Water Code, particularly concerning renewable energy sources that involve water. The DOJ Opinion dated 29 September 2022 cited by DOE Department Circular No. DC2022-11-0034 excludes solar, wind, hydro, and ocean or tidal energy resources from the definition of "natural resources" due to their "inexhaustible" nature. However, the same DOJ Opinion qualifies that the Water Code and *IDEALS, Inc.* continue to prevail. This presents a legal issue, particularly concerning hydro and ocean energy systems. These resources fall within the ambit of the term "RE Resources" but were not specifically excluded

[33] DOJ, Opinion No. 21, s. 2022, at 7.

[34] *IDEALS, Inc.*, 682 SCRA at 662 (citing WATER CODE, art. 9).

[35] WATER CODE, art. 10 (d).

[36] *See id.* art. 15.

[37] Barroco & Herrera, *supra* note 11.

from the relaxation of foreign ownership restrictions in DOE Department Circular No. DC2022-11-0034.

With respect to ocean energy, which utilizes the movement of ocean water to generate electricity,[38] it does not operate in such a way that it collects water and stores it in a dam, as in hydroelectric power plants. The DOJ Opinion stated that the ocean is part of *res communes*, or common things that belong to all persons, and thus, cannot be subject to appropriation.[39] The Water Code, however, provides that seawater is among those that belong to the State.[40] Considering the *IDEALS, Inc.* ruling, which states that when water is appropriated directly from its source, there is thus a question regarding the operation of ocean energy projects on whether the same constitutes appropriation of water.

Similarly, run-of-river hydroelectric power plants, which do not require the use of dams or reservoirs for storage facilities and are mainly for the purpose of power generation, generate electricity from the flow of the river.[41] A similar question also arises as to whether run-of-river hydroelectric power plants constitute appropriation of water.

Therefore, this Thesis aims to address the following legal issues:

A. Main Legal Issues

1. Whether or not the operation of run-of-river hydroelectric power plants and ocean energy projects constitute appropriation of water?
2. Whether or not there exists a gap that needs to be bridged between the Water Code and the DOE Department Circular No. DC2022-11-0034?
    2.1. Whether or not the DOE Department Circular No. DC2022-11-0034 is in contrary with the Water Code?
    2.2. Whether or not there is a need to harmonize the Water Code with current state policies on energy?

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[38] *See* A.S. Bahaj, *Generating Electrical Power from Ocean Resources*, COMPREHENSIVE RENEWABLE ENERGY, Volume No. 8, at 1.

[39] DOJ, Opinion No. 21, s. 2022, at 3.

[40] WATER CODE, art. 5 (g).

[41] *See* Energy Education, Run-of-the-river Hydroelectricity, *available at* https://energyeducation.ca/encyclopedia/Run-of-the-river_hydroelectricity (last accessed Apr. 18, 2024).

B. Auxiliary Legal Issues

1. Whether or not renewable energy resources are within the ambit of "natural resources" subject to foreign ownership restrictions under the Constitution?
    1.1. Whether or not a distinction should be made between: (a) the *corpus* or body of water and the energy harnessed from it; and (b) the different uses of water?
    1.2. Consequently, whether or not DOE Department Circular No. DC2022-11-0034 is valid?

III. Objectives of the Study

The primary objective of this Thesis is to examine and analyze the legal implications and conflicts arising from the government's policy shift towards promoting renewable energy sources, particularly in the context of foreign ownership restrictions.

Specifically, the Thesis aims to:

1. Determine whether the operation of run-of-river hydroelectric power plants and ocean energy projects constitute appropriation of water.
2. Determine the legal classification and treatment of renewable energy resources by examining the records of the constitution particularly in relation to the definition of "natural resources."
3. Assess the implications of the government's policy on renewable energy development, focusing on its impact on foreign investments in the sector.
4. Provide recommendations on potential legal reforms or amendments to existing laws to address the identified conflicts and promote sustainable and inclusive development in the renewable energy sector.

By achieving these objectives, this Thesis seeks to contribute to the understanding of the legal issues surrounding renewable energy development in the Philippines and offer valuable insights for policymakers, legal practitioners, investors, and other stakeholders involved in the renewable energy sector.

IV. Thesis Statement

The Water Code imposes restrictions on the appropriation of water while *IDEALS, Inc. vs. PSALM* stated that water collected in a dam is an artificial water source which can no longer be appropriated; thus, allowing sale of hydroelectric facilities to a foreign corporation. This is supported by the move to relax foreign

ownership in the exploration, development, and utilization of renewable energy resources based on the assertion that renewable energy falls beyond the ambit of "natural resources" as stated in the Constitution. Moreover, in the context of run-of-river hydroelectric facilities and ocean energy technologies, their operations constitute an appropriation of water. Legal conflict arises absent clarification and harmonization of said jurisprudence, the Water Code, and the DOE Department Circular No. DC2022-11-0034. This can be addressed by passing an amendatory law that: (i) specifically allows the issuance and/or lease of water permits for power generation purposes to foreigners; and (ii) aligns the Water Code with the State's current policies on promoting the renewable energy sector and making it more competitive by relaxing foreign equity restrictions.

V. Significance of the Study

The National Renewable Energy Program 2020-2040, issued by the DOE, reveals that hydro resources have the greatest potential among renewable sources, with potential power generation capacities amounting to 655,034 megawatts (MW).[42] Meanwhile, ocean energy facilities remain untapped to date.[43]

A study conducted by the Organisation for Economic Co-operation and Development (OECD) reveals that foreign direct investments (FDI) in renewable energy has been "gaining momentum"[44] as "many countries are stepping up efforts to diversify their energy supply and strengthen energy independence[.]"[45] The same study also indicates that energy firms tend to be more responsive to restrictions on foreign direct investment,[46] i.e., they prefer to invest in countries with fewer foreign ownership restrictions.

Attracting private and foreign investments in the renewable energy sector is vital for driving economic growth, creating jobs, and fostering innovation. Resolving the issues identified in this Thesis could facilitate a more conducive foreign investment environment for renewable energy projects in the Philippines. Interpreting "natural resources" to exclude renewable energy sources would lead to a more desirable outcome for the government and its

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[42] DEPARTMENT OF ENERGY, NATIONAL RENEWABLE ENERGY PROGRAM 2020-2040 34 tbl. 9 (2022).

[43] *Id.* at 1.

[44] Polina Knutson & Perla Ibarlucea Flores, Trends, Investor Types and Drivers of Renewable Energy FDI (OECD Working Papers on International Investment 2022/02), at 6, *available at* https://www.oecd-ilibrary.org/docserver/4390289d-en.pdf?expires=1713352415&id=id&accname=guest&checksum=8CEC0B0318427545D896D660FEDA5293 (last accessed Apr. 17, 2024).

[45] *Id.* at 5.

[46] *Id.*

citizens since such interpretation conforms with the contemporary policies of the state, i.e., shift to renewables.

Finally, renewable energy development plays a significant role in achieving sustainable development goals and fulfilling the country's commitments under the Paris Agreement, mitigating climate change and reducing carbon emissions. This Thesis aims to provide a more coherent legal framework on renewable energy projects by proposing amendments to the Water Code and an update to the Regular Foreign Investment Negative List, which are essential for realizing these objectives. Ultimately, the State's primary goal of achieving energy security for all Filipinos will be realized. Increasing the percentage of renewable energy in the energy mix to meet the ever-growing demand for electricity would help prevent looming energy crises in the country while also reducing electricity costs.

VI. Scope and Limitation

The primary focus of this Thesis is to concentrate on the operations of run-of-river hydroelectric power plants and ocean energy projects. The objective is to scrutinize whether these operations constitute appropriation of water and are therefore subject to foreign ownership restrictions under existing laws. Furthermore, while the specific mechanisms of hydroelectric and ocean energy technologies are discussed in this Thesis, the Proponent did not venture on the implications of the operation of such renewable energy facilities to the environment and indigenous peoples' rights. Additionally, it delves into the classification of renewable energy resources and determine whether they fall within the ambit of "natural resources" as provided in the 1987 Constitution.

VII. Organization of the Thesis

This Thesis is structured into several chapters beginning with an Introduction (Chapter I) which provides a background on the current policies of the government involving renewable energy development and a summary of the DOE Department Circular No. DC2022-11-0034, the salient provisions of the Water Code, and relevant portions of the Supreme Court ruling in *IDEALS, Inc. v. PSALM*. This Chapter outlines the legal issues to be addressed, the objectives, definition of terms, research methodology, significance, scope and limitations, and review of related literature.

Chapter II explores the technologies associated with hydroelectric power plants and ocean energy, detailing the specific mechanisms involved in their operations.

Chapter III provides a discussion on how waters are governed and the concept of water appropriation. This includes a discussion on the history of water appropriation, its elements, and relevant jurisprudence involving such concept.

Chapter IV examines the interplay between renewable energy resource regulation and water rights. It will include discussions on relevant jurisprudence, such as *IDEALS, Inc. vs. PSALM* and *MWSS vs. Province of Bulacan*. Additionally, the chapter provides a comparative analysis of laws and regulations from other countries.

Chapter V offers an analytical synthesis of the findings, substantiating the objectives of the Thesis.

Chapter VI concludes the Thesis by summarizing the key findings and proposing amendments to the Water Code and a proposal to incorporate the developments provided by DOE Department Circular No. DC2022-11-0034 in the Regular Foreign Investment Negative List (FINL).

Finally, an Annex provides the proposed amendments to the Water Code and the Regular FINL.

CHAPTER 2: HYDROELECTRIC AND OCEAN TECHNOLOGIES

I. Hydroelectric Technologies

A. Hydropower's Early Beginnings

Hydroelectric power is arguably the first type of renewable energy resource to be developed and utilized by man.[47] This technology found its beginnings with the wooden waterwheel which was widely used in most parts of Europe and Mesopotamia more than two millennia ago.[48] In the olden days, wooden waterwheels were used for purposes other than electric generation such as irrigation, milling grain,[49] and human consumption.[50] There are three types of waterwheels extensively used during this era — the horizontal waterwheel (Figure 2), the vertical undershot waterwheel (Figure 3), and the vertical overshot waterwheel (Figure 4).[51]

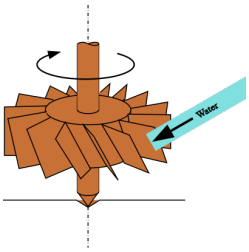

Figure 2. Horizontal[52]

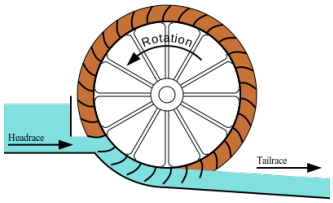

Figure 3. Vertical Undershot[53]

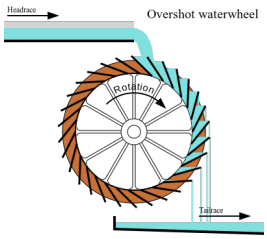

Figure 4. Vertical Overshot[54]

The evolution of the modern hydropower turbine did not take place until the mid-1700s, when French engineer Barnard Forest de Bélidor wrote the classic book on hydraulics *Architecture Hydraulique*.[55] This classic work on hydraulics contained detailed descriptions on vertical and horizonal axis

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[47] PAUL BREEZE, HYDROPOWER 1 (2018).

[48] Sameer Saadoon Al-Juboori, *Hydroelectric Power*, 1 ENERGY SCI. & TECH. 429, 430 (2016).

[49] *Id.*

[50] BREEZE, *supra* note 47, at 4.

[51] *Id.*

[52] Malcolm Boura, Horizontal Waterwheel Illustration, *available at* https://en.wikipedia.org/wiki/Water_wheel#/media/File:Vertical_waterwheel_simple.svg/2 (last accessed June 21, 2024).

[53] Malcolm Boura, Vertical Undershot Waterwheel Illustration, *available at* https://en.wikipedia.org/wiki/Water_wheel#/media/File:Undershot_waterwheel_simple.svg/2 (last accessed June 21, 2024).

[54] Malcolm Boura, Vertical Overshot Waterwheel Illustration, *available at* https://en.wikipedia.org/wiki/Water_wheel#/media/File:Overshot_waterwheel_simple.svg/2 (last accessed June 21, 2024).

[55] Water Power Technologies Office, History of Hydropower, *available at* https://www.energy.gov/eere/water/history-hydropower (last accessed June 21, 2024).

machines.[56] At the height of the Industrial Revolution in the 18th century, iron replaced wood in the production of waterwheels.[57] However, steam power gradually overshadowed hydropower, but water-powered devices continued to be used until the 19th century.[58]

B. The Rise of Hydroelectric Power

It was in the late 19th century when water was used to generate electricity.[59] At this point in time, waterwheels were enclosed to improve efficiency, becoming known as hydropower turbines.[60] One of the earliest known uses of hydroelectric power plants was in Cragside, Rothbury, England in 1870, where the device was used to provide lighting in the area.[61] The first industrial use of hydropower commenced in 1880 in Grand Rapids, Michigan, when a "brush arc light dynamo driven by a water turbine was used to provide theater and storefront lighting."[62] It was then followed by the connection of a brush dynamo to a turbine in a flour mill to provide street lighting in Niagara Falls, New York.[63] Further developments in hydroelectric power led to the construction of the world's first hydroelectric station at the Vulcan Street Plant in Appleton, Wisconsin in 1882.[64] An electric generator was coupled to a turbine to provide electricity to a paper mill owned by paper manufacturer H.J. Rogers and his residence.[65]

Since then, the use of hydroelectric facilities has continued to rise. According to a report prepared by the International Energy Agency, hydropower supplied 17% of global electricity generation.[66] In the Philippines, there are a total of 433 hydropower projects as of 2023[67] with an installed capacity of 1,186.91 MW out of a potential capacity of 18,902.96 MW.[68]

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[56] Peggy Brookshier, *Hydropower Technology*, *in* 3 ENCYCLOPEDIA OF ENERGY 333 (Morris A. Pierce, ed., 2012).

[57] BREEZE, *supra* note 47, at 1.

[58] *Id.* at 6.

[59] *Id.*

[60] *Id.* at 6-7.

[61] Al-Juboori, *supra* note 48, at 431.

[62] Brookshier, *supra* note 56, at 333.

[63] *Id.*

[64] Al-Juboori, *supra* note 48, at 431.

[65] BREEZE, *supra* note 47, at 7.

[66] International Energy Agency, Hydropower Special Market Report: Executive Summary, *available at* https://www.iea.org/reports/hydropower-special-market-report/executive-summary (last accessed June 21, 2024).

[67] Department of Energy, Energy Investment Kit 2024, at 24, *available at* https://doe.gov.ph/sites/default/files/pdf/e_ipo/2024-Energy-Investment-Kit.pdf (last accessed June 21, 2024).

[68] *Id.* at 14 tbl. 10.

C. Types of Hydroelectric Facilities

Hydroelectric facilities can be classified by either head, size or capacity, or facility type. For the purposes of this Thesis, the Proponent primarily focuses on the classification by facility type. A separate subsection under this Chapter is dedicated to this discussion.

1. Classification by Head

Classification by head refers to the turbines used. The head "determines the water pressure on the turbines that together with discharge are the most important parameters for deciding the type of hydraulic turbine to be used."[69] Hydroelectric facilities with different head types are as follows:

(a) High Heads – Pelton turbines are used;

(b) Medium Heads – Francis turbines are used; and

(c) Low Heads – Kaplan and Bulb turbines are used.[70]

2. Classification by Size or Capacity

A classification based on size or capacity pertains to the amount of electricity — measured in kilowatts (kW) and megawatts (MW) — that a certain plant can accommodate. The definition of size vary across jurisdictions but they are mostly either classified as: (a) "large" or (b) "small."[71] In the Philippines, the DOE has come up with its own classification, to wit:

(a) Micro-hydro – one to 100 kW;

(b) Mini-hydro – 101 kW to 10 MW; and

(c) Large hydro – more than 10 MW.[72]

D. Classification by Facility Type

Classification by facility type pertains to the operation and type of flow of the water. There are three main classifications: (1) impoundment; (2) run-of-river; and (3) pumped storage. In this subsection, the difference of each type of facility is extensively discussed.

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[69] Al-Juboori, *supra* note 48, at 440.

[70] *Id.*

[71] *Id.*

[72] Department of Energy, Hydropower, *available at* https://doe.gov.ph/hydropower (last accessed June 21, 2024).

1. Impoundment

An impoundment type of facility is alternatively known by many names, such as reservoir, storage, or multi-purpose hydroelectric facility. This is the "traditional" type of hydroelectric facility, where a reservoir is used to store water.[73] A reservoir is defined as "an artificial lake in which water is impounded for domestic and industrial use, irrigation, hydroelectric power, flood control, or other purposes."[74] The design of a reservoir largely depends on the landscape on where it is proposed to be built.[75] Typically, reservoirs are "located in an upland or mountainous region"[76] and "accumulates water during the rainy season and drains during the dry season."[77]

An impoundment facility works by releasing water from the reservoir and delivering it to the turbine through a tunnel or a penstock (Figure 5).[78] The energy from the flow of the water makes the turbines move, which then generates electricity.[79] Many reservoirs are designed for multiple purposes other than electricity generation, such as irrigation, flood control, and water treatment for human consumption.[80]

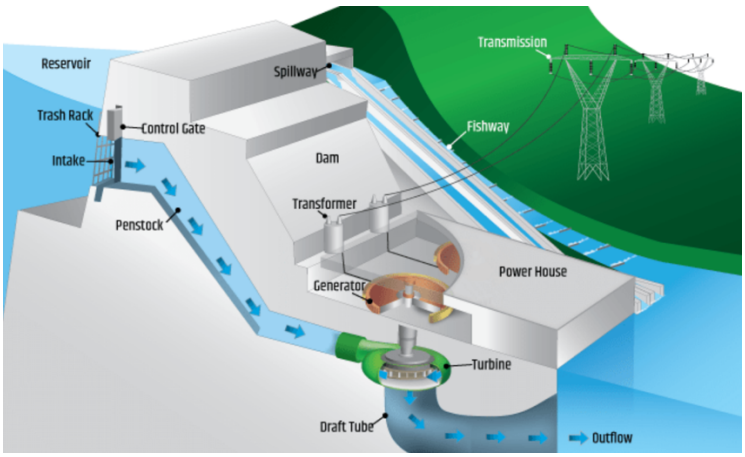

Figure 5. Diagram of an impoundment facility[81]

[73] Brookshier, *supra* note 56, at 334.

[74] Christer Nilsson, *Reservoirs*, *in* ENCYCLOPEDIA OF INLAND WATERS 625 (Gene E. Likens, ed. 2009).

[75] Al-Juboori, *supra* note 48, at 443.

[76] GERMAN MUNOZ-HERNANDEZ, ET AL., MODELLING AND CONTROLLING HYDROPOWER PLANTS 18 (2013).

[77] *Id.* at 19.

[78] *Id.*

[79] Water Power Technologies Office, Types of Hydropower Plants, *available at* https://www.energy.gov/eere/water/types-hydropower-plants (last accessed June 21, 2024).

[80] *See* Nilsson, *supra* note 74, at 627.

[81] Water Power Technologies Office, *supra* note 79.

After the water is released from the reservoir and subsequently passes through the turbines, it is then discharged into the river downstream of the dam.

2. Run-of-river

A run-of-river facility, as suggested by its name, makes use of the "available flow of the river[.]"[82] The main difference between a run-of-river facility and a traditional facility is the absence of large reservoirs.[83] As these facilities "use the natural flow on river of water from upstream[,]" they are "less flexible" than a traditional facility with reservoirs because the amount of electricity generated "depends on the availability of water in the river."[84] Due to the inherent variability in electricity output of this type of facility, different configurations exist, namely: (a) diversion-type plants without dams; (2) weir-type plants; and (3) river current systems-type plants.[85]

In a diversion-type plant, "a portion of the water diverted from fast[-]flowing rivers" can either be used to "directly [ ] feed a penstock" (Figure 6a) or "the intake system instead feeds a diversion channel first before reaching the penstock[,] passing through a forebay tank[.]" (Figure 6b)[86]

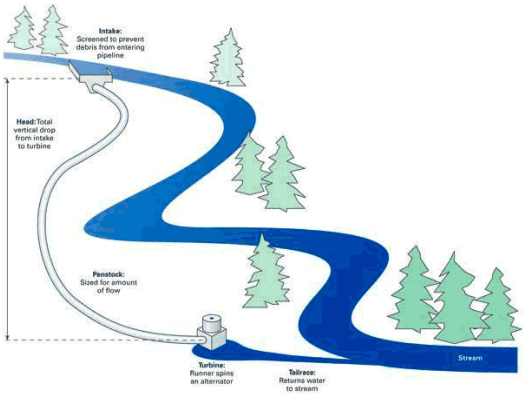

Figure 6a. Direct to penstock[87]

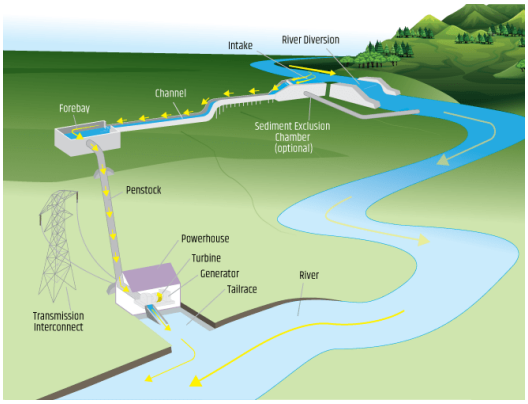

Figure 6b. With forebay tank[88]

[82] Al-Juboori, *supra* note 48, at 441.

[83] David Tsuanyo, et al., *Design Models for Small Run-of-River Hydropower Plants: A Review*, SUSTAINABLE ENERGY RESEARCH, Volume 10, at 2 (2023).

[84] *Id.*

[85] *Id.* at 3.

[86] *Id.*

[87] Green Bug Energy, The Anatomy of a Diversion Hydro Site, *available at* https://greenbugenergy.com/get-educated-knowledge/anatomy-diversion-site (last accessed June 22, 2024).

[88] Water Power Technologies Office, *supra* note 79.

Weir-type plants make use of "weirs" (Figure 7) which is a "small dam built across a river to control the upstream level."[89] Its goal is not to create storage but only to control the flow of water,[90] i.e., raising its level or changing is direction.[91]

Figure 7. Weir[92]

In these facilities, "the capacity of the system is directly linked to the existing flow of water through the dam which maintains the river flow." (Figure 8a & 8c)[93] In some plants, the river from the water flows through low-head turbines housed in the weir to generate electricity (Figure 8b).[94]

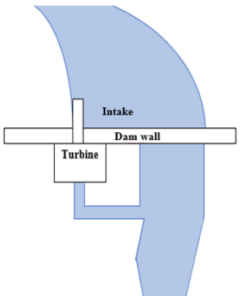

Figure 8a. Directly linked to the existing flow of water with floating intake[95]

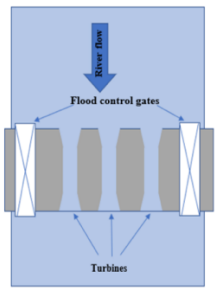

Figure 8b. With flow through low-head turbines housed in the weir[96]

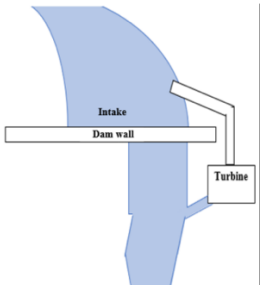

Figure 8c. Directly linked to the existing flow of water with protected intake[97]

[89] Practical Engineering, What is a Weir?, *available at* https://practical.engineering/blog/2019/3/9/what-is-a-weir (last accessed June 22, 2024).

[90] *Id.*

[91] Elliot Clark, What is Weir in Hydropower Plant, *available* at https://energytheory.com/what-is-weir-in-hydropower-plant/ (last accessed June 22, 2024). *See also* Britannica Dictionary, Weir, *available at* https://www.britannica.com/dictionary/weir (last accessed June 22, 2024).

[92] Clark, *supra* note 91.

[93] Tsuanyo, et al., *supra* note 83, at 3.

[94] *Id.*

[95] *Id.* at 4 fig. 3.

[96] *Id.*

[97] *Id.*

Lastly, river current systems-type plants use turbines installed directly in the river "to harness the kinetic energy of the [river's water.]" (Figure 9)[98] Some authors call this plant a "pure" run-of-river facility.[99]

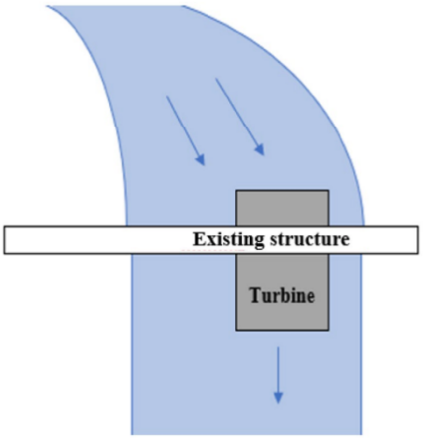

Figure 9. Diagram of a river current systems-type plant[100]

In all types of run-of-river plant configurations, "water is returned to the waterway [or river]" which can then be used for other purposes such as recreation and navigation.[101]

3. Pumped Storage

The last classification of a hydroelectric plant by facility type is called pumped storage. It is said that these plants are "not energy sources, but are instead storage devices."[102] In this facility, "water is pumped from a lower reservoir [to] an upper reservoir [ ], usually during off-peak hours, while flow is reversed to generate electricity during the daily peak load period or at other times of need."[103]

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[98] *Id.* at 4.

[99] MUNOZ-HERNANDEZ, ET AL., *supra* note 76, at 18.

[100] Tsuanyo, et al., *supra* note 83, at 5 fig. 4.

[101] Roger C. Viadero, et al., Hydropower on the Mississippi River (Conference Paper, July 2017), at 16, *available at* https://www.researchgate.net/publication/318469208_Hydropower_on_the_Mississippi_River (last accessed June 22, 2024).

[102] Al-Juboori, *supra* note 48, at 442.

[103] *Id.*

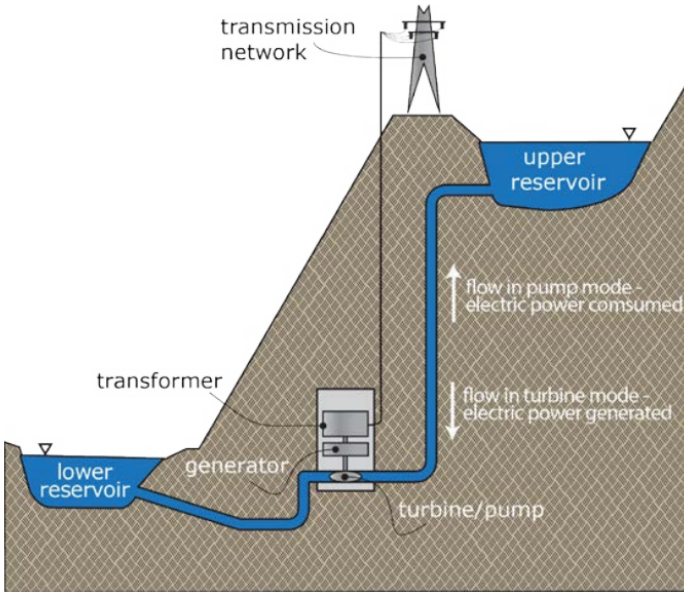

Figure 10. Diagram of a pumped storage facility[104]

After the water is delivered to the turbines, it is stored back in the lower reservoir for future use when the demand for electricity arises.

E. Hydroelectric Power as a Semi-Renewable Resource?

Some sources classify hydroelectric power as a "semi-renewable" resource. After conducting extensive research, the Proponent finds that the common perception among individuals[105] and institutions[106] labeling hydroelectric power as "semi-renewable" is largely based on the key tenet of *sustainability*. However, the Proponent's research also reveals that the type of hydroelectric power facility considered "unsustainable," and thus "semi-renewable," is specifically those that involve the construction of large dams.

A study published in the Proceedings of the National Academy of Sciences of the United States of America reveals that the construction of large dams negatively impacts the environment in several ways.[107] Among these effects

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[104] Viadero, et al., *supra* note 101 fig. 4.

[105] *See* Eric Sharpe, Why Hydroelectric Power Isn't Considered Renewable, *available at* https://www.linkedin.com/pulse/20140710135110-294192772-why-hydroelectric-power-isn-t-considered-renewable (last accessed Jan. 28, 2024). (In this online article, Mr. Sharpe presents a thorough discussion on the factors which makes hydroelectric power not renewable, namely: (1) sustainability; (2) politics; and (3) money.).

[106] *See id* & Stanford University, Hydropower, *available at* https://understand-energy.stanford.edu/energy-resources/renewable-energy/hydropower (last accessed Jan. 28, 2025). (In this online article, Stanford University categorizes hydroelectric power as a semi-renewable since it is used faster than it can be replenished.).

[107] Rachel Cooper, *New Research Finds Hydropower Dams Unsustainable in the Developing World*, CLIMATE ACTION, Nov. 6, 2028, *available at* https://www.climateaction.org/news/new-research-finds-hydropower-dams-unsustainable-in-the-developing-world (last accessed Jan. 28, 2025).

are the "distrup[tion] [of] river ecology, deforestation, los[s] [of] aquatic and terrestrial biodiversity, and releas[e] [of] substantial greenhouse gases[.]"[108] Moreover, large dams also cause the displacement of communities and negatively affect water quality and agriculture in surrounding areas.[109]

II. Ocean Energy Technologies

Energy from the ocean may be extracted through various technologies such as: (1) tidal rise and fall (barrages); (2) tidal/ocean currents; (3) waves; (4) ocean temperature energy conversions or temperature gradients; and (5) salinity gradients.[110] In this Thesis, the Proponent shall focus on tidal and wave energy as the technologies involved in its exploitation rely on the movement of ocean water.

The ocean energy industry is an emerging field, given its relatively new technology.[111] However, there is an increasing interest in ocean energy from governments worldwide, driven by the global trend of shifting to cleaner and more sustainable energy sources.[112] Some scientists believe that the ocean energy industry has "enormous potential for energy production in [the] future."[113] Coastal nations with the potential to exploit this kind of renewable energy include the United Kingdom, Canada, France, Norway, Spain, Indonesia, Taiwan, China, Malaysia, **the Philippines**, and New Zealand.[114]

A. Tidal Energy

Tidal energy can be captured through the fluctuations or movements of the sea level. Tides are "related to [the] rotation in the sun-[m]oon-Earth system and from the resulting variations in the gravitational force on Earth."[115] It can either move vertically (i.e., tidal range or "rise and fall") or horizontally (i.e., tidal

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[108] *Id.*

[109] *Id.*

[110] Mehmet Melikoglu, *Current Status and Future of Ocean Energy Sources: A Global Review*, 148 OCEAN ENGINEERING 563, 564 (2018) (citing U.S. Energy Information Administration, International Energy Outlook 2016, *available at* https://www.eia.gov/outlooks/ieo/pdf/0484(2016).pdf (last accessed June 22, 2024)).

[111] George Lemonis, *Wave and Tidal Energy Conversion*, *in* 6 ENCYCLOPEDIA OF ENERGY 386 (Cutler J. Cleveland, ed. 2004).

[112] *Id.*

[113] Nasir Mehmood, et al., *Harnessing Ocean Energy by Tidal Current Technologies*, 4 RES. J. OF APPLIED SCIENCES, ENGINEERING AND TECH. 3476, 3477 (2012).

[114] M.S. Chowdhury, *Current Trends and Prospects of Tidal Energy Technology*, 23 ENV'T DEV. & SUSTAINABILITY 8179, 8181 (2021).

[115] Steve Earle, Environmental Geology, *available at* https://environmental-geology-dev.pressbooks.tru.ca/chapter/wave-and-tidal-energy/ (last accessed June 22, 2024).

current).[116] Tidal range produces potential energy and is the "difference between high and low tide" whereas tidal current produces kinetic energy through the horizontal movement of water.[117] The technologies involved in converting tidal energy can be subdivided into two categories depending on the type of tide (i.e., tidal range or tidal current) used to produce energy. The difference between these technologies is discussed in depth in the next subsections.

1. History

The progenitor of tidal energy technologies is called the tide mill (Figure 11).[118] A tide mill's mechanism is similar to that of a waterwheel except that in the former, "water must first be collected from the incoming tide before it can be released to rotate waterwheel."[119] Historically, tide mills are used for milling grain in Europe as early as the year 619.[120]

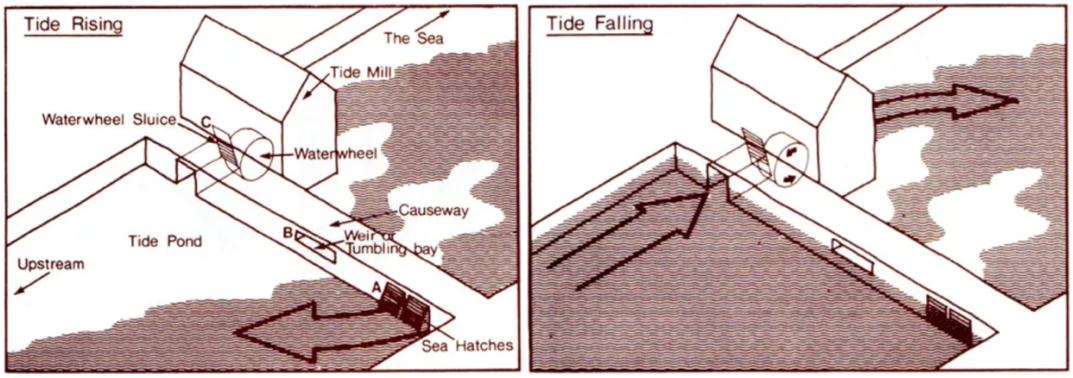

Figure 11. Mechanism of a medieval-period tide mill[121]

In the early 20th century, turbines gradually replaced tide mills for electricity generation.[122] Numerous tide mills around Europe eventually closed down,[123] and these structures came to be regarded as medieval contraptions. In 1966, the world's first large-scale tidal power plant, the La Rance Tidal Power Station, was built in France.[124]

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[116] Mehmood, et al., *supra* note 113.

[117] *Id.* at 3477-78.

[118] DEBORAH GREAVES & GREGORIO IGLESIAS, WAVE AND TIDAL ENERGY 3 (2018).

[119] Lehigh University Environmental Initiative, Brief History of Tidal Energy, *available at* https://ei.lehigh.edu/learners/energy/tidal/tidal4.html (last accessed June 22, 2024).

[120] *Id. See* GREAVES & IGLESIAS, *supra* note 118, at 3.

[121] Tide Mill Institute, What's a Tide Mill?, *available at* https://www.tidemillinstitute.org/definition-of-a-tide-mill/ (last accessed June 22, 2024).

[122] ROGER H. CHARLIER & CHARLES W. FINKL, OCEAN ENERGY: TIDE AND TIDAL POWER 33 (2009).

[123] *Id.*

[124] GREAVES & IGLESIAS, *supra* note 118, at 3.

2. Mechanism of Tidal Range and Tidal Current Technologies

a. Tidal Range

As discussed earlier, tidal range pertains to the rise and fall of the sea level. As such, the technology required to convert tidal range energy to electricity is similar to the technology required in traditional hydroelectric power plants.[125] A tidal barrage is a "large, dam-like structure built across the mouth of a bay or estuary in an area with a large tidal range."[126] In this type of technology, gates and turbines are likewise installed (Figure 12).[127]

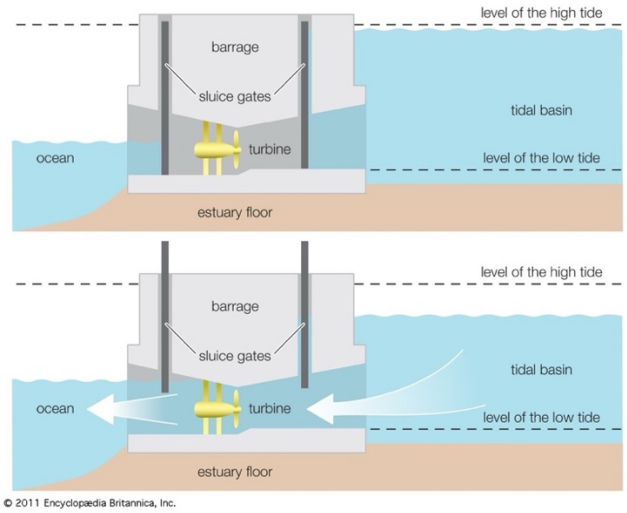

Figure 12. Diagram of a tidal range technology[128]

The gates open when "there is an adequate difference in the elevation of the water on the different sides of the barrage[.]"[129] Water then flows through the turbines, activating the electric generator to produce electricity.[130] At present, the largest operating tidal range technology is located at the Sihwa Lake Tidal Barrage in South Korea which was completed in 2011 and has a capacity of 254 MW.[131]

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[125] Lemonis, *supra* note 111, at 392.

[126] Ocean Energy Systems, Tidal Barrages Technology, *available at* https://www.ocean-energy-systems.org/what-is-ocean-energy/tidal-currents/tidal-barrages-technology/ (last accessed June 22, 2024).

[127] Lemonis, *supra* note 111, at 392.

[128] Encyclopedia Britannica, Tidal Power, *available at* https://www.britannica.com/science/tidal-power (last accessed June 22, 2024).

[129] *Id.*

[130] *Id.*

[131] Earle, *supra* note 115.

b. Tidal Current

Tidal currents rely on the horizontal movement of the water. Thus, it can be harnessed "using technologies similar to those used for wind energy conversion" which uses horizontal (Figure 13) or vertical axis turbines (Figure 14).[132] The turbines used in this technology produce electricity "when elevation differences between high and low tides produce strong currents[.]"[133] These structures are "either embedded in, or resting on, the seafloor, although some are buoyant and are anchored to the seafloor."[134]

Depending on the axis of the turbines used, its blades are "positioned either in parallel (horizontal) or perpendicular (vertical) to the direction of the flow of the water[.]"[135] The blades are connected to a central rotor shaft which is then connected to a generator shaft through a gearbox.[136] Water flows through the shaft which causes the blades to rotate; electricity is then generated.[137] Based on a report by the IRENA, 76% of existing tidal current projects make use of horizontal axis turbines while 12% use vertical axis turbines.[138]

Figure 13. Horizontal axis tidal turbine[139]

Figure 14. Vertical axis tidal turbine[140]

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[132] Lemonis, *supra* note 111, at 392.

[133] Melikoglu, *supra* note 110, at 566.

[134] Earle, *supra* note 115.

[135] IRENA, Tidal Energy Technology Brief, at 11, *available at* https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2014/Tidal_Energy_V4_WEB.pdf (last accessed June 22, 2024).

[136] *Id.*

[137] *Id.* at 11-12.

[138] *Id.* at 12.

[139] Joseph William Burchell, Advancement of Direct Drive Generator Systems for Offshore Renewable Energy Production, at 35 fig. 2-36 (2017) (unpublished PhD thesis, University of Edinburgh) (on file with the University of Edinburgh Library) (citing University of Stratchclyde, Tidal Energy – Tidal Stream Energy, *available at* http://www.esru.strath.ac.uk/EandE/Web_sites/10-11/Tidal/tidal.html (last accessed June 22, 2024)).

[140] *Id.* at 36 fig. 2-37 (citing Hydrovolts, The Hydrovolts Turbine, *available at* https://hydrovolts.blogspot.com/2009/04/hydrovolts-turbine.html (last accessed June 22, 2024)).

3. The Present and Future of Tidal Energy

Several scientists and engineers believe that tidal energy will become a "fully commercially viable energy source" in the near future.[141] As such, extensive research and development are being conducted across the globe to gain complete knowledge of the technology[142] and subsequently lower its implementation costs. At present, tidal energy technologies require a high capital investment.[143]

In a report prepared by the International Energy Forum, **the Philippines is listed as one of the countries with favorable sites for tidal power projects**.[144] This is primarily due to the country's geographical characteristics such as latitude and underwater geometry.[145] Currently, there are fewer than 50 companies in the world involved in the tidal energy industry, with companies from the US, UK, Norway, Australia, the Netherlands, France, South Korea, Spain, Sweden, Canada, Ireland, and Germany.[146]

Indeed, while there is still much to study in this field of renewable energy technology, its future viability and continuous development cannot be discounted.

B. Wave Energy

Wave energy is a more recent technology compared to tidal energy. With more than a thousand patents for devices that capture and transform wave energy into electricity, engineers continuously develop existing technology to maximize output and improve efficiency while minimizing environmental impact.[147]

1. History

The first patent on wave energy converter was granted to a Frenchman named Girard in the year 1799.[148] In the 1940s, Japanese inventor Yoshio

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[141] Melikoglu, *supra* note 110, at 567.

[142] *Id.*

[143] *Id.*

[144] International Energy Forum, Tidal Power is Finally Making Waves, *available at https://www.ief.org/news/tidal-power-is-finally-making-waves* (last accessed June 22, 2024).

[145] *Id.*

[146] Chowdhury, et al., *supra* note 114, at 8185 tbl. 2.

[147] GREAVES & IGLESIAS, *supra* note 118, at 4.

[148] Hangfei Li, et al., Wave Energy: History, Implementations, Environmental Impacts, and Economics (Paper Presented in the 2nd International Conference on Materials Chemistry and Environmental Engineering, 2022), at 1, *available at* https://tethys.pnnl.gov/sites/default/files/publications/Li-et-al-2022_0.pdf (last accessed June 22, 2024).

Masuda invented a "new type of oscillating water column device to generate power for navigation buoys ... which utilized [ ] wave energy by absorbing and compressing the air to drive the generator to provide electricity."[149] This device was then commercialized in Japan since 1965.[150] In Europe, an oil crisis in 1973 led to an increased interest in wave energy and such interest continued until the 1990s.[151]

2. Mechanism of Wave Energy Technology

Ocean wave energy is regarded as one of the "most abundant[,] clean, frequent, renewable, periodic[,] and predict[able] energy sources[.]"[152] Waves are formed when the wind blows over the ocean surface and causes fluctuations to the height of the waves.[153] Wave energy is essentially a "consequence of wind energy."[154] Ocean waves produces both "kinetic energy of the water particles that generally follow circular paths" and "potential energy of elevated water particles[.] (Figure 15)"[155]

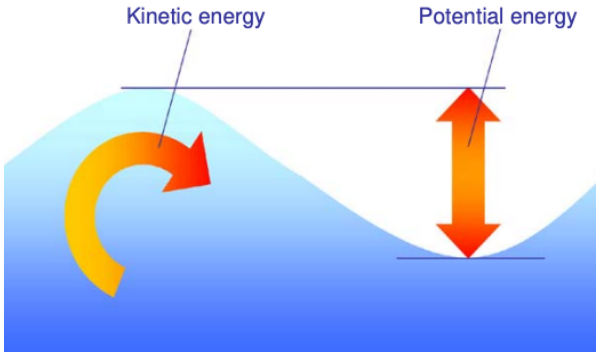

Figure 15. Wave energy components[156]

a. Attenuator systems

Attenuator systems are also known as the Pelamis concept.[157] This system utilizes an attenuator, "a floating device which operates parallel to the wave direction and effectively rides the waves." The movement between the floating

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[149] *Id.* at 2.

[150] *Id.*

[151] GREAVES & IGLESIAS, *supra* note 118, at 4.

[152] Melikoglu, *supra* note 110, at 567.

[153] Li, et al., *supra* note 148, at 2.

[154] Abu Bakr S. Bahaj, *Generating Electricity from the Oceans*, 15 RENEWABLE & SUSTAINABLE ENERGY REV. 3399, 3400 (2011).

[155] Lemonis, *supra* note 111, at 386.

[156] *Id.* at 386 fig. 2.

[157] Li, et al., *supra* note 148, at 4.

device are "used to pump high-pressure oil through hydraulic motors that drive electrical generators." (Figure 16)[158]

b. Oscillating Water Column (OWC) systems

This is the most common type of wave energy converter at present.[159] OWC systems are "made of a floating or fixed hollow configuration, which is open to the water below the surface[.]"[160] OWC systems have a compartment with a water column affected by incoming waves and an air pocket that is compressed and expanded by the water's movement.[161] The confined air is then forced through a turbine which is connected to an electric generator (Figure 17).[162]

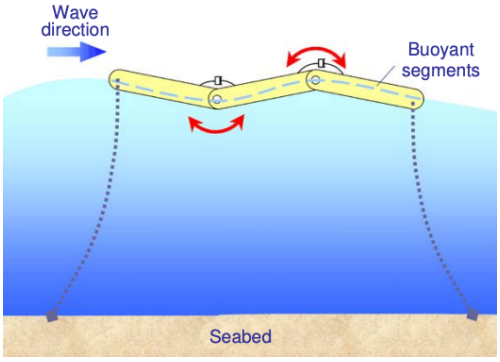

Figure 16. Mechanism of an attenuator[163]

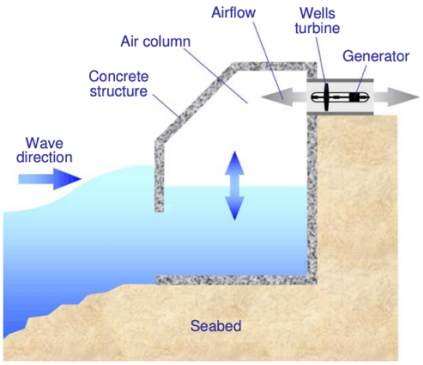

Figure 17. Mechanism of an OWC[164]

c. Overtopping systems

Overtopping systems are also known as a terminator device which captures the waves that reach a storage reservoir.[165] The water trapped in the reservoir runs the turbines that generate electricity[166] and is later on released back to the ocean (Figure 18).[167]

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[158] Lemonis, *supra* note 111, at 387-88.

[159] Li, et al., *supra* note 148, at 3.

[160] Melikoglu, *supra* note 110, at 569.

[161] *Id.*

[162] *Id.*

[163] Lemonis, *supra* note 111, at 388 fig. 7.

[164] *Id.* at 387 fig. 4.

[165] European Marine Energy Centre, Wave Devices, *available at* https://www.emec.org.uk/marine-energy/wave-devices (last accessed June 23, 2024).

[166] Melikoglu, *supra* note 110, at 569.

[167] European Marine Energy Centre, *supra* note 165.

d. Point absorber systems

The point absorber system is one of the "simplest, most broad-based[,] and most promising" waver energy converter.[168] These system utilizes floating buoys, i.e., point absorbers that are used to capture energy from the motion of the waves.[169] Most of the buoy is submerged in the ocean except for the float[170] and such devices are usually installed offshore.[171] The typical design of a point absorber system consists of a fixed end and another end that "moves in a vertical motion as the wave crests and troughs lift and lower the device."[172] The resulting motion then "pumps a fluid or drive a linear generator, which in turn can provide electricity." (Figure 19)[173]

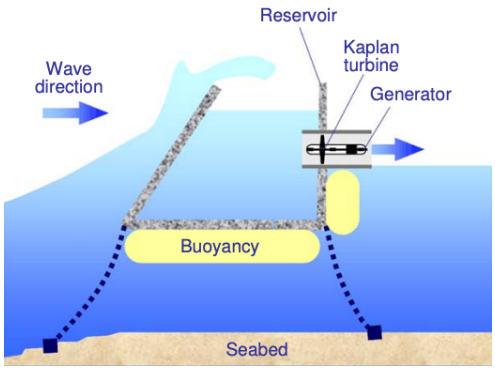

Figure 18. Mechanism of an overtopping system[174]

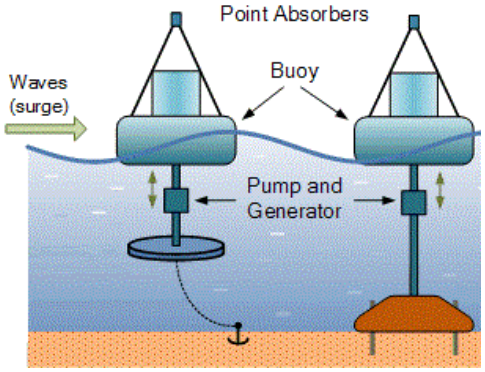

Figure 19. Mechanism of a point absorber[175]

3. The Present and Future of Wave Energy

Similar to tidal energy technology, wave energy technology requires high capitalization costs.[176] While it has the highest energy concentration, wave energy is "unevenly distributed over the globe."[177] A study conducted by the Mindanao State University reveals that the Philippines has an untapped 10-20kW/m of

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[168] Bingyong Guo, et al., *A Review of Point Absorber Wave Energy Converters*, 10 J. MARINE SCI. ENGINEERING 1534, 1534 (2022).

[169] Melikoglu, *supra* note 110, at 569.

[170] Li, et al., *supra* note 148, at 4.

[171] *Id.*

[172] The Liquid Grid, Wave Energy, *available at* https://theliquidgrid.com/marine-clean-tech-briefs/wave-energy-converters/ (last accessed June 23, 2024).

[173] *Id.*

[174] Lemonis, *supra* note 111, at 387 fig. 4.

[175] Nikola Vukajlovic, Active Control of Induction Generator in Ocean Wave Energy Conversion System (Conference Paper, 2018), at 2 fig. 2.

[176] Melikoglu, *supra* note 110, at 569.

[177] Lemonis, *supra* note 111, at 386.

wave energy flux in various coastal areas and this totals to around 170,000 MW of potential electricity.[178]

The geographical location and archipelagic nature of the Philippines provide potential for wave energy industries to be viable. Like tidal energy, wave energy is also expected to gain prominence in the near future.

[178] Mary Ann LL. Reyes, *Untapped Potential*, PHIL. STAR, Dec. 31, 2022, *available at* https://www.philstar.com/business/2022/12/31/2234321/untapped-potential (last accessed June 23, 2024).

CHAPTER 3: HOW WATERS ARE GOVERNED

Water is a special kind of property; it gives rise to peculiar rights and liabilities which do not arise in any other kind of property.

— Carlos Tan[179]

I. Classification of Water

In this section, the Proponent highlights the difference between the *corpus* or body of the water and the right to use it. The right to use such water necessarily includes its use for power generation (a.k.a. hydropower energy). Such distinction is important to prove that in the Philippines, while water as a natural resource is owned by the State, the latter has the power to regulate its use by delineating the rights and obligations over it through laws and regulations.[180] This is also in tune with the Public Trust Doctrine which states that the State, as trustee, holds natural resources in trust by managing their use, development, and preservation for its beneficiaries — the people.[181]

A. Corpus of Water as Res Communes

Early jurists considered water as part of *res communes*, together with air and the sun. *Res communes* is a medieval legal concept that refers to things owned by everyone.[182] Roman law and modern Spanish law dictate that "running water," which pertains to water "in its continual motion and ceaseless change," is part of "common things."[183] As such, "[t]he result of these authorities is that the ***corpus*** of naturally running water — the water in the natural resource — was classed [...] with [...] those things which cannot be owned while in their natural state and condition[.]"

B. Corpus of Water as Public Property vs. "Use" of Water

In the early 1800s, however, the classification of running water was revisited. In the case of *Williams vs. Moreland*, the court held that "flowing water

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[179] Carlos Tan, *Water Rights in the Philippines*, 2 PHIL. L.J. 139, 140 (1915).

[180] *See* PHIL. CONST. art. XII, § 2.

[181] *See generally* Maynilad Water Services, Inc. v. Secretary of DENR, G.R. No. 202897, Aug. 6, 2019, *available at* https://elibrary.judiciary.gov.ph/thebookshelf/showdocs/1/65416 (last accessed Jan. 27, 2025).

[182] LSD Law, Res communes, *available at* https://www.lsd.law/define/res-communes (last accessed Jan. 27, 2025).

[183] SAMUEL CHARLES WIEL, WATER RIGHTS IN THE WESTERN STATE 4 (3d. ed., 1911) (emphasis supplied).

is originally *publici juris*," or in other words, public property.[184] The "**use** of [running] water," therefore, "is subject to municipal regulation by the law of the place."[185] The right to use water, however, "is not a grant of property in the corpus of the water."[186] This concept was embraced by the Western States by establishing laws declaring that "waters are the property of the State," interpreted by courts as being "in trust for the people."[187]

C. Public Trust Doctrine

The classification of water evolved from an idea of a "negative community" to a "positive expression," which gave rise the quintessential concept in the law of natural resources called the "Public Trust Doctrine."[188] The Public Trust Doctrine is a modern common law legal concept which states that "running water belongs to the State in trust for the people or the public[.]"[189]

The Public Trust Doctrine is likewise integrated into Philippine case law and was extensively discussed by the Court in *Maynilad vs. Secretary of DENR*.

In *Maynilad*, the Public Trust Doctrine refers to "an imposed duty upon the State and its representative of continuing supervision over the taking and use of appropriated water."[190] The Court, citing U.S. landmark case *National Audubon Society vs. Superior Court of Aline County*, highlights the State's duty to manage water as a natural resource, with environmental protection, conservation, and ***allocative efficiency*** as its key tenets.

To emphasize, in this case, water is used for consumption purposes (i.e., domestic use). The main difference between domestic use and power generation use is that, in the former, water is actually consumed, i.e., it is not returned to its origin, while in the latter, although the water is appropriated for beneficial use, the same waters are reverted back to its natural source.

II. Ownership of Water

This section discussed the classification of water in the Philippine context.

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[184] *Id.* at 7 (citing Williams v. Moreland, 2 Barn. & C. 910 (1824)).
[185] *Id.* at 8 (emphasis supplied).
[186] *Id.* at 9 (citing Mayor v. Commissioners, 7 Pa. 363).
[187] WIEL, *supra* note 183, at 12.
[188] *Id.* at. 11.
[189] *Id.* at 12.
[190] *Maynilad*, G.R. No. 202897.

A. Constitution

The Regalian doctrine (*jura regalia*) "is a fiction of Spanish colonial law that has been said to apply to all Spanish colonial holdings."[191] It refers to the "feudal theory" that all lands originate from the Crown, and later, the State.[192] This concept became the foundation of Article XII, Section 2 of the 1987 Constitution, which was directly lifted from the 1973 Constitution and the 1935 Constitution. Below is the evolution of the relevant constitutional provision over time:

1935 Constitution (Article XII, Section 1)	SECTION 1. All agricultural, timber, and mineral lands of the public domain, **waters**, minerals, coal, petroleum, and other mineral oils, all forces or potential energy, and other natural resources of the Philippines **belong to the State**[.][193] (emphases supplied)
1973 Constitution (Article XIV, Section 8)	SEC. 8. All lands of the public domain, **waters**, minerals, coal, petroleum and other mineral oils, all forces of potential energy, fisheries, wildlife, and other natural resources of the Philippines **belong to the State**. ... .[194] (emphases supplied)
1987 Constitution (Article XII, Section 2)	Section 2. All lands of the public domain, **waters**, minerals, coal, petroleum, and other mineral oils, all forces of potential energy, fisheries, forests or timber, wildlife, flora and fauna, and other natural resources **are owned by the State**. ... .[195] (emphases supplied)

Table 1. The Regalian doctrine integrated in all three Constitutions

As seen in the highlighted provisions above, the framers across each generation have consistently stated that the waters within the territory of the Philippines belong to the State, save for some exceptions laid down in statutes.

B. Statutes

Other than the Constitution,[196] the following laws presently govern water or water resources: The New Civil Code and the Water Code of 1976. It is

[191] Fergus MacKay, Indigenous Peoples' Rights to Lands, Territories and Resources: Selected International and Domestic Legal Considerations, *available at* https://www.fao.org/4/y5407t/y5407t0g.htm (last accessed July 18, 2024).

[192] *Id.* & JOAQUIN G. BERNAS, S.J., THE 1987 CONSTITUTION OF THE REPUBLIC OF THE PHILIPPINES: A COMMENTARY 1178 (2009).

[193] 1935 PHIL. CONST. art. XII, § 1 (superseded in 1973).

[194] 1973 PHIL. CONST. art. XIV, § 8 (superseded in 1987).

[195] PHIL. CONST. art. XII, § 2.

[196] *See* PHIL. CONST. art. XII, § 2.

noteworthy that the New Civil Code heavily references the Spanish Civil Code of 1889 and Spain's influence "endured long after [it] left the [Philippine] Islands in 1898."[197]

The primordial laws governing water or water resources prior to the enactment of the New Civil Code are: (1) Spanish Civil Code of 1889 (Old Civil Code), "which was extended to the Philippines by Royal Decree of July 31, 1889;"[198] (2) Spanish Law on Waters of 1866, "which was extended to the Philippines by Royal Decree of August 3,1866;"[199] and (3) Irrigation Act (Act No. 2152), "which was passed by the Philippine Legislature in 1912."[200]

When the New Civil Code took effect on August 3, 1950, it expressly repealed the provisions of the Old Civil Code of 1889.[201] However, "there was no express repeal of the provisions of the Spanish Law on Waters of 1866 and the Irrigation Act of 1912."[202]

It is only in 1976, when P.D. No. 1067 or the Water Code of the Philippines was enacted, that the provisions of the Irrigation Act of 1912 were expressly repealed.[203] The provisions of the Spanish Law on Waters of 1866 and the New Civil Code, however, which were not inconsistent with the provisions of the Water Code remain effective and in force.[204]

1. New Civil Code

The New Civil Code, particularly Articles 502 and 503, lays down the two types of ownership of water or water resources: public and private ownership.[205]

The primary indicator of private ownership of water is when such waters fall on or are found within private lands. The moment such waters are found outside such private lands, they are considered part of the public domain and thus owned by the State. The dividing line between these two types of ownerships, however, is somehow blurred by the provisions of the Water Code, as seen in the discussion in the next section.

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197 Rubén F. Balane, *The Spanish Roots of Philippine Law*, 66 ESTUDIOS DE DUESTO 23, 28 (2018).

198 ELMER T. RABUYA, PROPERTY 350 (2008 ed.).

199 *Id.*

200 *Id.*

201 *Id.*

202 *Id.*

203 *Id.* at 351

204 RABUYA, *supra* note 198, at 351.

205 An Act to Ordain and Institute the Civil Code of the Philippines [CIVIL CODE], Republic Act No. 386, arts. 502 & 503 (1949).

2. Water Code

State ownership of waters is one of the underlying principles of the Water Code with Article 3 stating —

> Article 3. The underlying principles of this code are:
>
> a. **All waters belong to the State**.[206] (emphasis supplied).
>
> ...

As mentioned earlier, the line that separates waters found on public and private lands appears to be blurred by Articles 5 and 6 of the Water Code as it "appears to have nationalized the ownership of waters found in their natural beds by declaring all of them as State-owned, whether the waters are found on public property or on private lands."[207]

This declaration in Article 6 of the Water Code "has the effect of repealing the provisions of Article 503 of the New Civil Code because the provisions of the latter law are totally inconsistent with the former."[208] Therefore, under the prevailing statute, i.e., the Water Code, all waters, whether found on public or private lands, belong to the State. Despite the nationalization of waters, the owner of a private land where water can be found may still use such waters for domestic purposes without the need of a water permit.[209]

III. Appropriation of Water

A. Origins

The beginnings of water appropriation do not come from formal legislation but are the result of "informal legislation and by-laws adopted by the early settlers and communities of settlers in the [W]estern country."[210] Due to the topography of the Western country, the waters flowing from the mountain

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[206] WATER CODE, art. 3 (a).

[207] RABUYA, *supra* note 198, at 352.

[208] *Id.* at 353.

[209] *See* WATER CODE, art. 6.

[210] 6 EUGENE ALLEN GILMORE, MODERN AMERICAN LAW: A SYSTEMATIC AND COMPREHENSIVE COMMENTARY ON THE FUNDAMENTAL PRINCIPLES OF AMERICAN LAW 9-10 (Wermuth Gilmore & William Charles, eds.) (1929). The Western states include Alaska, Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington, and Wyoming. WIEL, *supra* note 183, at 66.

streams were of no use, so the settlers diverted the waters from the streams for irrigation, gold mining, and industrial uses.[211]

As this concept is of custom origin, the practice of appropriation has "ripened into local regulations[,]" which in turn became the "fundamental formulae of law" concerning acquisition of water rights.[212]

The discovery of gold in the Sierra Nevadas prompted a mass immigration in the 1800s.[213] At that time, there was "no government, no law, nor any private landowners" as the Western states have been ceded from Spanish rule, following the liberation of Mexico from Spain.[214] A small military force was present to maintain order but was considered inadequate and inactive.[215] Thus, the miners, in an effort to regulate themselves, created their own rules, particularly with respect to property rights.[216]

> Their fundamental principle held the natural resources free to all, the first possessor being protected; the rule 'first come first served' was applied by common acceptance. ... All rights were declared upon the basis of priority of discovery, location[,] and appropriation.[217]

It is important to note that at that time, the common law of England was adopted in the United States insofar as it was consistent with the laws and Constitution of the United States.[218] The concept of prior appropriation of water ripened into custom among the miners in the area but conflicted with a common law concept — the rules on riparian rights.[219] Riparian rights were not recognized by the miners as they were immigrants from different countries with different legal systems.[220] Another reason is that the rule on riparian rights "is a system for settled regions of private landowners, while there was here a new and uninhabited region in which no private landowners existed."[221]

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[211] *Id.* at 10.

[212] *Id.* at 11.

[213] WIEL, *supra* note 183, at 71.

[214] *Id.* at 72.

[215] *Id.*

[216] *Id.*

[217] *Id.* at 72-73.

[218] *Id.* at 75.

[219] WIEL, *supra* note 210, at 76.

[220] *Id.*

[221] *Id.*

1. *Eddy vs. Simpson (1853)*

The first time the question of whether the appropriation of water is a lawful property right was raised in the case of *Eddy vs. Simpson*.[222] The District Court applied the concept of appropriation of water but the Supreme Court of California was not ready to recognize such novel concept.

This case involved an action to recover damages for interfering with the plaintiffs' water rights.[223] The plaintiffs had constructed a dam and ditch over the waters of Shady Creek for mining purposes.[224] Similarly, the defendants built a dam above the plaintiffs' dam, ultimately diverting a portion of the water and leaving the plaintiffs with little to no water.[225] The District Court ruled in favor of the defendants by applying the concept of water appropriation, stating that if miners build a ditch to use water from a stream, they own the water the ditch can carry.[226] If there is extra water in the stream that the first party's ditch cannot hold, others can use the surplus, regardless of where they take it from.[227] Thus, the plaintiffs are not entitled to damages because the defendant's ditch and dam did not directly feed into the plaintiffs' ditch but into Shady Creek above the plaintiffs' dam.

The Supreme Court of California, however, ruled differently. It held that "[a] party cannot reclaim water that he has lost."[228] Since the waters of Grizzly Canon and Bloody Run, where the water from the defendants' ditch was used for mining, had left the defendants' possession, all their rights to the water were lost.[229] As they had lost their right to the water, "they could have no right to withdraw it from the possession of the plaintiffs."[230] Ultimately, it held —

> **The rule laid down by the Court below, while it is a departure from all the rules governing this description of property, would be impracticable in its application**, and we think it much safer to adhere to known principles and well-settled law, so far as they can be made applicable to the novel questions growing out of the peculiar enterprises in which many of the people of this State are embarked.[231] (emphasis supplied)

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[222] Eddy v. Simpson, 3 Cal. 249 (Cal. 1853).

[223] *Id.* at 250.

[224] *Id.*

[225] *Id.*

[226] *Id.*

[227] *Id.*

[228] *Eddy*, 3 Cal. at 252.

[229] *Id.*

[230] *Id.*

[231] *Id.* at 252-53.

2. *Irwin vs. Phillips (1855)*

Roughly two years later, the Supreme Court of California took a different stance and first recognized the concept of prior appropriation of water in the landmark case of *Irwin vs. Phillips*,[232] thereby cementing this concept in judicial courts and the legal system.

This case follows Matthew Irwin, who constructed a canal and diverted a stream to supply water to miners.[233] Later, Robert Phillips started a mining operation downstream, took up lands along the banks of the stream, and diverted the water back to its original and natural channel.[234] There was no contest that the lands to which the stream ran and through which the canal passed were part of the public domain and that miners were given the right to dig for gold on such public lands.[235] The appellants in this case argued that since they were tenants of the land along the banks of the streams, the rule on riparian rights should apply and that the waters should continue to flow in their natural channel without being diverted.[236]

However, in this widely cited case, the Supreme Court of California affirmed and applied the concept of appropriation of water. In so ruling, the Supreme Court of California took judicial notice of the political and social conditions of the territory it was ruling over.[237] It is important to note that most of the lands in California at that time consisted of mineral lands, which were part of the public domain.[238] Miners on these lands were given mining rights, and **the right to appropriate waters from their natural beds to supply water to gold diggers was necessarily attached to these mining rights**.[239] Such rights to appropriation had become so recognized that even "without any specific legislation conferring or confirming them, they are alluded to and spoken of in various acts of the Legislature in the same manner **as if they were rights which had been vested by the most distinct expression of the will of the law makers**[.]"[240] Ultimately, the Court ruled that the right to mine mineral lands of the public domain and the right to divert streams from their natural channels,

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[232] Irwin v. Phillips, 5 Cal. 140 (Cal. 1855).

[233] *Id.* at 145.

[234] *Id.*

[235] *Id.*

[236] *Id.*

[237] *Id.* at 146.

[238] *Irwin*, 5 Cal. at 146.

[239] *Id.*

[240] *Id.* (emphasis supplied).

i.e., the right to appropriate water, are on "an equal footing[.]"[241] When there is a conflict between the two, it must be resolved based on the principle of *qui prior est in tempore, potior est in jure* ("first in time, first in right").[242]

B. How Appropriation is Made

1. Waters Subjected to Appropriation

Following its origins, the right to appropriate waters applies only to waters that are *publici juris* or those that belong to the public domain.[243] This includes natural streams found within the territory of a certain jurisdiction. However, water sources that are established by local laws, customs, and court decisions to be part of the public domain are also subject to appropriation.[244] Thus, the laws and Constitution of a particular jurisdiction dictate which waters are part of the public domain and, therefore, subject to appropriation.

2. Appropriation of Water, Defined and Dissected

a. Appropriation, defined

The term "appropriation" is defined in the case of *McDonald vs. Bear River*,[245] another case decided by the Supreme Court of California. Appropriation is defined as "the intent to take, accompanied by some open, physical demonstration of the intent, and for some valuable use."[246] In *Windsor Reservoir and Canal Co. vs. Lake Supply Ditch Co.*,[247] the Supreme Court of Colorado reiterated that "appropriation consists of an actual diversion of water from a natural stream, followed within a reasonable time thereafter by an application thereof to some beneficial use."[248] Using these definitions taken together, appropriation of water "involves the right to take and use the water diverted for consumptive uses, without any obligation to return the water to the stream."[249] A treatise by Clesson Kinney provides that the "theory of appropriation for

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[241] *Id.* at 147.

[242] *Id.*

[243] GILMORE, *supra* note 210, at 15.

[244] *Id.*

[245] McDonald v. Bear River, 13 Cal. 220 (Cal. 1858).

[246] *Id.* at 232-33.

[247] Windsor Reservoir and Canal Co. v. Lake Supply Ditch Co., 44 Colo. 214 (Colo. 1908).

[248] *Id.* at 217.

[249] GILMORE, *supra* note 210, at 8.

beneficial uses is based merely upon a prior possessory right to the water entirely separate from the property in the land over which it runs[.]"[250]

b. Beneficial Use, defined

All authorities agree that for an appropriation of water to be valid, "there must be an intention upon the part of the appropriator to apply the waters to some **beneficial use**[.]"[251] The "beneficial use" contemplated therein is the purpose/s of which the water is used which may either be "irrigation, mining, milling, manufacturing, domestic[,] or any other purpose for which water is needed to supply the natural and artificial wants of man, provided that it be for a beneficial use."[252] The aforementioned beneficial uses are taken equally and are "to be enjoyed without rank or preference,"[253] although some jurisdictions would often specify preference for domestic purposes, without prejudice to payment of just compensation.[254]

c. Elements of Appropriation of Water

Well-known legal scholar Eugene Allen Gilmore, who was also the Governor-General of the Philippine Islands from 1927 to 1929,[255] succinctly summarized the elements of appropriation of water in his book *Modern American Law*, viz.:

> (a) The intent to appropriate for beneficial use.
>
> (b) The construction of the necessary ditches, appliances[,] and waterworks by which it is proposed to divert the water from the stream or source of supply, or subject it to control, in some manner, within the stream or source of supply.

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[250] CLESSON SELWYNNE KINNEY, A TREATISE ON THE LAW OF IRRIGATION 252 (1894).

[251] *Id.* at 228.

[252] *Id.* at 229.

[253] GILMORE, *supra* note 210, at 26.

[254] *See, e.g.*, COLO. CONST. art. XVI, § 6. ("[T]hose using water for **domestic purposes shall have the preference over those claiming for any other purpose**, and those using water for agricultural purposes shall have the preference over those using the same for manufacturing purposes.") & WATER CODE, art. 22 ("Between two or more appropriation of water from the same sources of supply, priority in time of appropriation shall give the better right**, except that in times of emergency the use of water for domestic and municipal purposes shall have a better right over all other uses**; Provided, That where water shortage is recurrent and the appropriator for municipal use has a lower priority in time of appropriation, then it shall be his duty to find an alternative source of supply in accordance with conditions prescribed by the Council.") (emphases supplied).

[255] Wisconsin Historical Society, Gilmore, Eugene Allen 1871-1953, *available at* https://www.wisconsinhistory.org/Records/Article/CS8113 (last accessed July 22, 2024).

(c) The actual diversion or control and the carriage or flow of water through the pipe, ditch[,] or other appliance to the place of intended use.

(d) The actual physical application of the water so appropriated and diverted, to the land for irrigation thereof, or to other lawful or beneficial uses.[256]

First element. — For appropriation to be perfected and valid, all these elements must concur.[257] Since the intent to appropriate is abstract and cannot be seen, it can only be evidenced by an act or physical demonstration, i.e., by providing the means of control and diversion.[258] The Supreme Court of Montana explained the process that courts must use in determining intent —

> But, as every appropriation must be made for a beneficial or useful purpose ...[,] it becomes the duty of the courts to try the question of the claimant's intent **by his acts and the circumstances surrounding his possession of the water, its actual or contemplated use and the purposes thereof**.[259] (emphasis supplied)

Second element. — Such physical acts could include "notice to the world of the intent, [ ] surveys and commencement of the digging of the ditches, and building of flumes, or other works necessary[.]"[260] In some jurisdictions, a constructive notice is required to inform the public of a person's intent to appropriate water.[261] However, this notice requirement is not a condition *sine qua non* for a valid appropriation but is simply a tool "for the better manifestation to the world of the intent and to preserve prima facie evidence of the performance of the initial acts required."[262]

Third element. — Actual diversion of the water is a contentious element of appropriation. Before going into detail, it is important to first define the word "diversion." Diversion "contemplates a taking of the water from the stream so that it may be applied to the intended beneficial use."[263] As mentioned earlier, appropriation is based on a possessory right to the water, and thus, no possession can take place while the water is "still flowing and remaining in its natural channel

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[256] GILMORE, *supra* note 210, at 29 (citing Weaver v. Eureka Lake Co., 15 Cal. 271 (Cal. 1860); Snyder v. Colorado Gold Dredging Co., 181 Fed. 62 (C.C.A. 8th, 1910); Kelly v. Natoma Water Co., 6 Cal. 105 (Cal. 1856); Walsh v. Wallace, 26 Nev. 299 (Nev. 1902); Ft. Morgan Land & Canal Co. v. South Platte Ditch Co., 18 Colo 1 (Colo. 1892); Low v. Rizor, 25 Ore. 551 (Ore. 1894); & Combs v. Agricultural Ditch Co., 17 Colo. 146 (Colo. 1892)).

[257] *Id.*

[258] *Id.* at 30.

[259] In re Adjud., Existing Rights to Use of All Water, 311 Mont. 327, 349 (Mont. 2002) (citing Toohey v. Campbell, 24 Mont. 13, 60 P. 396, 397 (Mont. 1900)).

[260] KINNEY, *supra* note 251, at 247.

[261] *Id.* at 242.

[262] GILMORE, *supra* note 210, at 32 (citing Wells v. Mantes, 99 Cal. 583 (Cal. 1893)).

[263] Constance Hauver, *Water for Recreation: A Plea for Recognition*, 44 DENVER L. REV. 288, 291 (1967).

or stream."[264] Therefore, the actual diversion of water, from its natural channel to an appropriator's ditch, canal, reservoir, or other structure, is an essential requisite of appropriation.[265] In cases where an appropriator "returns the water" they diverted back to its natural stream without the intention of "recapturing" it, the appropriator is held to have abandoned all further rights to the use of such water.[266]

As mentioned earlier, the element of actual diversion is contentious. In a case decided by the Colorado Supreme Court, *Larimer County Reservoir Co. vs. People ex rel. Luthe*,[267] the Court ruled that appropriation does not require an immediate diversion. It reiterated that "the true test of the appropriation of water is the successful application thereof to the beneficial use designed, and the method of distributing or carrying the same, or making such application, is immaterial."[268] The Court also adopted the definition of appropriation as held in *McDonald vs. Bear River*[269] and ultimately held that appropriation is consummated

> when the individual, by some open, physical demonstration, indicates an intent to take, for a valuable or beneficial use, and through such demonstration ultimately succeeds in applying the water to the use designed. ... While a diversion must of necessity take place before the water is actually applied to the irrigation of the soil, the appropriation thereof is, in legal contemplation, made when the act evidencing the intent is performed. Of course, such initial act must be followed up with reasonable diligence, and the purpose must be consummated without unnecessary delay.[270]

The issue of actual diversion is highlighted due to the non-consumptive use of water, such as for recreation wherein the natural channel or beds of the stream is retained. In an article written by Constance Hauver, she suggests that alternative measures can be taken "to obtain the same security without entailing the handicap of inflexibility inherent in requiring a diversion."[271] She suggests that adopting a meaningful permit system to regulate the use of surface waters would balance the rights of the interested parties.[272]

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[264] KINNEY, *supra* note 251, at 252.

[265] *Id.*

[266] *Id.* at 253.

[267] Larimer Country Reservoir Co. v. People ex rel. Luthe, 8 Colo. 614 (Colo. 1885).

[268] *Id.* at 616 (citing Thomas v. Guiraud, et al., 6 Colo. 530 (Colo. 1883)).

[269] *Id.* (citing *McDonald*, 3 Cal. at 232-33).

[270] *Id.* at 616-17.

[271] Hauver, *supra* note 263, at 294.

[272] *Id.* at 298.

Fourth element. — The fourth element of appropriation involves the application of all the water appropriated to some beneficial use.[273] Such application must be done within a reasonable time without delay.[274] Failure to use the water for the intended purpose constitutes abandonment.[275]

3. State Regulation of Appropriation of Water

The right to appropriate does not involve the corpus of the water but rather the incorporeal right of diversion and use.[276] The corpus of the water is owned by the State and is considered part of the public domain. The U.S. Supreme Court in *United States vs. Willow River Power Co.*[277] made a distinction between property rights and water rights: "Rights, property or otherwise, which are absolute against all the world are certainly rare, and **water rights are not among them**."[278] Thus, by virtue of the State's exercise of police power, all water rights are subject to government regulation.[279] Across different jurisdictions, the regulation of water resources comes in the form of a permit or a "water permit." Such permits are required before water can be taken or diverted from its natural stream and are usually issued by a State-created body such as a water resources board.

In *People vs. Shirokow*,[280] the defendant contended that his alleged unauthorized appropriation of waters in Madera County was pursuant to a prescriptive right.[281] He claimed that his predecessor-in-interest constructed a dam and reservoir for agricultural and recreational purposes in the 1960s and that they have paid all taxes assessed on the infrastructures since their construction.[282] However, neither he nor his predecessor-in-interest acquired a permit from the State Water Resources Control Board.[283]

The Supreme Court of California held that the better view is to deny the acquisition of prescriptive rights and to uphold the comprehensive scheme for granting appropriative rights by the Board. In so ruling, the Supreme Court stated that "[the] declarations of policy [of the Water Code of California], together with

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[273] KINNEY, *supra* note 251, at 254.

[274] *Id.*

[275] *Id.* at 255.

[276] GILMORE, *supra* note 210, at 49.

[277] United States v. Willow River Power Co., 324 U.S. 499 (1945).

[278] *Id.* at 510. (emphasis supplied).

[279] United States v. State Water Board, 182 Cal. App. 3d 82, 106 (1986).

[280] People v. Shirkow, 26 Cal. 3d 301 (Cal. 1980).

[281] *Id.* at 304.

[282] *Id.* at 305.

[283] *Id.*

the comprehensive regulatory scheme set forth [therein], demonstrate a legislative intent to vest in the board expansive powers to safeguard the scarce water resources of the state."[284] Since the defendant failed to acquire a permit from the Board, his use of the waters in the creek was unauthorized and constituted trespass within the meaning of the relevant provision of the Water Code of California.[285]

The process and requirements for the issuance of a permit vary by jurisdiction, but one thing remains consistent: the application must state the purpose for which the water is appropriated. Pursuant to the State's police power, it may accept, reject, or even add conditions to the issuance of a water permit.

C. Philippine Setting

The law governing appropriation of water is also found in the Water Code. Article 9 thereof provides the definition of "appropriation of water" which "is the acquisition of rights over the use of waters or the taking or diverting of waters from a natural source in the manner and for any purpose allowed by law."[286] Article 10 enumerates the ways in which water can be appropriated, namely: domestic, municipal, irrigation, power generation, fisheries, livestock raising, industrial, and recreational.[287]

1. Water Permit

Under the Water Code, no person "shall appropriate water without a water right[.]"[288] Such water right is evidenced by a document called a "water permit."[289] The government agency in charge of regulating water permits is the National Water Resources Board ("NWRB" or "Board").[290]

Article 15 provides that only Filipino citizens of legal age and juridical persons duly qualified by law may apply for a water permit.[291] The amended IRR

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[284] *Id.* at 309.

[285] *Id.* at 304.

[286] WATER CODE, art. 9.

[287] *Id.* art. 10.

[288] *Id.* art. 13.

[289] *Id.*

[290] *Id.* arts. 3 (d) & 79. The National Water Resources Council (NWRC) is renamed as National Water Resources Board (NWRB) pursuant to Executive Order No. 124-A. National Water Resources Board, Historical Background, *available at* https://nwrb.gov.ph/historical-background/ (last accessed July 26, 2024).

[291] *Id.* art. 15.

of the Water Code lists down the qualified persons or entities that may apply for a water permit:

> (a) Citizens of the Philippines;
>
> (b) Associations, duly registered cooperatives or corporations organized under the laws of the Philippines, at least 60 percent of the capital of which is owned by citizens of the Philippines;
>
> (c) Government entities and instrumentalities, including government-owned and controlled corporations.[292]

A water permit is not required, however, for the following uses: (1) "[a]ppropriation of water by means of hand carried receptacles; and (2) "[b]athing or washing, watering or dipping of domestic or farm animals, and navigation of watercrafts or transportation of logs and other objects by flotation."[293]

2. In Relation to Hydroelectric Power and Ocean Energy

Pursuant to the Renewable Energy Act of 2008, the DOE is mandated implement its provisions through the issuance of an IRR.[294] As mentioned earlier, before a person or entity is allowed to undertake exploration, development, and utilization of renewable energy resources, a RE Service/Operating Contract is required to be issued by the DOE. Consequently, the award of a RE Service/Operating Contract takes in consideration existing related laws such as:

> (1) R.A. No. 7160, otherwise known as the 'Local Government Code', on the necessity of prior and periodic consultations with local government units before any RE exploration activity is conducted within their respective jurisdictions. Existing projects shall be considered compliant with this requirement;
>
> (2) R.A No. 8371, otherwise known as the 'Indigenous Peoples Rights Act'; and
>
> (3) Existing environmental laws and regulations as prescribed by the DENR and/or any other concerned government agency, including compliance with the Environmental Impact Assessment (EIA) System.[295]

Interestingly, the issuance of an Environmental Compliance Certificate (ECC) from the appropriate regional office of the DENR is deemed "sufficient

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[292] Rules and Regulations Implementing the Water Code, rule I, § 3.

[293] WATER CODE, art. 14.

[294] Renewable Energy Act of 2008, § 5.

[295] Rules and Regulations Implementing the Renewable Energy Act of 2008, rule 6, § 19 (D).

to comply with [R.A. No. 9513] and [its] IRR."[296] It is notable that the IRR of the Renewable Energy Act of 2008, specifically Section 19 (D) thereof, left out the relevant provisions of the Water Code with respect to renewable energy projects involving water resources such as hydroelectric power and ocean energy systems. Whether this omission is deliberate or unintentional is analyzed later in this Thesis.

A more comprehensive discussion on the regulatory framework on hydroelectric power and ocean energy systems vis-á-vis water rights is found in the next Chapter of this Thesis.

3. Developments in Water Resource Regulation

Earlier this year, the National Economic and Development Authority pushed the need to prioritize the passage of a bill establishing a Department of Water Resources (DWR) and a Water Regulatory Commission (WRC).[297] This is prompted by environmental concerns experienced by the country and the need to strengthen water security.[298] Issues on regulation pointed out by the NEDA include "overlapping and conflicting mandates in water governance" which "hamper government efforts to improve water service delivery and resource protection."[299] According to NEDA Secretary Arsenio Balisacan —

> Without a central agency responsible for water policy, there is a heavy reliance on ad hoc coordination. **Conflicting priorities among agencies result in uncoordinated planning and strategies, as well as inconsistencies in the enforcement of water policies and standards**[.]
>
> Our push for the creation of a central entity in the water sector will also help us institutionalize the collection and consolidation of water-related data that will help us produce more informed assessments and formulate smarter solutions in the utilization and management of our resources[.][300] (emphasis supplied)

President Ferdinand "Bongbong" Marcos, Jr., in his second State of the Nation Address, announced the prioritization of the bill creating the said

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[296] *Id.*

[297] Louella Desiderio, *NEDA Bats for Creation of Water Resources Agency*, PHIL. STAR, May 19, 2024, *available at* https://www.philstar.com/business/2024/05/19/2356125/neda-bats-creation-water-resources-agency (last accessed July 29, 2024).

[298] *Id.*

[299] *Id.*

[300] *Id.*

Department.[301] Back in December 2023, the House version of the bill, H.B. No. 9663, was approved via voice vote by the House of Representatives.[302] At present, the Senate version of the bill is still pending[303] while the private sector is pushing for the swift passage of the bill.[304]

The House version of the bill establishes the DWR as the

> primary agency responsible for the comprehensive and integrated **identification and mapping of all water resources, planning, policy formulation**, and **management of the ownership, appropriation, utilization, exploitation, development, and protection of water resources in the Philippines** to ensure the optimal use thereof for domestic and municipal water supply, sanitation, irrigation, hydropower, industry, navigation, flood management, and recreation, and water utilization aspects of fisheries or aquaculture.[305] (emphases supplied)

The DWR is also mandated to be the primary agency to enforce the Water Code of the Philippines,[306] thereby subsuming the powers and functions of the NWRB.[307] Moreover, the NWRB's water utility regulation units and functions shall be absorbed by the WRC while its resource allocation or regulation unites shall be absorbed by the National Water Resource Allocation Board (NWRAB), likewise created by the bill.[308] Furthermore, the NWRB is reconstituted as the NWRAB.[309] Thus, under the bill, the NWRAB, an attached agency of the DWR, will be in charge of the regulating the application of water permits.

Notably, the bill mentioned DWR's interdepartmental relation with the DOE and National Power Cooperation with respect to hydropower plant development which are mandated to be consistent with the National Water Development and Management Plan.[310]

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[301] Filane Mikee Cervantes, *House Oks Creation of Department of Water Resources*, PHIL. NEWS AGENCY, Dec. 6, 2023, *available at* https://www.pna.gov.ph/articles/1215008 (last accessed July 29, 2024).

[302] *Id.*

[303] Desiderio, *supra* note 297.

[304] Ralf Rivas, *Tycoons Push for Swift Passage of Bills on Digital Services Tax, Water Department*, RAPPLER, Mar. 24, 2024, *available at* https://www.rappler.com/business/tycoons-push-passage-bills-digital-services-tax-water-department/ (last accessed July 29, 2024).

[305] An Act Establishing the National Framework for Water Resource Management and Creating the Department of Water Resources and the Water Regulatory Commission, Defining Their Mandates, Powers and Functions, and Appropriating Funds Therefor, H.B. No. 9663, § 5, 19th Cong., 2d Reg. Sess. (2023).

[306] *Id.*

[307] *See id.* § 15 (a).

[308] *Id.*

[309] *Id.* § 18.

[310] *Id.* § 17 (c).

Finally, Article 3 (d) and Chapters VII and VIII of the Water Code pertaining to its enforcement are expressly repealed by the bill.[311]

[311] H.B. No. 9663, § 46 (a) (6).

CHAPTER 4: REGULATION OF HYDROELECTRIC POWER AND OCEAN ENERGY SYSTEMS VIS-Á-VIS WATER RIGHTS: COMPARISONS AND PRECEDENTS

The regulation of renewable energy resources, specifically hydroelectric power and ocean energy systems, varies by State. Other relevant laws, such as those on the environment, land use, and indigenous peoples' rights, among others, are also taken into consideration when adopting a policy that best fits the interests of their respective constituents. This Chapter provides a clear view of how hydroelectric power and ocean energy systems are regulated in relation to water rights in the Philippines and other countries, including relevant judicial precedents related to the subject matter.

A comparative assessment of the regulatory frameworks of the United States, Spain, France, Malaysia, Indonesia, and Thailand is included in this Chapter. The Proponent deems it appropriate to discuss the U.S.' regulatory framework since the Philippines' law on water rights traces its roots from the U.S. For European Union countries Spain and France, the Proponent deems it a noteworthy addition to the discussion due to the incorporation of competition policies in their regulatory frameworks. Finally, ASEAN countries Malaysia and Indonesia are considered due to their common topography and geography with the Philippines and their shared policy to strengthen the renewable energy sector.[312]

I. Philippines

A. Renewable Energy Service/Operating Contract (RESC)

The IRR of the Renewable Energy Act of 2008 provides that before a person or entity can undertake the exploration, development, production, and utilization (EDU activities) of renewable energy resources, a **Renewable Energy Service/Operating Contract (RESC)** is required to be issued by the DOE.[313] Foreign ownership restrictions have been lifted by virtue of DOE Department Circular No. DC2022-11-0034, thereby allowing 100% foreign-

[312] *See* Reuters, *Malaysia's Renewable Energy Transition*, REUTERS, June 30, 2023, *available at* https://www.reuters.com/plus/malaysias-renewable-energy-transition (last accessed Aug. 1, 2024) & Marko Lackovic & Fachry Frisandi, *Indonesia's Rise as Southeast Asia's Premier Green Energy Powerhouse*, THE JAKARTA POST, Feb. 1, 2024, *available at* https://www.thejakartapost.com/business/2024/02/01/indonesias-rise-as-southeast-asias-premier-green-energy-powerhouse.html (last accessed Aug. 1, 2024).

[313] Electric Power Industry Reform Act of 2001, rule 6, § 19.

owned corporations to undertake EDU activities on renewable energy resources.[314] This is pursuant to the State's policy to increase the share of renewable energy in the country's energy mix.[315]

The award of a RESC comes with a number of incentives provided by law.[316] The RESC has a term of 25 years and renewable for another 25 years.[317] Upon effectivity of the RESC, "[t]he DOE shall issue the Certificate of Registration to the RE Developer"[318] and the latter shall then be qualified to avail of the incentives and privileges under the Renewable Energy Act of 2008.[319]

For impounding and pumped-storage hydroelectric power facilities, applicants "shall be required to show proof of compliance with the internationally accepted norms and standards on hydropower development such as those of the World Commission on Dams, the International Energy Agency, among others."[320] The WCD and IEA share a common mandate of promoting the sustainable use of water resources for hydropower.[321] Both organizations have issued recommendations on how hydropower projects should be undertaken, with a common focus on promoting free, prior, and informed consent (FPIC) form indigenous peoples (IPs) and conducting environmental impact assessments (EIAs).[322] Proof of compliance with these norms is provided in the form of an FPIC from the National Commission on Indigenous Peoples and an ECC issued by the DENR.[323]

B. Jurisprudence

Philippine jurisprudence on the regulation of hydroelectric power and ocean energy systems vis-á-vis water rights is scant with only one case decided

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[314] DOE D.C. No. DC2022-11-0034, s. 2022, § 1.

[315] *See* Philippine Energy Plan 2023-2050, *supra* note 15, at 4.

[316] *See* Rules and Regulations Implementing the Renewable Energy Act of 2008, rule 5.

[317] Department of Energy, Guidelines Governing a Transparent and Competitive System of Awarding Renewable Energy Service/Operating Contracts and Providing for the Registration Process of Renewable Energy Developers, Department Circular No. DC2009-07-0011, Series of 2009 [DOE D.C. No. DC2009-07-0011, s. 2009], § 15 (July 12, 2009).

[318] *Id.* § 14.

[319] *Id.* § 17.

[320] DOE D.C. No. DC2009-07-0011, s. 2009, § 24.

[321] *See* IRN and the World Commission on Dams, *available at* https://www.irn.org/wcd (last accessed Aug, 21, 2024) & IEA Hydropower, *available at* https://www.ieahydro.org (last accessed Aug. 21, 2024).

[322] *See id.*

[323] *See generally* Department of Energy, Checklist of Requirements for Renewable Energy Service/Operating Contract, *available at* https://doe.gov.ph/sites/default/files/pdf/consumer_connect/checklist_of_requirements_re_sc.pdf (last accessed Aug. 21, 2024).

by the Supreme Court that primarily touch upon the subject matter. This is the case of *IDEALS, Inc. vs. PSALM* which was promulgated in 2012.

1. *IDEALS, Inc. vs. PSALM (2012)*

a. Facts

Before the facts of this case unfolded, R.A. No. 9136, the Electric Power Industry Reform Act of 2001 (EPIRA) was enacted. This law authorized the privatization of the assets of the National Power Corporation (NPC), a government agency in charge of generating and transmitting electricity in all parts of the country.[324] To manage the sale of NPC's assets, the law created a GOCC called the Power Sector Assets and Liabilities Management Corporation (PSALM), the respondent in this case.[325]

In August 2005, PSALM commenced the privatization of the 246-megawatt Angat Hydro-Electric Power Plant (AHEPP).[326] The AHEPP is divided into two units: the main units (producing 200 MW of power) and the five auxiliary units (producing 46 MW).[327] Two of the auxiliary units are owned by the Metropolitan Waterworks and Sewerage System (MWSS).[328] All these units, including the Angat Dam, Angat Reservoir, and the watershed area, form part of the Angat Complex.[329] The Angat Dam and AHEPP are multi-purpose facilities used for: (1) power generation; (2) irrigation; (3) water supply; and (4) flood control.[330] Thus, the operation of the Angat Complex involves several government agencies such as: (1) NPC; (2) NWRB; (3) MWSS; (4) NIA; and (5) PAG-ASA.[331] PSALM thereafter approved the bidding procedure for the sale of the AHEPP and received bids from six companies including Korea Water Resources Corporation (K-Water), a foreign corporation, which eventually won the bid.[332]

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[324] *IDEALS, Inc.*, 682 SCRA at 614.

[325] *Id.*

[326] *Id.*

[327] *Id.* at 615

[328] *Id.* at 614-15.

[329] *Id.* at 614.

[330] *IDEALS, Inc.*, 682 SCRA at 615.

[331] *Id.*

[332] *Id.* at 616-17.

Petitioner Initiative for Dialogue and Empowerment through Alternative Legal Services, Inc. (IDEALS, Inc.) filed a petition for certiorari and prohibition to permanently enjoin the sale of the AHEPP to K-Water.[333]

b. Arguments

The petitioner contends, among others, that PSALM violated the Constitution and the Water Code which limits the appropriation and utilization of water as a natural resource to Filipino citizens or 60% Filipino-owned corporations.[334] The petitioner likewise asserts that PSALM should prioritize the domestic and community use of water over power generation as the Philippine Government has an obligation under international law "to recognize and protect the legally enforceable human right to water of petitioners and the public in general."[335]

The respondent, PSALM, argues that only the hydroelectric facility is being sold and not the Angat Dam, thus, the people's right to water is baseless as it is based on the assumption that the Angat Dam was sold.[336] The respondent, in its counter-argument on the nationality issue raised by the petitioner, cited DOJ opinions which held that "the utilization of water by a hydroelectric power plant does not constitute appropriation of water from its natural source considering that the source of water (dam) that enters the intake gate of the power plant is an artificial structure."[337]

c. Issues

For purposes of this Thesis, the Proponent delves primarily on the issues surrounding the alleged violations of Section 2, Article XII of the Constitution and the Water Code.

d. Ruling

It was first clarified by the Court that NPC, an attached agency of the DOE, has complete jurisdiction over Angat Dam and AHEPP. By virtue of Commonwealth Act No. 120, NPC was given the authority to construct, operate, and maintain power plants.[338] With the passage of the EPIRA, the privatization

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[333] *Id.* at 614.

[334] *Id.* at 618-19.

[335] *Id.* at 619.

[336] *IDEALS, Inc.*, 682 SCRA at 622.

[337] *Id.*

[338] *Id.* at 645 (citing Commonwealth Act No. 120, § 2 (g)).

of the NPC was mandated under Section 47 thereof with PSALM acting as NPC's liquidator.[339]

On to the main issue, the Court stated that "[t]he State's policy on the management of water resources is implemented through the regulation of water rights."[340] Under the Water Code, water rights are granted only to Filipino citizens and entities that are 60% Filipino-owned. Insofar as the Angat River is concerned, separate water permits were issued to the MWSS, NPC, and NIA by the NWRB.[341] The enactment of the EPIRA has led the electric generation industry to be open to the private sector and thus had allowed foreign investors to participate in the industry.[342] The Court pointed out, however, that water rights are not included in the privatization of multi-purpose hydropower facilities as laid down in Section 47 (e) of the EPIRA, specifically:

> (e) In cases of transfer of possession, control, operation or privatization of multi-purpose hydro facilities, **safeguards shall be prescribed to ensure that the national government may direct water usage in cases of shortage to protect potable water, irrigation, and all other requirements imbued with public interest**[.][343] ... (emphasis supplied)

This provision is consistent with the policy of the Water Code which prioritizes domestic and municipal uses of water in times of emergency.[344] In the privatization of multi-purpose hydroelectric power plants, the IRR of the EPIRA includes any water right agreements which shall be passed on to the buyer of the hydroelectric power plants.[345]

The Court clarified that "[f]oreign ownership of a hydropower facility is not prohibited under existing laws" and that the construction, rehabilitation, and development of hydropower plants by foreigners are allowed under the Amended Build-Operate-Transfer Law.[346] However, the nationality issue

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> (g) To construct, operate and maintain power plants, auxiliary plants, dams, reservoirs, pipes, mains, transmission lines, power stations and substations, and other works for the purpose of developing hydraulic power from any river, creek, lake, spring and waterfall in the Philippines and supplying such power to the inhabitants thereof[.] ...

Commonwealth Act No. 120, § 2 (g).

339 *IDEALS, Inc.*, 682 SCRA at 648 (citing Electric Power Industry Reform Act of 2001, § 47).

340 *Id.* at 651.

341 *Id.* at 653.

342 *Id.* at 654.

343 *Id.* (citing Electric Power Industry Reform Act of 2001, § 47 (e)).

344 *Id.* (citing WATER CODE, art. 22).

345 *IDEALS, Inc.*, 682 SCRA at 648 (citing Rules and Regulations Implementing the Electric Power Industry Reform Act of 2001, rule 23, § 6).

346 *Id.* at 657.

brought up in this case was "framed in terms of the character or nature of the power generation process itself, i.e., whether the activity amounts to utilization of natural resources within the meaning of Sec[tion] 2, Art[icle] XII of the Constitution."[347] In resolving this issue, the Court cited numerous DOJ Opinions which hold that hydropower generation by foreign entities are not unconstitutional based on the definition of water appropriation under the Water Code.[348] The DOJ consistently opined that a foreign entity may legally appropriate water that has been extracted from its natural source. As the water entering a dam, a man-made structure, has already been subject to appropriation, it follows that such waters are already considered "artificial."

The DOJ has likewise given its opinion on the validity of the sale of AHEPP to K-Water in Opinion No. 52, series of 2005.[349] The DOJ opined that while water is "undoubtedly 'natural resource', within the meaning of Section 2 Article XII of the present Constitution, ... the utilization thereof can be opened even to foreign nationals, after the same have been extracted from the source by qualified persons or entities[.]"[350]

The Court adopted the opinion of the DOJ and held that the utilization of waters collected in a dam and converts the same to electricity through artificial devices does not constitute "appropriation" as contemplated in the Water Code.[351]

> **Since the NPC remains in control of the operation of the dam by virtue of water rights granted to it**, as determined under DOJ Opinion No. 122, s. 1998, **there is no legal impediment to foreign-owned companies undertaking the generation of electric power using waters already appropriated by NPC**, the holder of water permit.[352] (emphases supplied)

The lease or transfer of water rights to Filipino citizens is allowed, subject to the approval of NWRB.[353] Regardless of this fact, the EPIRA does not mention of any mandate on the NPC to assign or transfer its water rights.[354] Thus, it is not necessary for NPC to transfer its water permit to K-Water since

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[347] *Id.* at 658.

[348] Department of Justice, Opinion No. 173, Series of 1984 (Dec. 3, 1984); Department of Justice, Opinion No. 14, Series of 1995 (Feb. 20, 1995); & Department of Justice, Opinion No. 122, Series of 1998 (Sept. 30, 1998).

[349] *IDEALS, Inc.*, 682 SCRA at 660 (citing Department of Justice, Opinion No. 52, Series of 2005 (Nov. 22, 2005)).

[350] *Id.* at 661.

[351] *Id.* at 663.

[352] *Id.*

[353] *Id.* at 665.

[354] *Id.*

only the power plant is sold, and not the non-power components such as the dam and reservoir.[355]

Finally, the Court ruled that the sale of "the sale of AHEPP to a foreign corporation pursuant to the privatization mandated by the EPIRA did not violate Sec[tion] 2, Art[icle] XII of the 1987 Constitution[.]"[356] However, "the stipulation in the Asset Purchase Agreement and Operations and Maintenance Agreement whereby NPC consents to the transfer of water rights to the foreign buyer, K-Water, contravenes the aforesaid constitutional provision and the Water Code."[357]

e. Justice Velasco Jr.'s Dissenting Opinion

Out of all the justices of the Supreme Court, only Justice Presbitaro J. Velasco, Jr. expressed his dissent on the majority. He is of the opinion that the sale to K-Water of the AHEPP precisely violates the Constitution as it is a wholly foreign-owned corporation.

Justice Velasco is of the opinion that "[t]he waters of Angat Dam and Reservoir form part of the natural resources of the Philippines[.]"[358] He opines that the waters in the Angat River and those stored in the Angat Dam and Reservoir have no substantial difference.[359] Describing how the Angat Dam works — some waters from the spillway gates of the dam are diverted to the Ipo Dam which eventually end up in Tullahan River — Justice Velasco pointed out that the detention of the waters is "merely temporary, as Angat Dam is not meant to permanently impound the waters."[360]

> To say that the waters in the Angat Dam and Reservoir have already been extracted or appropriated by the mere fact that there is a catchment system in Angat Dam would be to make a distinction between the nature of the waters in different parts of this contiguous series. On the contrary, the waters have not been extracted from its natural source, the river and the dam forming a unitary system. **The waters naturally flowing through Angat River are the very same waters that are stored in Angat Dam. Their characteristics, quality, and purity cannot be distinguished from each other**. It is the mechanisms in AHEPP that permanently extract water from its natural source.

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[355] *IDEALS, Inc.*, 682 SCRA at 666.

[356] *Id.* at 668.

[357] *Id.* at 669.

[358] *IDEALS, Inc.*, 682 SCRA at 710 (J. Velasco, dissenting).

[359] *Id.* at 711.

[360] *Id.*

> Angat Dam merely serves to temporarily impound the waters, which are later allowed to flow downstream.[361] (emphasis supplied)

In justifying his assertion, *first*, he narrated that following the majority opinion's logic would lead to a conclusion where the waters downstream in Ipo Dam would be

> sourced partly from natural resources[, i.e.,] those directly flowing from [the] Ipo River[,] and partly from artificial sources, since part of the waters passing through Ipo Dam already passed through Angat Dam. By extension, Tullahan River would not be considered a natural resource, as the waters there are sourced from La Mesa Dam. The law could not have intended such absurd distinctions. *Lex simper intendit quod convenitrationi.* The law always intends that which is agreeable to reason.[362]

Second, Justice Velasco opined that the "definition of water under the Water Code is broad enough to cover the waters of Angat Dam[,]" since the term "water" is defined as ""water under the grounds, water above the ground, water in the atmosphere and the waters of the sea within the territorial jurisdiction of the Philippines."[363] The fact that NWRB issued water permits to the relevant government agencies covering the waters within the Angat Dam "reveals an intention on the part of the agency to treat the waters of Angat River, including the waters in Angat Dam, as part of the water resources of the Philippines."[364]

Third, Justice Velasco is of the position that the DOJ Opinions relied upon by the ponente are "not authoritative statements of the rule on the matter."[365] Such opinions are not binding on the Supreme Court as its probative value is limited to "just" an opinion.[366] The U.S. case cited by the DOJ, *United States vs. State of New York*, according to the dissent, is not on all fours with the case at hand. The former involved a process of bottling water from the Saratoga Springs, a permanent extraction of water from its natural source, while the case at bar involves no extraction of waters as the same remain in the river-dam system.[367]

Finally, while Justice Velasco concedes that there is no nationality restrictions on the power generation industry, he is of the position that the use of natural resources, i.e., water, for power generation is still subjected to the limitation under the Constitution, i.e., limited to Filipino citizens and 60%

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[361] *Id.* at 712.

[362] *Id.*

[363] *Id.* at 713 (citing WATER CODE, art. 10).

[364] *IDEALS, Inc.*, 682 SCRA at 713-14 (J. Velasco, dissenting).

[365] *Id.* at 714.

[366] *Id.*

[367] *Id.* at 715.

Filipino-owned corporations.[368] Therefore, Justice Velasco is of the position that the sale of the AHEPP to K-Water, a foreign corporation, violated the Constitution and the Water Code.

2. *MWSS vs. Provincial Government of Bulacan (2023)*

a. Majority Opinion

MWSS vs. Provincial Government of Bulacan[369] is a case decided by the *en banc* in 2023. While the subject matter at hand focuses on the national wealth share of the respondent Provincial Government, the same case touches upon the concept of natural resources under the Constitution and appropriation under the Water Code. Interestingly, the subject infrastructure in this case likewise involves the Angat Dam Complex.

The respondent in this case demands the payment of its national wealth share, as mandated by the Section 7, Article X of the 1987 Constitution and Sections 289, 291, and 292 of the Local Government Code of 1991, from the petitioner.[370] The petitioner argued that while Angat Dam is located within the territory of respondent, it is "not engaged in the utilization and development of national wealth."[371] The petitioner argued that the water stored in the Angat Dam, a man-made structure, "does not fall within the purview of national wealth that would entitle a local government unit (LGU) to an equitable share in the proceeds derived from its utilization and development."[372]

In its ruling, the Court reiterated the ruling in *IDEALS, Inc. vs. PSALM* which held that waters stored in a dam is deemed appropriated, and thus "ceases to form part of natural resource."[373]

> To the Court's mind**, it would be highly unreasonable if national wealth tax were to be imposed on dam water given that it is already appropriated water**, and, as confirmed by the NPC, the water from the Angat River is subjected to appropriate tax upon its extraction and prior to its impounding.[374] (emphasis supplied)

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[368] *Id.* at 719.

[369] MWSS v. Provincial Government of Bulacan, G.R. No. 185184, Oct. 3, 2023, *available at* https://sc.judiciary.gov.ph/wp-content/uploads/2024/03/185184.pdf (last accessed July 30, 2024).

[370] *Id.* at 2.

[371] *Id.* at 3.

[372] *Id.* at 4.

[373] *Id.* at 16.

[374] *Id.* at 18.

Similarly, the majority of the Court relied on the DOJ Opinions relied upon by the Court in *IDEALS, Inc.* Ultimately, the Court held that "for purposes of claiming national wealth tax, dam water is beyond the reach of respondent's entitlement under Section 7, Article X of the 1987 Constitution."[375]

b. Justice Lazaro-Javier's Dissenting Opinion

Coincidentally, only one justice of the Supreme Court expressed her dissent from the majority opinion. The dissent was from Justice Amy Lazaro-Javier who shares the same view with Justice Velasco, Jr. from a decade ago. She likewise is of the opinion that "water does not cease to be part of the national wealth just because it is removed from its natural source."[376] According to Justice Lazaro-Javier, "appropriation" under the Water Code connotes that "water is appropriated once it is diverted from where it is naturally found, but [it] did not, in any categorical manner, state that once it is diverted, it is no longer a natural resource."[377]

Justice Lazaro-Javier challenged the interpretation of the *ponencia* and stated that by "declaring that waters cease to be natural resources once removed from their natural source means that there will never be an occasion when water, as a natural resource, may be utilized and, developed[,]"[378] to wit —

> The *ponencia* itself admitted that appropriation of waters is a primordial requirement in concluding that there is utilization and development of national wealth. In other words, water may only be used and developed if it is first appropriated. This is but natural. For how can anyone make use of water if they do not first seize it from the rivers, lakes, or ocean? Yet, if we follow the reasoning of the *ponencia*, any use and development of such appropriated water will always merely amount to utilization and development of water, as an object of commerce, but never as a natural resource. Consequently, there will never be any occasion when LGUs may be entitled to their national wealth share pursuant to such activity.[379]

Finally, the dissent is of the view that "[c]lassifying dam water as natural resource is within the best interest of the public and in keeping with the mandate of the Constitution to conserve and develop our patrimony for the benefit of the Filipino people."[380]

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[375] *MWSS*, G.R. No. 185184, at 20.

[376] *MWSS*, G.R. No. 185184, at 3 (J. Lazaro-Javier, dissenting).

[377] *Id.* at 5.

[378] *Id.* at 7.

[379] *Id.*

[380] *Id.*

II. United States (U.S.)

A. Licensing

In the United States, the Federal Energy Regulatory Commission (FERC) is the agency responsible for regulating licenses for the construction and operation of non-federal hydropower facilities.[381] Under the Federal Power Act, only U.S. citizens or corporations organized under U.S. laws may apply for a license.[382] Similarly, an application for hydropower licenses require the preparation of an environmental impact statement, as mandated by the National Environmental Policy Act.[383]

In an effort to boost small hydroelectric projects across the country, the FERC granted two categories of license exemptions: conduit exemptions and case-specific exemptions.[384] Conduit exemptions are "projects that would be located on a conduit used for agricultural, municipal, or industrial consumption; would not be an integral part of a dam; and would have an installed generating capacity of 40 MW or less." On the other hand, case-specific exemptions are "projects that would be located at an existing non-federal dam (built prior to 1977) or located at a natural water feature (such as a waterfall) that would not require construction of a dam and would have an installed generating capacity of 10 MW or less."

B. Federal Government Versus State Water Laws

There has, however, been an issue regarding federal authority over licensed projects with respect to state water right permits.[385] The question is essentially whether the federal government's policy on issuing license exemptions for small hydropower projects supersedes state water laws.

In the landmark case *First Iowa Hydro-Electric Cooperative vs. FPC*,[386] the U.S. Supreme Court held that Section 9 (b) of the Federal Power Act (FPA), which requires an applicant to submit evidence of compliance with state laws, is not a condition precedent to obtaining a federal license.[387] Requiring a state permit would overshadow the FPA's authority by essentially giving the state a "veto

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[381] Federal Energy Regulatory Commission, Hydropower Primer, at 17, *available at* https://www.ferc.gov/sites/default/files/2020-04/HydropowerPrimer.pdf (last accessed July 31, 2024).

[382] Federal Power Act, 16 U.S.C. §§ 791-823, § 4 (e) (U.S.).

[383] Federal Energy Regulatory Commission, *supra* note 381, at 20.

[384] *Id.* at 35.

[385] Wendy M. Fisher, *Small Hydroelectric Projects and State Water Rights*, 18 PAC. L. J. 1225, 1226 (1987).

[386] First Iowa Hydro-Electric Cooperative v. FPC, 328 U.S. 152 (1946).

[387] *Id.* at 170.

power" over the project.[388] The federal government's supremacy over hydropower licenses was revisited in *California vs. FERC*.[389] The Supreme Court, however, upheld the ruling in *First Iowa*.[390] Some commentators believe that the courts are an "inappropriate forum for seeking relief from the FPA's preemption of state water law."[391] As a result, there have been constant efforts to lobby Congress.[392] To date, however, such efforts have been unsuccessful.[393]

III. European Union

A. Spain

In Spain, water concessions are granted to individuals or entities wishing to undertake hydropower projects.[394] These concessions have a term of 75 years, extendable for an additional 10 years.[395] An environmental impact assessment (EIA) is also required for power plants located in environmentally sensitive areas.[396]

The regulatory framework for water resources in Spain varies based on the administrative level (i.e., national, regional, and local).[397] The Ministry of Energy oversees power plants with a capacity of more than 5 MW, while local authorities are responsible for regulating small hydropower plants, i.e., those with a capacity of less than 5 MW.[398] Notably, the National Commission on Markets and Competition also play a role in ensuring fair competition in the energy sector.[399]

B. France

In France, two types of licenses for hydropower plants are issued depending on the plant's capacity.[400] Small hydropower plants with a capacity of

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388 *Id.* at 164. *See also* Fisher, *supra* note 385, at 1234.

389 California v. FERC, 110 S. Ct. 2028 (1990).

390 *See id.* at 2029.

391 Jill K. Osborne, *California v. FERC: Federal Supremacy in Hydroelectric Power Continues*, 80 KENTUCKY L. J. 353, 396 (1991).

392 *Id.*

393 *Id.*

394 JEAN-MICHEL GLACHANT, ET AL., REGIMES FOR GRANTING RIGHTS TO USE HYDROPOWER IN EUROPE 78 (2014).

395 *Id.*

396 *Id.*

397 *Id.* at 80.

398 *Id.* at 78.

399 *Id.* at 81.

400 GLACHANT, ET AL., *supra* note 394, at 27.

less than 4.5 MW require only an authorization to operate from the prefect of the department where the works are located while plants with a capacity of more than 4.5 MW need a concession from the same authority.[401] However, for power plants with a capacity of more than 100 MW, the jurisdiction falls under the Ministry of Sustainable Development.[402] The term of concessions can be valid for up to 75 years.[403] Environmental Impact Assessments (EIAs) are also required.[404]

France has a comprehensive procedure to ensure that applications for concessions are competitive. Bids submitted are not just evaluated by a sole government agency but also consider opinions from other government agencies such as those of Agriculture, Waterways, Finance, and Marine and Fisheries.[405]

IV. ASEAN

A. Malaysia

The governing laws on renewable energy in Malaysia are the Electricity Supply Act of 1990 and the Renewable Energy Act of 2011.[406] Foreign investors holding up to 49% equity in a corporation organized under Malaysian laws are allowed to undertake renewable energy projects.[407] Developers of small hydropower plants, i.e., those with a capacity of less than 30 MW, are required only to submit an application for a feed-in approval from the Sustainable Energy Development Authority.[408] However, for plants with a capacity of more than 30 MW, the applicant needs to apply for a license from the Energy Commission.[409]

In addition to the application, consent from the State Economic Planning Unit and a Water Right Agreement are required, as "river and water rights are under the jurisdiction of the state."[410] Once the Water Right Agreement is

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401 *Id.*

402 *Id.*

403 *Id.* (citing Ministére de L'Écologie, Du Developpement Durable et de L'Énergie, *available at* https://www.ecologie.gouv.fr/IMG/pdf/REC_hydroelectricite_maj_Octobre_2012.pdf (last accessed Aug. 1, 2024)).

404 *Id.* at 31.

405 *Id.* at 29-30.

406 Adnan Sundra & Low, Renewable Energy Regulations in Malaysia, *available at* https://law.asia/renewable-energy-regulations-malaysia/ (last accessed Aug. 1, 2024). *See* Renewable Energy Act 2011, Act No. 725 (Malay.) & Electric Supply Act 1990, Act No. 447 (Malay.).

407 *Id.*

408 *Id.*

409 *Id.*

410 Ir. Shan Suleiman & Khairunisa Shan, Renewable Energy Guideline on Small Hydropower Project Development in Malaysia, at 51, *available at* https://agep.aseanenergy.org/wp-

approved, the applicant need only pay royalty rates to the State, depending on the scale of the project.[411]

B. Indonesia

The Indonesian Constitution provides that natural resources, including renewable energy, are "controlled by the state and shall be utilized for the optimal welfare of the people."[412] Consequently, for renewable energy projects with a capacity of 1 MW and above, the Indonesian government has lifted foreign investment restrictions.[413] Such foreign investors are subject to a minimum capital requirement of at least IDR 10 billion (approximately PHP 35.8 million) in paid-up capital.[414] However, projects with a capacity of less than 1 MW remain reserved for Indonesian citizens and corporations.[415]

A renewable energy project developer in Indonesia is required to have an Electricity Supply Business License, which has a term of up to 30 years.[416] In addition, renewable energy projects are subject to health and safety requirements under the Minister of Manpower and must comply with existing environmental laws, such as Law No. 32 of 2009, Government Regulation No. 22 of 2021, and MEF Regulation No. 4 of 2021.[417] For hydroelectric power plants, a Water Resource Utilisation Permit (WRUP) is also required.[418] In Indonesia, the WRUP is issued depending on the scope of the use of water resources. The Minister of Public Works and Public Housing has the jurisdiction to grant such permits for utilization of water resources in cross-provincial, cross-national, and national strategic river areas; the Governor for water resources in the river area of a cross-regency or city; and the Regent/Mayor for water resources within his/her

content/uploads/2018/04/ASEAN-RESP_RE-Guidelines-on-Small-Hydropower-Malaysia_Sept2016.pdf (last accessed Aug. 1, 2024).

411 *Id.* at 80.

412 Ashurst, Indonesia Renewable Energy Laws and Regulations 2022, *available at* https://www.ashurst.com/en/insights/indonesia-renewable-energy-laws-and-regulations-2022 (last accessed Aug. 1, 2024). *See* INDON. CONST. ch. XIV, art. 33 (3) ("The land, the waters[,] and the natural resources within shall be under the powers of the State and shall be used to the greatest benefit of the people.").

413 *Id.*

414 Ministry of Investment, Regulation No. 4 (2021) (Indon.).

415 Ashurst, *supra* note 412.

416 *Id.*

417 *Id. See generally* Law on Protection and Management of Environment, Law No. 34/2009 (Indon.); President of the Republic of Indonesia, Government Regulation No. 22/2021 on Environmental Protection, Organization, and Management (Indon.); & Ministry of Environment and Forestry, Regulation No. 4/2021 (Indon.).

418 *Id.*

regency/city.[419] There are no nationality restrictions in the application of a WRUP but the leasing or assigning thereof is prohibited.[420]

V. Synthesis

As seen from the analysis above, an indispensable requirement for undertaking hydroelectric projects is securing a water right, permit, or concession. The type of license required varies depending on the classification of the hydroelectric power plant by size, and this classification differs across jurisdictions. It is worth noting that in these jurisdictions, **the regulatory framework for renewable energy projects coincides with their respective regulatory framework on water rights**. For example, in Indonesia, foreign investment in renewable energy projects has been facilitated alongside the issuance of a Water Resource Utilization Permit. This confluence of regulatory frameworks for renewable energy projects and water rights provides a clear picture of the state's policy on such matters.

[419] Leks & Co Lawyers, Utilization Permits of Water Resources, *available at* https://www.lekslawyer.com/utilization-permits-of-water-resources/ (last accessed Aug. 1, 2024). *See* Ministry of Public Work and Public Housing, Regulation No. 37/2015 (Indon.).

[420] *Id.*

CHAPTER 5: ANALYSIS

I. Analyzing the Mechanism of Run-of-river Hydroelectric Power Plants and Ocean Energy Systems in Relation to Appropriation

The definition of appropriation of waters under the Water Code is based on the concept of water appropriation that originated in the U.S. To restate, Article 9 thereof provides that appropriation of water "is the acquisition of rights over the use of waters or the taking or diverting of waters from a natural source in the manner and for any purpose allowed by law."[421]

For the appropriation of water to be valid, all elements must concur. These elements are: (1) intent to appropriate for beneficial use; (2) construction of the necessary appurtenances to divert water; (3) actual diversion or control of water; and (4) actual physical application of the appropriated water for beneficial use.[422] It was also established in *Larimer County Reservoir Co. vs. People ex rel. Luthe* that "the true test of appropriation of water is the successful application thereof to the beneficial use designed, and the method of distributing or carrying the same, or making such application, is immaterial."

Finally, in *IDEALS, Inc. vs. PSALM*, it was established that when water is taken from its natural source and stored in a man-made structure, such as a dam or reservoir, the waters that pass through the power plant's turbines to generate electricity are considered "artificial" waters. Accordingly, this is not considered appropriation of waters as contemplated in the Water Code.

A. Mechanism of Run-of-river Hydroelectric Power Plants

In the previous chapter, it was discussed that a run-of-river facility is a type of hydroelectric facility that does not use large dams or reservoirs. Instead, it utilizes the natural flow of the river from upstream. The three types of run-of-river facilities are (1) diversion-type plants, (2) weir-type plants, and (3) river current systems.

Diversion-type plants, as the name suggests, divert water from the river upstream using an intake system. This water is then directed through a diversion

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[421] WATER CODE, art. 9.

[422] GILMORE, *supra* note 210, at 29 (citing Weaver v. Eureka Lake Co., 15 Cal. 271 (Cal. 1860); Snyder v. Colorado Gold Dredging Co., 181 Fed. 62 (C.C.A. 8th, 1910); Kelly v. Natoma Water Co., 6 Cal. 105 (Cal. 1856); Walsh v. Wallace, 26 Nev. 299 (Nev. 1902); Ft. Morgan Land & Canal Co. v. South Platte Ditch Co., 18 Colo 1 (Colo. 1892); Low v. Rizor, 25 Ore. 551 (Ore. 1894); & Combs v. Agricultural Ditch Co., 17 Colo. 146 (Colo. 1892)).

channel to the penstock, which leads to the powerhouse containing the turbines that generate electricity.

Weir-type plants, on the other hand, use "weirs," which are essentially "small dams built across a river to control the upstream level."[423] This results in either raising the water level or changing its direction, causing it to flow naturally to the turbines.

Lastly, river current systems generate electricity by harnessing the river's current. A structure with a turbine is built across the river, and as the current flows, it moves the turbine to generate electricity.

Based on the mechanisms of run-of-river systems, it appears that their operation constitutes appropriation of water. For such a mechanism to work, appurtenances to divert water or alter its level or direction are required. Ultimately, the waters used are undoubtedly being utilized for a beneficial purpose, i.e., power generation.

B. Mechanism of Ocean Energy Systems

1. Tidal Energy

There are two types of ocean energy technologies that use ocean waters to generate electricity: tidal energy systems and wave energy systems.

To recap, tidal energy can be harnessed either through vertical movement (tidal range) or horizontal movement (tidal current). For tidal range systems, a tidal barrage — a dam-like structure — is built at the mouth of a bay or estuary. The barrage's gates open in response to changes in the elevation of water caused by the rise and fall of seawater. The seawater then flows through turbines and returns to the ocean. Tidal current systems, on the other hand, rely on structures that can either be placed on the seafloor or be buoyant but anchored to the seafloor. These structures have turbines attached to them that rotate as the tidal current moves, similar to the mechanism of a windmill. Unlike tidal range systems, tidal current structures are typically located at a considerable distance from the shore.

From the foregoing, it appears that the mechanism of tidal range systems can be compared to a traditional hydroelectric power plant. The tidal basin functions similarly to a dam or reservoir. Although tidal basins typically require

[423] Tsuanyo, et al., *supra* note 83, at 3.

human intervention to be formed,[424] they essentially represent a form of diversion that alters the course or landscape of a body of water. Diversion, in its ordinary meaning, is "the act or an instance of diverting or straying from a course, activity, or use."[425] The construction of a tidal basin constitutes diversion because it fundamentally changes the course of a body of water, thereby affecting its capacity to capture tides.

On the other hand, tidal current systems do not require the use of large structures or diversion appurtenances. However, under the Water Code's definition of appropriation, it is sufficient that the water is "used" for a beneficial purpose. As inferred from the discussions, tidal current systems "use" the horizontal movement of water to generate electricity.

2. Wave Energy

Wave energy technologies rely on waves formed when the wind blows over the ocean surface. Currently, there are four types of wave energy systems: (1) attenuator; (2) oscillating water column; (3) overtopping; and (4) point absorber.

Attenuator and point absorber systems use structures that float on the water's surface and are anchored to the ocean floor. The technology behind these systems is similar in that the buoy, which moves with the waves, is connected to a generator. The movement of the buoy drives the generator to produce electricity.

Conversely, oscillating water columns and overtopping systems use structures that capture waves in a reservoir. The water trapped in the reservoir drives the turbines that generate electricity.

While these technologies differ in their technical specifications, according to the Water Code's definition of appropriation, the waves — being part of seawater — that are used to generate electricity qualify as being "used" for a beneficial purpose. The true test of appropriation, which is that the water is used for a beneficial purpose, is thus met.

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[424] *See*, National Park Service, Tidal Basin, Washington, DC, *available at* https://www.nps.gov/articles/dctidalbasin.htm (last accessed Aug. 6, 2024).

[425] Merriam-Webster Dictionary, Definition of Diversion, *available at* https://www.merriam-webster.com/dictionary/diversion (last accessed Aug. 6, 2024).

II. Analyzing State Policies on Water Resources, Power, and Renewable Energy

A. Water Resources

Water resource management is vested on various government agencies, with more than 30 of which deal with a specific aspect of water resources development, i.e., water supply, irrigation, hydropower, flood control, pollution, etc.[426] As such, each of these agencies undertake programs/projects "exclusively within its own field of responsibility."[427] As a result, an "overlap of work and conflicts among agencies" exist.[428] The Water Code was thus promulgated in 1976 to address this overlap by creating the NWRB — the agency in charge of "coordinat[ing] and integrat[ing] all activities in water resources development and management."[429] The underlying principle of the Water Code are as follows:

> (a) All waters belong to the State.
>
> (b) All waters that belong to the State can not be the subject to acquisitive prescription.
>
> (c) The State may allow the use or development of waters by administrative concession.
>
> (d) The utilization, exploitation, development, conservation and protection of water resources shall be subject to the control and regulation of the government through the [NWRB].
>
> (e) Preference in the use and development of waters shall consider current usages and be responsive to the changing needs of the country.[430]

Emphasis is given particularly to the fifth underlying principle — that the use and development of waters shall consider current usages and **be responsive to the changing needs of the country.**

B. Power Sector

The situation of the power industry during this time (1970s and 1980s), primarily relying on oil and fossil fuel, was not doing well as it "experienced

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[426] Hector Dayrit, The Philippines: The Formulation of a National Water Vision, *available at* https://www.fao.org/4/AB776E/ab776e03.htm (last accessed Aug. 23, 2024).

[427] *Id.*

[428] *Id.*

[429] *Id.*

[430] WATER CODE, art. 3.

deteriorating service, perceived mismanagement, and high debt levels."[431] Power outages arising from this crisis persisted until the 1990s,[432] and in fact, even to this day.[433] Several laws were then passed to address the looming power crisis in the country. These laws include the Electric Power Crisis Act, the Build-Operate-Transfer Law, the EPIRA, and the RE Act of 2008, among others. Just recently, the State, in amending the Public Service Act, [434] opened the power generation sector to foreign investment as it is not within the ambit of "public utility."[435] This bolsters the States policy of achieving energy security by making the power generation sector more competitive.

C. Renewable Energy

Achieving energy security by utilizing indigenous energy resources remains to be the primary goal of the State.[436] In order to meet its goals and the ever-growing demand for energy, the State has sought "to grow the renewable energy sector."[437] Additionally, as a country "highly vulnerable to the effects of climate change[,]", the State has undertaken measures to mitigate its effects "through a variety of targets that focus on reducing the energy intensity of the economy and **increasing installed renewable energy capacity**."[438]

The RE Act of 2008 was thus enacted to promote the renewable energy sector in the country with the following polices: (1) to accelerate the exploration and development of RE resources; (2) to increase the utilization of renewable energy; (3) to encourage the development and utilization of RE resources; and (4) to establish the necessary infrastructure and mechanism to carry out the mandates specified in the law.[439] In pursuit of the State's goal of expanding the country's RE capacity,[440] the DOE, in 2022, relaxed foreign equity restrictions in the exploration, development, and utilization.

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[431] Asian Development Bank, Philippines: Energy Sector Assessment, Strategy, and Road Map, at 13, *available at* https://www.adb.org/sites/default/files/publication/463306/philippines-energy-assessment-strategy-road-map.pdf (last accessed Aug. 23, 2024).

[432] *Id.*

[433] *See* Elchico, *supra* note 17.

[434] An Act Amending Commonwealth Act No. 146, Otherwise Known as the Public Service Act, As Amended, Republic Act No. 11659 (2022).

[435] *Id.* § 4.

[436] Asian Development Bank, *supra* note 431, at 4.

[437] *Id.* at 5.

[438] *Id.* at. 7.

[439] Renewable Energy Act of 2008, § 2.

[440] *See* Philippine Energy Plan 2023-2050, *supra* note 15, at 4.

D. Synthesis

It has been nearly 50 years since the Water Code was enacted. The situation today is significantly different from that of the 1970s when fossil fuels were the primary source of energy. There has clearly been a global, and evidently, a national shift towards the development of sustainable energy sources. To be clear, the RE Act of 2008 and DOE Department Circular No. DC2022-11-0034 are not in conflict with the Water Code. An analysis below shows proves this assertion. However, there is a need to bridge the gap between the Water Code and current state policies on energy.

III. Analyzing the Water Code and the DOE Department Circular No. DC2022-11-0034

The amendatory wording of DOE Department Circular No. DC2022-11-0034 is as follows:

> B. Parties to a Service/Operating Contract
>
> The State may directly undertake the exploration, development, production[,] and utilization of RE Resources, or it may enter into RE Service or Operating Contracts with Filipino and/or foreign citizens or Filipino and/or foreign-owned corporations or associations.[441]

However, this provision does not include a proviso distinguishing renewable energy projects involving water, such as hydroelectric power and ocean energy systems, which would otherwise fall within the scope of the Water Code. Curiously, this proviso is found in a footnote of the same Department Circular, which states that the appropriation of water directly from a natural source shall be reserved for Filipino citizens or entities with at least 60% Filipino ownership, as specified in the Water Code and affirmed in *IDEALS, Inc. v. PSALM.*[442]

It appears that the DOE intended to reconcile the provisions of the Water Code and the ruling in *IDEALS, Inc. v. PSALM* with the amended rules lifting foreign restrictions for the issuance of a Renewable Energy Service Contract (RESC). However, as illustrated in the previous chapter, neither the IRR of the RE Act of 2008[443] nor the checklist of requirements prepared by the DOE includes a "water permit" as a requirement for obtaining a RESC,[444] whether in

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[441] DOE D.C. No. DC2022-11-0034, s. 2022, § 2.

[442] *Id.* at 2 n. 5.

[443] *See* Chapter 3, page 63 of this Thesis.

[444] *See* Chapter 3, pages 71-74 of this Thesis.

the pre-development or commercialization stage. If the DOE's intention was indeed to recognize the provisions of the Water Code and the ruling in *IDEALS, Inc. v. PSALM*, this should have been explicitly included in the main text of the amended IRR of the RE Act of 2008, rather than just placing it in a footnote. Additionally, it would have been prudent for the DOE to issue guidelines or clarifications regarding the specific licenses and permits required for RESC issuance for renewable energy projects involving water resources, such as hydropower and ocean energy systems.

Nevertheless, the DOE cannot be faulted for reconciling its amended rules with existing laws and jurisprudence. It is a settled rule in constitutional law that legislative power can be delegated to the executive to fill in the details of the law.[445] But if an executive issuance exceeds the authority granted by the legislature, it becomes void due to an undue delegation of legislative power.[446]

Moreover, while it is true that statutes hold greater authority than mere department issuances, the DOE, as the agency tasked with implementing laws related to energy, possesses specialized expertise. As held in *Republic vs. Provincial Government of Palawan*,[447] "[t]he interpretation of those called upon to implement the law is given great respect[,]" with the only limitation being that it should not conflict with the Constitution or existing laws.[448] Executive issuances, thus, carry authoritative weight and reflect the practical application of the Constitution and existing laws.[449] It is therefore imperative to take the DOE and DOJ issuances into consideration in harmonizing the law to achieve the State's policy, i.e., to promote the renewable energy sector.

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[445] Province of Pampanga v. Executive Secretary Alberto Romulo and Department of Natural Resources, G.R. No. 195987, 968 SCRA 77, 89 (2021).

[446] *Id. See* BERNAS, *supra* note 192, at 690-91.

[447] Republic v. Provincial Government of Palawan, G.R. No. 170867, Jan. 21, 2020, *available at* https://elibrary.judiciary.gov.ph/thebookshelf/showdocs/1/66065 (last accessed Aug. 23, 2024).

[448] *Id.* (citing Alvarez v. Guingona, G.R. No. 118303, 252 SCRA 695, 703 (1996)).

[449] *See* Gamboa v. Teves, G.R. No. 176579, June 28, 2011, *available at* https://elibrary.judiciary.gov.ph/thebookshelf/showdocs/1/37041 (last accessed Aug. 2, 2024) (where the Court defined the term "capital" under Section 11, Article XII of the 1987 Constitution and gave weight to the DOJ Opinions related to the matter).

IV. Analysis on the Differences Between Traditional/Multipurpose Hydroelectric Power Plants, Run-of-river Hydroelectric Power Plants, and Ocean Energy Systems

To reiterate, the main difference between traditional/multipurpose hydroelectric power plants and run-of-river power plants, as well as ocean energy systems, lies in the presence of a dam or reservoir that captures water. In the *IDEALS, Inc. v. PSALM* case, the Angat Dam Complex is managed by various agencies. The dam is operated by NPC under a water permit granted by the NWRB, while K-Water operates the power generation component of the plant. According to the Supreme Court, this does not constitute appropriation; hence, K-Water was not required to obtain a water permit, as it is a wholly foreign-owned corporation.

In contrast, run-of-river hydroelectric power plants and ocean energy systems dispenses the need for a dam, meaning their power-generating facilities function as a single unit that includes appurtenances and devices used to redirect water flow or capture tidal/wave energy. Simply stated, the water being used to generate electricity comes directly from the source thus, a water permit is required.

A. State Policy on Renewable Energy Development is Negated

Consider this hypothetical situation — if foreign corporations express their intention to undertake these types of renewable energy projects, they would be barred from doing so under the limitations of the Water Code, which restricts issuance and even the lease of water permits to Filipino citizens or corporations with at least 60% Filipino ownership. The exploration, development, and utilization of water resources for renewable energy projects necessarily requires the issuance of a water permit. As a result, the policy of the State to relax foreign restrictions on the exploration, development, and utilization of renewable energy resources to meet its sustainable energy plan and international obligations could be negated. This also means that DOE Department Circular No. DC2022-11-0034 will be inoperative and ineffective, insofar as hydro and ocean energy projects are concerned.

As noted earlier, the Philippines has significant untapped potential in hydropower and ocean energy systems. Given the high capital requirements, the participation of foreign investment is crucial.

V. The "Nature" of "Natural Resources" under the 1987 Constitution

To recapitulate, the Proponent of this Thesis argues that the term "natural resources" under the 1987 Constitution does not encompass renewable energy. This aligns with the framers' intent to prevent the exploitation and depletion of the country's natural resources by aliens. Since renewables by nature do not deplete and is self-replenishing, the evils aimed to be addressed by the framers do not apply to renewable energy. The interpretation of the term "natural resources" is crucial in determining the validity of DOE Department Circular No. DC 2022-11-0034, which lifts the foreign equity restrictions on the exploration, development, and utilization of renewable energy resources. Such interpretation is also in line with the government's policy to increase the renewable energy mix in the energy sector and to comply with its international obligations to decrease carbon emissions by shifting to renewables instead of traditional fossil fuels for power generation.

A. "Natural Resources" as It Appears in the Text of the 1987 Constitution

In lawmaking, it is common for Congress to include a "Definition of Terms" section to provide clear definitions and a degree of certainty to the public. Unfortunately (or fortunately), under the 1987 Constitution of the Philippines, such section does not exist. In constitutional texts, some words or terms may either be explicitly defined or not. There are times when an undefined term in a statute or constitution becomes the subject of controversy between conflicting interests. This is where the Judiciary steps in – by interpreting the laws of the land using tools of construction.[450]

Section 2, Article XII of the 1987 Constitution does not provide for a specific definition of "natural resources" other than a list that is subsumed under it, i.e., land, water, mineral, coal, petroleum, mineral oils, all forces of potential energy, fisheries, forests or timber, wildlife, and flora and fauna.[451] In fact, it serves as a catch-all phrase for all other forms of natural resources as contemplated by the framers. As it stands, the term "natural resources" is undefined and, therefore, subject to interpretation.

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[450] *See, e.g.*, *Gamboa*, G.R. No. 176579 (where the Court defined the term "capital" under Section 11, Article XII of the 1987 Constitution); Mandanas v. Ochoa, Jr., G.R. No. 199802, July 3, 2018, *available at* https://elibrary.judiciary.gov.ph/thebookshelf/showdocs/1/64325 (last accessed Aug. 2, 2024) (where the Court determined the manner of computing "just share" of LGUs in the national taxes as provided in Section 6, Article X of the 1987 Constitution); & *MWSS*, G.R. No. 185184, Oct. 3, 2023, *available at* https://sc.judiciary.gov.ph/wp-content/uploads/2024/03/185184.pdf (last accessed Aug. 2, 2024) (where the Court interpreted the term "national wealth" under Section 7, Article X of the 1987 Constitution).

[451] PHIL. CONST. art. XII, § 2.

B. DOJ's Attempt to Interpret "Natural Resources"

It is worth noting that the DOJ issued an opinion dated 22 September 2022 regarding the interpretation of the term "natural resources," specifically addressing whether renewable energy sources are included in its scope.[452] The DOJ's opinion is summarized as follows:

(1) The term "natural resources" under the Constitution are properties that are within the State's power of *dominium* and therefore, subject to appropriation. Therefore, such term should not include the sun, wind, or the ocean as they are considered *res communes* and are not subject to appropriation.

(2) The framers of the constitution set nationality restrictions to the country's natural resources to prevent foreign exploitation. This is due to their scarcity and depleting nature. Therefore, the term does not contemplate renewable energy sources due to its inexhaustible and replenishing nature.

(3) The framers of the constitution could not have contemplated the inclusion of renewable energy as the technology was still under development at that time.

(4) With regard to the term "all forces of potential energy" should be understood in its technical sense. Thus, it does not include kinetic energy, under which renewable energy sources fall.

Ultimately, DOJ Opinion No. 21, series of 2022, became the basis for DOE Department Circular No. DC2022-11-0034, which relaxed foreign equity restrictions on renewable energy projects. It is worth noting that, to date, DOE Department Circular No. DC2022-11-0034 remains unchallenged by petitions declaring its unconstitutionality.

C. Ratio Legis Approach: Examining and Dissecting the Framers of the Constitution

1. 1987 Constitution

The debates on Article XII of the 1987 Constitution are extensive, especially regarding Section 2, as it involves matters related to the nationalization of natural resources and the determination of foreign equity participation in their exploration, development, and utilization. To determine the intent of the

[452] DOJ, Opinion No. 21, s. 2022

framers, it is noteworthy to consider the deliberations on the percentage of foreign capitalization. The Committee Report of the Committee on the National Economy and Patrimony initially proposed a 66 and 2/3 percent Filipino capitalization.[453] Amendments were then proposed to increase it to 100%, 75%, then two-thirds percent until the framers ultimately voted on a 60% Filipino capitalization.[454] The reason for such reservation, as seen also in the 1935 and 1973 Constitution, is recited in the case of *Republic vs. Quasha* which cited Hon. Vicente G. Sinco, to wit:

> It should be emphatically stated that the provisions of our Constitution which limit to Filipinos the rights to develop the natural resources and to operate the public utilities of the Philippines is one of the bulwarks of our national integrity. The Filipino people decided to include it in our Constitution in order that it may have the stability and permanency that its importance requires. It is written in our Constitution so that it may neither be the subject of barter nor be impaired in the give and take of politics. With our natural resources, our sources of power and energy, our public lands, and our public utilities, the material basis of the nation's existence, in the hands of aliens over whom the Philippine Government does not have complete control, the Filipinos may soon find themselves deprived of their patrimony and living as it were, in a house that no longer belongs to them.[455]

This reservation of our "national integrity" is rooted in the framers' precept that our natural resources are "scarce." This notion is mentioned several times throughout the deliberations. As seen in the debates on allowing foreign investors in large-scale exploration, development, and utilization of natural resources, Commissioner Jose Luis Martin C. Gascon expressed his sentiments on allowing service contracts with foreign investors, viz.:

> MR. GASCON[:] In Commissioner Nolledo's textbook on the 19873 Constitution, he pointed out that one major reason for the inclusion in the 1973 Constitution of an explicit provision allowing service contracts was that there was doubt about their constitutionality based the 1935 Constitution. Also, Professor Merlin Magalona of the UP College of Law pointed out in the paper 'Nationalism and the New Constitution' that, in effect, service contracts legalized dummyism in natural resource exploitation. Thus, if the spirit behind this Article on National Economy and Patrimony is the development of a self-reliant and independent national economy, **should not Congress be extra careful in allowing foreigners to exploit our already scarce natural**

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[453] BERNAS, *supra* note 192, at 1181.

[454] *Id. See* 3 RECORD OF THE CONSTITUTIONAL COMMISSION, NO. 57, at 364-65 (1986).

[455] Republic v. Quasha, G.R. No. L-30299, 46 SCRA 160, 170 (1972) (citing Congressional Record, House of Representatives, Vol. 1, No. 26, at 561).

> **resources? Since these resources are scarce already**, **should not their utilization be reserved first and foremost to Filipinos?**[456] (emphasis applied)

Another portion of the deliberation deserves ample consideration. During the deliberations, Commissioner and Former Chief Justice Hilario Davide proposed an amendment to limit the scope of service contracts to the "exploitation, development[,] and exploration of minerals, petroleum[,] and other mineral oils."[457]

> MR. DAVIDE[:] Thank you, Madam President. [...] I propose to delete "NATURAL RESOURCES" and substitute it with the following: MINERALS, PETROLEUM AND OTHER MINERAL OILS.[458] [...]

Further into the deliberations, Commissioner Davide offered his explanation as to why he proposed limiting the exploration, development, and utilization of natural resources to Filipino citizens and 100% Filipino-owned corporations.[459] Interestingly, this is the same passage cited by the DOJ in its opinion to support its assertion that the term "natural resources" contemplates non-renewable resources that can be depleted.

> MR. DAVIDE[:] I voted in favor of the Jamir proposal because it is not really exploitation that we granted to the alien corporations but only for them to render financial or technical assistance. It is not for them to enjoy our natural resources. Madam President, **our natural resources are depleting**; our population is increasing by leaps and bounds. **Fifty years from now, if we will allow these aliens to exploit our natural resources, there will be no more natural resources for the next generations of Filipinos.** It may last long if we will begin now. Since 1935[,] the aliens have been allowed to enjoy to a certain extent the exploitation of our natural resources, and we became victims of foreign dominance and control. The aliens are interested in coming to the Philippines because they would like to enjoy the bounty of nature exclusively intended for the Filipinos by God.[460] (emphases supplied).

One of the framers, Commissioner Ambrosio Padilla, in explaining his vote against Commissioner Davide's proposal, highlighted the capital-intensive nature of natural resource exploitation, specifically mining. The exchanges between Commissioner Padilla and Commissioner Davide bolsters the assertion

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[456] 3 RECORD, PHIL. CONST., NO. 56, at 321.

[457] *Id.* at 355.

[458] *Id.*

[459] This proposal was, however, overturned as the majority of the framers voted against the amendment with 20 members voting against 14 voting in favor of the Davide proposal. 3 RECORD, PHIL. CONST., NO. 57, at 363.

[460] 3 RECORD, PHIL. CONST., NO. 57, at 359.

that the "natural resources" contemplated by the framers are those that are non-renewable in nature and subject to depletion.

> MR. PADILLA[:] Madam President, I am against the proposed amendment of Commissioner Davide because that is an ideal situation where domestic capital is available for the exploration, development[,] utilization of these natural resources, especially minerals, petroleum[,] and other mineral oils. These are not only risky business but they also involve substantial capital. Obviously, it is an ideal situation but it is not practical. And if we adopt the 100-percent capital of Filipino citizens, **I am afraid that these natural resources, particularly these minerals and oil, et cetera, may remain hidden in our lands, or in other offshore places without anyone being able to explore, develop[,] or utilize them**. If it were possible to have a 100-percent Filipino capital, I would prefer that rather than the 60 percent, but if we adopt the 100 percent, my fear is that we will never be able to explore, develop[,] and utilize our natural resources because we do not have domestic resources for that.
>
> [...]
>
> MR. DAVIDE[:] **I am very glad that Commissioner Padilla emphasized minerals, petroleum[,] and mineral oils**. The Commission has just approved the possible foreign entry into the development, exploration[,] and utilization of these minerals, petroleum[,] and other mineral oils by virtue of the Jamir amendment. I voted in favor of the Jamir amendment because it will eventually give way to vesting in exclusively Filipino citizens and corporations wholly[-]owned by Filipino citizens the right to utilize the other natural resources. This means that as a matter of policy, natural resources should be utilized and exploited only by Filipino citizens or corporations wholly owned by such citizens. But by virtue of the Jamir amendment, **since we feel that Filipino capital may not be enough for the development and utilization of minerals, petroleum and other mineral oils**, the President can enter into service contracts with foreign corporations precisely for the development and utilization of such resources.[461] [...] (emphases supplied)

2. 1973 Constitution

The same concept of reserving natural resources for Filipinos can also be found under the 1973 Constitution. The Proponent has exhausted all means necessary to search for the records of the constitutional convention; however, the portion that contains the deliberations on the exploration, development, and utilization of natural resources was burned.[462]

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[461] *Id.* at 361.

[462] E-mail *from* HRep Legislative Library and Archives Client Servicing Group, House of Representatives *to* Jadel Kaye B. Gines (Jan. 20, 2024) (on file with Author).

3. 1935 Constitution

While the 1935 Constitution has long been superseded, it remains relevant because the roots and origins of the concept of reserving natural resources for Filipinos are found therein. A thorough examination of the deliberations in the 1935 constitutional convention shows that the framers associated natural resources with minerals, oil, coal, and other materials subject to depletion. In determining the whether the freehold system should be abandoned in favor of a leasehold system, the following exchanges demonstrate that these resources were intended to be those that are "limited." Therefore, the conservation of these resources for future generations was emphasized. A portion of the exchange is as follows:

> MR. CONFESOR: **Is it not a fact, Gentleman from Ilocos Norte, that the principal problem with respect to our natural resources is their proper conservation?**
>
> MR. VENTURA: Yes, that is the philosophy underlying the economic provisions of our Constitution.
>
> MR. CONFESOR: The Gentleman then is advocating the leasehold system.
>
> MR. VENTURA: Yes, Mr. President.
>
> MR. CONFESOR: Because that will be a most effective means of conserving our natural resources?
>
> MR. VENTURA: Yes.
>
> MR. CONFESOR: **Is it not also a fact that our natural resources like coal, iron, gold[,] and chromite are limited?**
>
> MR. VENTURA: Yes, particularly chromite, in which the Gentleman is very much interested.
>
> MR. CONFESOR: **Is it not a fact that in the United States the change of policy from freehold to leasehold was intended to bring about a more effective method of conservation of that country's natural resources**?
>
> MR. VENTURA: Yes, that is true. Under the leasehold system and if there is any fear of foreign capital being driven away from here, we will have sufficient time to develop our mines. We can allow even seventy-five years under this system.[463] (emphases supplied)

This shows that as early as the era of the first framers of the constitution, "natural resources" have repeatedly been associated with scarcity and the

[463] 10 RECORD OF THE CONSTITUTIONAL CONVENTION, NO. 134, at 325-26 (1935).

possibility of depletion, characteristics that renewable energy sources do not possess.

D. The "Living Constitution" Approach

When interpreting the constitution, two main approaches can be employed — textualism and living constitutionalism. Textualism, also known as the *verba legis* rule, asserts that "if the statute is clear, plain, and free from ambiguity, it must be given its literal meaning and applied as written."[464]

In interpreting the term "natural resources," the Proponent argues that ambiguity exists in its usage. As previously noted, the definition of such a term in legal texts should be clearly established, and the intent behind its definition depends on the context and circumstances at the time it was written. In the earlier section, the Proponent analyzed the records of the constitutional convention to discern the framers' intent to confine the term "natural resources" to non-renewables, which are characterized by scarcity and depletion.

Nevertheless, the Proponent asserts that applying the "living constitution" approach also supports the State's contemporary policies to protect the environment and transition to more sustainable methods of power generation, thereby addressing current needs of its constituents and boosting the economy.

The basic precept of a "living constitution" is that "[it] evolves, changes over time, and adapts to new circumstances, without being formally amended."[465] Authorities that support the living constitution approach argue that "a constitution must evolve to cater to new phenomena which the framers could not have foreseen."[466] In fact, even the framers of the 1987 Constitution intended for it to address the needs of future generations, albeit impliedly. During the deliberations on the definition of "vital industries" under Section 18, Article XII, the framers chose not to specifically define the term "vital," as its meaning was meant to adapt to the changing circumstances of the country. This illustrates that the 1987 Constitution was designed to be a "living" document, adaptable to the current needs of the state and its people. The relevant portion is as follows —

> MR. QUESADA[:] Regarding Sections 12 and 13, I take it that these two sections address the mode of participation and control by the State of economic enterprises, particularly vital industries, during periods of external aggression and other national emergencies. In this respect, does the Gentleman

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[464] RUBEN E. AGPALO, STATUTORY CONSTRUCTION 59 (2003).

[465] Eliot T. Tracz, *Textualism and the Living Constitution*, 60 IDAHO L. REV. 243, 243 (2024) (citing DAVID A. STRAUSS, THE LIVING CONSTITUTION 1 (2010)).

[466] Yurii C. Ramos, *Debunking the Notion of a Living Constitution*, 65 U.S.T. L. REV. 1, 17 (2021).

> not think it is necessary to define 'vital industries' to eliminate any ambiguity in the exercise by the State of this power when the eventuality arises?
>
> MR. VILLEGAS[:] No, this was fully discussed in the Committee and **the decision was that the word 'vital' is so dependent on changing circumstances that we would actually be tying the hands of the State if we start enumerating what are vital now**. What may be vital tomorrow may not be vital now. So, I think it would also be presumptuous of the Constitutional Commission to actually define what will be vital forever.[467] (emphasis supplied)

Furthermore, the Philippine Supreme Court has, on numerous occasions, relied on this approach in its decisions, some of it being landmark decisions. Additionally, it has been occasionally referred to by other members of the Court in their separate opinions.[468]

1. *Angara vs. Electoral Commission (1936)*

In *Angara vs. Electoral Commission*,[469] Justice Jose P. Laurel, the *ponente*, referred to the Constitution as one that is "living." This landmark case involves a discussion of the Court's power of judicial review and is considered as the Philippine equivalent of the quintessential case *Marbury vs. Madison*.[470] The relevant portion of the decision reads —

> The Constitution sets forth in no uncertain language the restrictions and limitations upon governmental powers and agencies. If these restrictions and limitations are transcended it would be inconceivable if the Constitution had not provided for a mechanism by which to direct the course of government along constitutional channels, for then the distribution of powers would be mere verbiage, the bill of rights mere expressions of sentiment, and the principles of good government mere political apothegms**. Certainly, the limitations and restrictions embodied in our Constitution are real as they should be in any living constitution**.[471] (emphasis supplied).

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[467] 3 RECORD, PHIL. CONST., NO. 56, at 317.

[468] *See, e.g.*, Manila Prince Hotel v. GSIS, G.R. No. 122156 (1997) (J. Puno, dissenting); Francisco v. House of Representatives, G.R. No. 160261 (2003) (J. Azcuna, concurring); & Poe-Llamanzares v. COMELEC, G.R. No. 221697 (2016) (C.J. Sereno, concurring).

[469] Angara v. Electoral Commission, 63 Phil. 139 (1936). *See* Ramos, *supra* note 466, at 19.

[470] Marbury v. Madison, 5 U.S. 137 (1803). *See* Ramos, *supra* note 466, at 19.

[471] *Angara*, 63 Phil.

2. *People vs. Bandula (1994)*

Justice Josue N. Bellosillo, in *People vs. Bandula*,[472] likewise did the same in conjunction with the rights of an accused —

> Indeed, it is unfortunate that the investigators who are sworn to do justice to all appear to have toyed with the fundamental rights of the accused. Men in uniform do not have blanket authority to arrest anybody they take fancy on, rough him up and put words into his mouth. **There is a living Constitution which safeguards the rights of an accused**, a penal law which punishes maltreatment of prisoners and a statute which penalizes the failure to inform and accord the accused his constitutional rights.[473] (emphasis supplied)

E. Comparative Analysis with Other Jurisdictions

The Proponent concedes that, in layman's terms, "natural resources" encompass both renewable and non-renewable resources. However, authorities have pointed out that the term "natural resources," when used in laws, constitutions, or other legal texts, has "no clear and generally acknowledged definitions."[474] Therefore, the definition of such term "depends on the circumstances in which [it is] used."[475]

Authorities have laid down five functions that constitutions perform in the governance of natural resources, namely: (1) defining natural resources and delineating its scope;[476] (2) determining its ownership;[477] (3) recognizing (or not recognizing) indigenous people's rights to exercise their traditional ownership and usage of certain natural resources;[478] (4) designating responsible parties to manage and regulate natural resources;[479] and (5) designating protection mechanisms to conserve natural resources and regulate their sustainable use.[480] For purposes of this Thesis, the Proponent will focus on the first function and provide a comparative analysis of how the term "natural resources" is defined and delineated in the constitutions of other jurisdictions.

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[472] People v. Bandula, G.R. No. 89223, 232 SCRA 566 (1994). *See* Ramos, *supra* note 466, at 19.

[473] *Id.* at 578.

[474] Oliver C. Ruppel & Ruda Murray, *A Global Comparative Constitutional Analysis of Natural Resources Protection*, 18 ICL J. 255, 256 (2024).

[475] *Id.*

[476] *Id.* at 258

[477] *Id.* at 259.

[478] *Id.* at 260.

[479] *Id.*

[480] Ruppel & Murray, *supra* note 474, at 260.

A common approach in defining natural resources is by "inexplicitly listing examples with few express distinctions between renewable and non-renewable resources."[481] A comparative analysis of constitutions from select foreign jurisdictions is found below. These select foreign jurisdictions were chosen based on their varying treatments of the term "natural resources." They were selected to illustrate how the term can differ depending on the policies and unique circumstances of each state. Furthermore, these countries share a historical backdrop with the Philippines, having been occupied states during their formative years.

1. Kenya

Kenya is one of the few states that has a separate "Definition of Terms" section, which can be found in Article 260 of its Constitution. "Natural resources" is defined as "the physical non-human factors and components, whether renewable or non-renewable, including[:] (a) sunlight; (b) surface and groundwater[;] (c) forests, biodiversity[,] and genetic resources; and (d) rocks, minerals, fossils[,] and other sources of energy[.]"[482]

2. Algeria

The Constitution of Algeria provides a rather bleak definition of the term under Article 20 (3) thereof. Curiously, it is the only provision that speaks of the treatment of natural resources other than the Preamble. Under Article 20, "[t]he State shall strive to: [...] (3) Make rational use of water, fossil fuels, and other natural resources[.]"[483] To a comparable extent, "natural resources" in a manner similar to the Philippine Constitution.

3. Botswana

In Botswana, the term "natural resources" remains undefined and is not accompanied by examples of what it encompasses. Section 8 (5) (a) (vii) is the only provision that mentions the term, stating:

> ... for so long only as may be necessary for the purposes of any examination, investigation, trial, or inquiry or, in the case of land, for the purposes of carrying out work of soil conservation or the conservation of other **natural resources** or work relating to agricultural development or improvement (being work relating to such development or improvement that the owner or occupier of

[481] *Id.* at 258.

[482] KENYA CONST. art. 260.

[483] ALG. CONST. art. 20.

> the land has been required, and has without reasonable excuse refused or failed, to carry out) ... .[484] (emphasis supplied)

4. Vietnam

The Constitution of Vietnam specifies examples of "natural resources" by referring to resources derived from the corpus, such as land, water, and air, as outlined in Article 53. Such provisions reads, "[t]he land, water resources, mineral resources, wealth lying underground or coming from the sea and the air, other natural resources, and property invested and managed by the State are public properties, coming under ownership by the entire people represented and uniformly managed by the State."

5. India

The Constitution of India does not explicitly define the term "natural resources" in Article 297 which reads —

> 1. All lands, minerals and other things of value underlying the ocean within the territorial waters, or the continental shelf, or the exclusive economic zone, of India shall vest in the Union and be held for the purposes of the Union.
>
> 2. All other resources of the exclusive economic zone of India shall also vest in the Union and be held for the purposes of the Union.[485]

However, the Supreme Court of India clarified its scope in the case of *Centre for Public Interest Litigation and Ors vs. Union of India.*[486] The relevant portion reads —

> At the outset, we consider it proper to observe that **even though there is no universally accepted definition of natural resources, they are generally understood as elements having intrinsic utility to mankind. They may be renewable or non[-]renewable.** They are thought of as the individual elements of the natural environment that provide economic and social services to human society and are considered valuable in their relatively unmodified, natural, form. A natural resource's value rests in the amount of the material available and the demand for it. The latter is determined by its usefulness to production.[487] (emphasis supplied)

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[484] BOTS. CONST. § 8 (5) (a) (vii).

[485] INDIA CONST. art. 297 (1) & (2).

[486] Centre for Public Interest Litigation and Ors v. Union of India (2012) 3 SCC 1 (India).

[487] *Id.* ¶ 63.

The Supreme Court of India, thus, relied on the layman definition of "natural resources" without consideration of the intent of their constitutional framers.

6. Synthesis

The constitutions of Algeria, Botswana, and Vietnam do not specifically define "natural resources," using it only as a catch-all phrase, but they tend to associate it with non-renewable resources. On the other hand, Kenya's constitution explicitly distinguishes between "renewable" and "non-renewable" resources. Lastly, in India, while the term is left undefined, its Supreme Court has interpreted it according to its ordinary meaning, as there is no universally accepted definition.

In the cases of Algeria, Botswana, and Vietnam, their association of the term "natural resources" with non-renewable resources is evident in their renewable energy policies. None of these countries impose foreign equity restrictions on renewable energy projects, allowing foreign participation in the industry.[488] Meanwhile, in Kenya, despite a definition that includes both renewable and non-renewable resources, the government has not imposed any foreign equity restrictions on the renewable energy industry.[489] Interestingly, the government of India allows 100% foreign direct investment in the renewable energy sector.[490]

VI. Analyzing the Nuances in the *Corpus* and the Use or Right to Use Water

A. Distinction Between the Corpus of Water and the Energy Harnessed from Its Movement

The Proponent asserts that in the Philippine context, the nationality restriction on the EDU activities of natural resources primarily pertains to non-

[488] *See* Africa Desk, Algeria Steps Up Efforts to Attract Foreign Investment and Push Energy Transition, *available at* https://www.gop.it/doc_pubblicazioni/1053_vptkq0jtmy_cn.pdf (last accessed Aug. 21, 2024); U.S. Department of State, 2023 Investment Climate Statements: Botswana, *available at* (last accessed Aug. 21, 2024); & Dahlia Le, Ease of Doing Business in Vietnam: Why do Foreign Investors Choose this Destination, *available at* https://vietnam.incorp.asia/ease-of-doing-business-in-vietnam (last accessed Aug. 21, 2024).

[489] *See* Yara Alexandra Lima, Renewable Energy in Africa: Kenya's Success and Its Possible Implementation in Angola, *available at* https://payneinstitute.mines.edu/renewable-energy-in-africa-kenyas-success-and-its-possible-implementation-in-angola (last accessed Aug. 21, 2024).

[490] Invest India, Renewable Energy, *available at* https://www.investindia.gov.in/sector/renewable-energy (last accessed Aug. 21, 2024).

renewable components. In analyzing the application of the nationality restriction found in Article XII, Section 2, two questions should be considered:

(1) Does the EDU activity involve a State-owned natural resource?

(2) If it does, will the EDU activity result to a depletion of a State-owned natural resource?

As applied therein — While it is undeniable that the *corpus*/body of water is State-owned, the right to use such water is nonetheless subject to the regulatory powers of the State. This is consistent with the constitutional provision that allows foreigners up to 40% ownership to undertake EDU activities concerning natural resources. However, as revealed in the deliberations of the Constitutional Convention, the framers envisioned these restrictions as applying specifically to EDU activities on non-renewable resources — those that are subject to depletion. Addressing the second query, the *energy produced by the movement of the water*, when used for power generation, does not result to the water's depletion, as the water either:

(1) returns to its natural source (e.g., hydroelectric energy facilities) after being harnessed; or

(2) remains stationary as when no diversion takes place (e.g., ocean energy facilities)

Therefore, the energy derived from the movement of water is not subject to the same nationality restrictions. To repeat, the Proponent does not dispute that water itself is classified as a "natural resource" under the Constitution. Rather, the argument focuses on the distinction between *the resource (water)* and the *renewable energy derived from its movement*.

B. Distinction Between the Different Uses of Water

As previously discussed, water can be appropriated for various beneficial purposes (e.g., domestic, irrigation, power generation, etc.). The Proponent emphasizes the importance of distinguishing between these uses, as their effects on the resource differ significantly. That is, the use of water could either result to its effective consumption or not.

For instance, in the case of *Maynilad*, water is used for *domestic consumption* — drinking, sanitation, and other essential services.[491] When water is consumed for these purposes, it is effectively gone, as it is not returned to its natural source. In this sense, water becomes a commodity that is essential for human survival

[491] *See Maynilad*, G.R. No. 202897.

and public welfare, thereby falling under the category of a "public utility." As previously pointed out, public utilities are subject to nationality restrictions.

Conversely, water used for power generation purposes, while also appropriated for a beneficial use, is returned to its source. This distinction is key because, for one, as Congress has clarified, power generation (in general) is no longer considered a "public utility." Second, the use of energy harnessed from the movement of the water for power generation does not cause the water to be "effectively gone forever" since it merely goes back to its natural source. Therefore, the energy produced from the movement of water for power generation, although originating from a natural resource (water), does not fall under the nationality restrictions that apply to non-renewable resources.

Despite the difference in the consequence, these beneficial uses of water are nevertheless considered "appropriation" since the law provides for it.[492]

VII. Analyzing "All Forces of Potential Energy"

According to the DOJ, the term "all forces of potential energy" is used in a technical sense,[493] as these terms are used in basic physics. Indeed, within the realm of physics, potential energy and kinetic energy are two distinct concepts. However, Section 19 (A) of the IRR of the RE Act defines "potential energy" sources to include "kinetic energy from water, marine current and wind; and thermal energy from solar, ocean, geothermal[,] and biomass."[494]

This is erroneous since potential energy and kinetic energy are different. Potential energy refers to "stored energy that depends upon the relative position of various parts of a system."[495] An example of this is nuclear energy.[496] On the other hand, kinetic energy is a "form of energy that an object [...] has by reason of its motion."[497] This form of energy is relevant in the use of renewable energy resources for power generation. For example, strong wind puts the turbines in motion; solar energy uses photons that are in perpetual motion; and water flow, tides, and waves similarly put turbines in motion for power generation.[498] It is

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[492] WATER CODE, art. 10.

[493] DOJ Opinion No. 22, s. 2022, at 5.

[494] Rules and Regulations Implementing the Renewable Energy Act of 2008, rule 6, § 19 (A).

[495] Britannica, Potential Energy, *available at* https://www.britannica.com/science/potential-energy (last accessed Aug. 8, 2024).

[496] *Id.*

[497] Britannica, Kinetic Energy, *available at* https://www.britannica.com/science/kinetic-energy (last accessed Aug. 8, 2024).

[498] WTS Energy, What is Kinetic Energy?, *available at* https://www.wtsenergy.com/glossary/kinetic-energy (last accessed Aug. 8, 2024).

thus clear that renewable energies — i.e., solar, wind, hydro, and ocean energy — are forms of kinetic energy, which is distinct from potential energy.

Notably, the DOE, in the same Department Circular, heeded the advice of the DOJ to amend Section 19 (A) of the IRR of the RE Act. As a result, Section 19 (A) was deleted from the IRR.[499]

[499] DOE D.C. No. DC2022-11-0034, s. 2022, § 1. ("Section 1. Deletion of the text of Section 19 (A) of the RE Act IRR. The text of Section 19 (A) of DC No. DC2022-2009-05-0008 is hereby deleted and replaced with '[deleted]'.").

CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

I. Conclusions

A. Main Legal Issues

1. The Operation of Run-of-river Hydroelectric Power Plants and Ocean Energy Systems Constitutes Appropriation of Water

An examination of the mechanisms of run-of-river hydroelectric power plants and ocean energy systems reveals that they constitute appropriation of water, as the waters that flow through the turbines of these facilities come directly from the source, i.e., river and ocean. In contrast, as held in *IDEALS, Inc. vs. PSALM*, the mechanism of traditional or multipurpose hydroelectric power plants does not constitute appropriation of water since the water flowing through the turbines is considered "artificial." Such water is considered "artificial" as it comes from a man-made structure such as a dam or reservoir.[500]

2. The Water Code and the Current State Policies of Energy-Related Laws and Executive Issuances Should be Harmonized

It has been almost 50 years since the Water Code was enacted. During the 1970s, fossil fuels were the primary source of energy, and a devastating energy crisis affected the public for many years.[501] Nearly 50 years later, the global situation has changed, with the effects of climate change and the ever-increasing demand for electricity becoming significant concerns, especially in the country.[502] It has thus become imperative for the State to shift its policy towards promoting the development of sustainable energy sources by making the power generation sector more competitive and by bolstering the renewable energy industry. This is clearly demonstrated in the EPIRA through the privatization of the power generation sector,[503] the Amended Public Service Act by removing power generation from the scope of "public utilities," which are restricted to Filipino citizens and qualified Filipino corporations or associations,[504] and finally, the RE Act of 2008, its IRR, and DOE Department Circular No. DC2022-11-0034,

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[500] *IDEALS, Inc.*, 682 SCRA at 663.

[501] Asian Development Bank, *supra* note 431, at 13.

[502] *Id.*

[503] Electric Power Industry Reform Act of 2001, § 2.

[504] Republic Act No. 11659, § 4.

which relaxed foreign equity restrictions in the exploration, development, and utilization of RE resources.[505]

The DOE Department Circular No. DC2022-11-0034, in implementing the provisions of the RE Act of 2008 and other energy-related laws, is not contrary to the Water Code. However, there is a gap between them that needs to be bridged due to the shift in state policies. The DOE, being the lead agency tasked with implementing energy-related laws, carries more authority and expertise in executing State policies relevant to the power sector. The DOE's issuances are therefore more reflective of these policies. Thus, there is a need to harmonize the Water Code with energy-related laws and executive issuances by relaxing the foreign equity restrictions on securing a water permit for power generation purposes. Bridging this gap will provide consistency in the regulatory frameworks for energy and water resource development. This alignment will ensure that policies across both sectors are coherent and mutually supportive, thereby reducing potential conflicts and inefficiencies.

B. Auxiliary Legal Issues

1. "Natural Resources" under the 1987 Contemplates Those That are Exhaustible and Depletable

The term "natural resources" is treated differently in a legal context. In constitutional texts or statutes, "natural resources" may be distinguished as either non-renewable or renewable, or it may encompass both.[506] As established earlier, its definition varies by jurisdiction, reflecting the unique circumstances and policies of each state.[507] Under the 1987 Constitution, the term "natural resources" is left undefined, creating semantic ambiguity.

When semantic ambiguity exists in the wording of the Constitution, extrinsic aids are necessary to determine the framers' intent.[508] An examination of the 1987 Constitution's records reveals that the framers consistently described "natural resources" as "scarce," "limited," or "depleting."[509] For this reason, the framers decided to restrict the exploration, development, and utilization of these resources to Filipino citizens and 60% Filipino-owned corporations.[510] This aligns with the framers' intent to reserve these precious resources for Filipinos.

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[505] DOE Dept. Circ. No. DC2022-11-0034.

[506] Ruppel & Murray, *supra* note 474, at 260.

[507] *Id.*

[508] *Id.*

[509] 3 RECORD, PHIL. CONST., NO. 56, at 321, 259, & 369 & 10 RECORD, 1935 PHIL. CONST., NO. 134, at 325-26.

[510] 3 RECORD, PHIL. CONST., NO. 57, at 359.

Furthermore, renewable energy sources fall outside the scope of "all forces of potential energy" since they are a form of kinetic energy. In technical terms, "potential energy" is distinct from kinetic energy, as defined in basic Physics.[511]

Finally, applying the "living constitution" approach also supports the State's contemporary policies of protecting the environment and transitioning to more sustainable power generation methods, addressing current needs and boosting the economy.

The importance of defining "natural resources" lies in the clarity it brings to the regulatory framework of the energy sector. This delineation is crucial for the State, through its agencies, to create more effective policies, laws, and issuances that are consistent with the spirit of the Constitution. A more precise regulatory framework enables the efficient implementation of laws and issuances related to the energy sector and its underlying sectors (i.e., environment, IP rights, water resource). This ultimately advances the State's goal of achieving energy security, among others.

2. Distinction Must Be Made Between the *Corpus* of Water and the Energy Harnessed From Its Movement and Between the Uses of Water

Two distinctions must be made: *first*, between the *corpus* of water as a natural resource and the energy harnessed from its movement; and *second*, between the different uses of water.

On the first distinction, it is undeniable that the *corpus* of water itself is part of the natural resource. The resources on which EDU activities are performed are those that could subject the waters or their bounty to depletion, which is why a nationality restriction was deemed necessary to ensure that the national patrimony is preserved for Filipinos. On the other hand, it is established that the energy derived from the same waters does not lead to depletion, since the water itself is returned to its natural source, with only its movement being utilized without diverting the water. As such, it is contended that a distinction must be made between the *corpus* of the water and the energy derived from it.

On the second distinction, the uses of water have different consequences for the resource itself. For irrigation or domestic uses, for example, water is consumed and not returned to its source. Water is treated as a commodity, which is why drinking water and sanitation services are still considered public utilities. In contrast, water used for power generation only harnesses the energy from its

[511] Britannica, *supra* note 495.

movement, meaning the water itself is not consumed — it is returned to its source. Accordingly, power generation is no longer considered a public utility. Regardless of the differing consequences of water use (i.e., consumed or not consumed), domestic, irrigation, and power generation uses are still considered forms of appropriation because our laws itself provide it.

3. DOE Department Circular No. DC2022-11-0034 is Valid

From the foregoing, DOE Department Circular No. DC2022-11-0034, on allowing foreigners and foreign-owned corporations or associations, is valid and does not conflict with the 1987 Constitution and other existing laws such as the Water Code. One of the underlying principles of the Water Code itself evidently shows that the use and development of water resources should be responsive to the changing needs of the country. On the other hand, the 1987 Constitution's foreign restriction on the exploration, development, and utilization of natural resources does not apply to RE resources since the framers contemplated those natural resources which are susceptible to depletion. RE resources, being self-replenishing in nature, does not fall under such classification. The authority of the DOE to ease foreign equity restrictions in the renewable energy sector is stemmed from the RE Act of 2008's policy to accelerate the exploration, development and utilization of RE resources. It does not therefore constitute an undue delegation of legislative power.

The relaxation of foreign equity restrictions on the exploration, development, and utilization of renewable energy is thus permissible under the Constitution and existing laws. It is aligned with the State's policy of increasing the renewable energy share in the energy mix. This policy also aims to attract foreign investment to achieve energy security, improve the economy, and meet the State's international obligations under the Paris Agreement to reduce carbon emissions.

Opening investment opportunities in the renewable energy sector to foreigners brings positive effects without compromising other State policies, such as maintaining competitive markets in power generation,[512] prioritizing Filipino workers,[513] and preserving the environment.[514] Easing foreign equity restrictions is not a zero-sum game; the award of a Renewable Energy Service Contract (RESC) remains at the discretion of the DOE, provided that renewable energy developers comply with all legal requirements and regulations.

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[512] Electric Power Industry Reform Act of 2001, § 2.

[513] PHIL. CONST. art. XII, § 12.

[514] PHIL. CONST. art. II, § 16.

II. Recommendations

A. Foreigners Should be Allowed to Apply for the Issuance and/or Lease of a Water Permit

Given the global trend toward renewable energy and also to give effect the provisions of the RE Act and its IRR, the Water Code should be amended to allow foreigners to apply for or at least lease a water permit. This relaxation of foreign equity restrictions on the issuance of water permits should specifically apply to those used for power generation. This aligns with the recent state policy to open the power generation sector to foreign investment, as outlined in Republic Act No. 11659, or the Amended Public Service Act.[515] Under this law, the term "public utility," which is subject to a 40% foreign equity restriction, excludes the power generation sector.[516]

Additionally, it is timely to propose this amendment since the Senate version[517] of H.B. No. 9663, known as the "National Water Act," is currently under joint committee review as of May 2024.[518] It is recommended that the proposed amendment to the Water Code be incorporated into this Senate bill before it proceeds to a vote.

The proposed amendment will allow foreigners to apply for a water permit or lease for power generation purposes for a period of 25 years, renewable for an additional 25 years, and subject to other terms and conditions set by the NWRAB (formerly NRWB).[519] This term is based on the period specified under the Constitution for the exploration, development, and utilization of natural resources[520] and the term of RESCs as provided in DOE Department Circular No. DC2009-07-0011, s. 2009.[521] The proposed amendment, however, contains a *proviso* stating that the mechanism of the power generation facility does not involve: (1) the diversion of water that would significantly alter the natural course

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515 An Act Amending Commonwealth Act No. 146, Otherwise Known as the Public Service Act, As Amended, Republic Act No. 11659 (2022).

516 *Id.* § 4.

517 An Act Establishing the National Framework for Water Resource Management and Creating the Department of Water Resource Management and Creating the Department of Water Resource and the Water Regulatory Commission, Defining Their Mandates, Powers and Functions, Appropriating Funds Therefor and for Other Purposes, S.B. No. 2013, 19th Cong., 2d. Reg. Sess. (2023).

518 Senate of the Philippines, National Water Act Legislative History, *available at* https://legacy.senate.gov.ph/lis/bill_res.aspx?congress=19&q=SBN-2013 (last accessed Aug. 9, 2024).

519 Under S.B. No. 2013 and H.B. No. 9663, the NWRB will be reconstituted as the National Water Resources Allocation Board (NWRAB).

520 PHIL. CONST. art. XII, § 2.

521 DOE D.C. No. DC2009-07-0011, s. 2009, § 15.

and/or state of the body of water; and (2) the construction of dams and/or reservoirs. This is due to the unsustainability caused by such mechanisms which goes against the key tenets of renewable energy. Moreover, this proposed amendment is an adoption of France, Germany, and Spain's regulatory framework on renewable energy resources involving water resources which impose specific terms in their water concessions.[522] Ultimately, this measure will have the effect of harmonizing the law on water resource development, i.e., the Water Code, with energy-related laws and executive issuances, thereby creating a much clearer regulatory and legal framework that is reflective of the current state policies.

B. The Thirteenth Regular Foreign Investment Negative List Should Reflect the Provisions of the DOE Department Circular No. DC2022-11-0034

The Foreign Investments Act of 1991 mandates the updating of the Foreign Investment Negative List (FINL) every two years.[523] The FINL is a "list of areas of economic activity whose foreign ownership is limited to a maximum of forty percent (40%) of the equity capital of the enterprises engaged therein."[524] It consists of three components: List A (no foreign equity), List B (foreign equity is limited by the Constitution and law), and List C (industries where further foreign investments are not required).[525]

The most recent FINL, the 12th edition, was issued by Former President Rodrigo Duterte on 27 June 2022, through Executive Order No. 175.[526] To date, President Ferdinand Marcos Jr. has not issued the 13th FINL. Given the recent developments in the energy sector, there is a need to reflect the changes introduced by DOE Department Circular No. 2022-11-0034 in the forthcoming 13th FINL. This update will notify potential foreign investors about opportunities in renewable energy projects that require substantial capital investment.

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[522] GLACHANT, ET AL., *supra* note 394.

[523] An Act to Promote Foreign Investments, Prescribe the Procedures for Registering Enterprises Doing Business in the Philippines, and For Other Purposes [Foreign Investments Act of 1991], Republic Act No. 7042, § 8 (as amended).

[524] *Id.* § 3 (g) (as amended).

[525] *Id.* § 8 (as amended).

[526] Office of the President, Promulgating the Twelfth Regular Foreign Investment Negative List, Executive Order No. 175, Series of 2022 [E.O. No. 175, s. 2022], 118 O.G. 7677 (June 27, 2022).

ANNEX A: PROPOSED AMENDMENT TO THE WATER CODE

NINETEENTH CONGRESS OF THE OF THE)
REPUBLIC OF THE PHILIPPINES)
First Regular Session

SENATE

S.B. No. ___

Introduced by _____

AN ACT

ESTABLISHING THE NATIONAL FRAMEWORK FOR WATER RESOURCE MANAGEMENT AND CREATING THE DEPARTMENT OF WATER RESOURCES AND THE WATER REGULATORY COMMISSION, DEFINING THEIR MANDATES, POWERS AND FUNCTIONS, AND INTRODUCING AMENDMENTS TO P.D. NO. 1607 OTHERWISE KNOWN AS THE "WATER CODE OF THE PHILIPPINES", APPROPRIATING FUNDS THEREFOR AND FOR OTHER PURPOSES

Be it enacted by the Senate and House of Representatives of the Philippines in Congress Assembled:

x x x

CHAPTER IV-A

WATER PERMITS

SEC. __. ***Relaxation of Nationality Restrictions in the Application for Water Permits for Power Generation Purposes.*** – In line with the State's policy to promote the renewable energy sector, foreign individuals, foreign-owned partnerships, corporations, and associations may apply for the

issuance, assignment, transfer, and lease of water permits specifically for power generation purposes. These water permits shall be valid for a term of twenty-five (25) years, renewable for an additional twenty-five (25) years, and shall be subject to terms, conditions, restrictions, and limitations deemed appropriate by the Board. *Provided*, that the power generation facilities harnessing energy from the movement of water does not involve the water's diversion that would significantly alter the natural course and/or state of the same, nor require the construction of a dam and/or reservoir.[527]

x x x

CHAPTER X
FINAL PROVISIONS

SEC. 44. ***Implementing Rules and Regulations.*** – Within one hundred twenty (120) days after the effectivity of this Act, the Department or Commission, as may be applicable, as well as NEDA, DBM, DENR, DOE, the Civil Service Commission (CSC), and the National Commission on Indigenous Peoples (NCIP) in consultation with concerned government agencies shall:

(a) Promulgate the implementing rules and regulations of the Department and Commission; and

(b) Submit to the DBM the Department's budget for fiscal year following the promulgation of its implementing rules and regulations;

SEC. 45. ***Mandatory Review of the Implementation of this Act.*** – The Department and the Commission shall conduct a review of the implementation of this Act at the end of the fifth (5th) year from the date of its effectivity, and every three (3) years thereafter, and submit a report to Congress.

SEC. 46. ***Separability Clause.*** – If, for any reason, any portion or provision of this Act shall be held unconstitutional or invalid, the remaining provisions not affected thereby shall continue to be in full force and effect.

SEC. 47. ***Repealing Clause.*** –

(a) The following provisions are hereby repealed:

[527] This *proviso* will serve as a limitation and guidelines for operators of power generation facilities. The construction of dams and/or reservoirs would categorize the power generation facility as a "semi-renewable" energy source for being unsustainable to the environment.

x x x

(b) The following provisions are hereby amended accordingly:

x x x

(6) Articles 3 (d) and 15, and Chapters VII and VIII of Presidential Decree No. 1067 pertaining to the nationality restrictions on the application for water permits and enforcement of the Water Code.

x x x

All other laws, presidential decrees, executive orders, presidential proclamations, rules, and regulations, or parts thereof which are inconsistent with the provisions of this Act are hereby repealed or amended accordingly.

SEC. 48. ***Effectivity.*** – This Act shall take effect fifteen (15) days after its publication in the Official Gazette or in a newspaper of general circulation.

Approved.

ANNEX B: PROPOSED THIRTEENTH REGULAR FOREIGN INVESTMENT NEGATIVE LIST

MALACAÑAN PALACE

MANILA

BY THE PRESIDENT OF THE PHILIPPINES

EXECUTIVE ORDER NO. 175

PROMULGATING THE THIRTEENTH REGULAR FOREIGN INVESTMENT NEGATIVE LIST

WHEREAS, Republic Act (RA) No. 7042, also known as the "Foreign Investments Act of 1991," as amended, mandates the formulation of a Regular Foreign Investment Negative List covering investment areas or activities which are open to foreign investors and/or reserve to Filipino nationals; and

WHEREAS, there is a need to formulate the Thirteenth Regular Foreign Investment Negative List, replacing the Twelfth Regular Foreign Investment Negative List, to reflect changes to List A and List B, pursuant to existing laws, consistent with the policy to ease restrictions on foreign participation in certain investment areas or activities;

NOW, THEREFORE, I, FERDINAND R. MARCOS, JR., President of the Philippines, by virtue of the powers vested in me by the Constitution and existing laws, do hereby order:

Section 1. Thirteenth Regular Foreign Investment Negative List. Only the investment areas and/or activities listed in the attached Thirteenth Regular Foreign Investment Negative List shall be reserved for Philippine Nationals, subject to the exceptions and conditions indicated therein.

Section 2. Amendments. Amendments to List A may be made at any time to reflect changes instituted in specific laws, while amendments to List B shall not be made more than often than once every two (2) years, pursuant to Section 8 of RA No. 7042, as amended, and its revised Implementing Rules and Regulations.

Section 3. Repeal. All orders, rules and regulations, and issuances or parts thereof inconsistent with this Order are hereby repealed, amended or modified accordingly.

Section 4. Separability. If any provision of this Order is declared invalid or unconstitutional, the other provisions not affected thereby shall remain valid and subsisting.

Section 5. Effectivity. This Order shall take effect fifteen (15) days after its publication in a newspaper of general circulation.

DONE, in the City of Manila, this __ day of ____, in the year of Our Lord, Two Thousand and Twenty-Four.

By the President:

LUCAS P. BERSAMIN

Executive Secretary

THIRTEENTH REGULAR FOREIGN INVESTMENT NEGATIVE LIST

LIST A: FOREIGN OWNERSHIP IS LIMITED BY MANDATE OF THE CONSTITUTION AND SPECIFIC LAWS

x x x

Up to forty percent (40%) foreign equity

x x x

16. Exploration, development, and utilization of natural resources (Section 2, Article XII of the Constitution)[*] excluding renewable energy resources (DOE Department Circular No. DC2022-11-0034)[**]

x x x

[*] Full foreign participation is allowed through financial or technical assistance agreements entered into with the President (Section 2, Article XII of the Constitution)

[**] Foreign citizens and foreign-owned corporations are allowed to undertake exploration, development, production, and utilization of renewable energy resources with the State through RE Service or Operating Contracts.

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