



Solutions, policies to encourage investment of the private sector in industrial and urban water treatment in Vietnam

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I. INTRODUCTION

The private sector is an important driving force of the economy, contributing largely to the country's socio-economic development. In 2016, the domestic private sector accounted for 38.6% of GDP (in this proportion, officially registered enterprises accounted for 8.2%, the household business sector accounted for 30.43%). Meanwhile, the foreign private sector (FDI) contributes 18.95% to GDP [1]. With the important position and role of the private economy, the 12th National Congress of the Party has clearly grasped that the development of the private economy is "an important driving force of the economy"... In particular, the 5th Conference of the 12th Party Central Committee issued Resolution No. 10-NQ/TW dated June 3rd, 2017 on developing the private economy to become an important driving force of the socialist oriented market economy. The 13th Party Congress affirmed, strongly developing the private economic sector in terms of quantity, quality and efficiency. Private economic development is an important driver of the economy" [2]. This is a major policy of the Party, both to promote the further development of the private economy, while promoting the role of this economic sector in socio-economic development, strengthening national security in the new situation.

In the field of environmental protection, theory and practical experience show that it is not necessary for the State to be the direct provider of public services to consumers. The World Bank (WB) also affirmed that, in addition to directly providing public services, the State can coordinate with the private sector, the community or other partners to perform the task. In recent years, the Party and State have had many orientations and policies to promote the socialization of environmental protection work. For the field of waste water treatment, the Government has issued many documents, such as: Decree No. 80/2014/ND-CP dated August 6th, 2014 on water drainage and waste water treatment; Decree No. 15/2015/ND-CP dated February 14th, 2015 of the Government on investment in the form of public-private partnership, in which, stipulates for the field of investment in waste water collection and treatment systems. In Decree No. 08/2022/ND-CP dated January 10th, 2022 detailing a number of articles of the Law on Environmental Protection (LEP) in 2020 [3], stipulating policies to encourage environmental services in Article 144, whereby "Investment

projects in waste collection, recycling and treatment industries and sectors are eligible for incentives and support as prescribed in Article 141 of the LEP in 2020" and "Provincial-level People's Committees shall prepare, appraise, approve or submit to competent authorities for approval, organize the implementation of approved investment projects by the method of public-private partnership in concentrated domestic waste water collection and treatment, daily-life solid waste in accordance with the Law on Investment in the form of public-private partnership".

Up to now, the results of the implementation of the above policies have significantly improved the investment in the field of water drainage and waste water treatment. Currently, the whole country has about 242 industrial parks that have completed the construction of a centralized waste water treatment system (accounting for 48%), 191 industrial parks have installed automatic monitoring systems (78.9%) and the rest 51 industrial parks are still planning to install automatic monitoring equipment (accounting for 11.1%). In urban areas, most of them have a common drainage system for both surface water and waste water with different sizes, but there is a lack of collection systems and centralized waste water treatment stations [4]. According to a report from the Department of Technical Infrastructure (Ministry of Construction), currently, by the end of 2020, the whole country has about 63 waste water treatment plants concentrated in urban areas of grade IV and above which are put into operation. According to the plan, by 2021, there will be 50 more factories, but the rate of waste water collection and treatment is only about 20%. The policy of socializing the water industry has attracted many businesses and economic sectors to invest in the construction and operation of water supply and waste water treatment works. However, basically, only a small part can be handled, mainly the collection and preliminary treat-



ment activities compared to the needs of the industry, many services require high technology, environmental companies almost always has not been met. Up to now, the treatment capacity to provide environmental services has only met 2 - 3% of urban waste water treatment needs, 15% of solid waste treatment needs, about 14% of hazardous waste treatment needs; many fields such as recycling waste oil, scrap plastic, electrical and electronic waste have not been developed.

II. DIFFICULTIES AND LIMITATIONS IN PROMOTING THE PRIVATE INVESTMENT IN WASTE WATER TREATMENT IN VIETNAM

Recently, the number of enterprises in the waste water sector of the country has increased rapidly, specifically, from 132 enterprises in 2010 (of which non-state enterprises accounted for 97.7%) to 476 enterprises in 2020 (of which non-state enterprises accounted for 97.4%). However, this amount is still quite modest compared to the waste water treatment requirements in Vietnam. This is due to the following bottlenecks:

a. Difficulties and limitations in promoting the private sector to invest in industrial park waste water treatment

Firstly, legal regulations, especially the LEP in 2020, although basically consistent with the country's socio-economic development practice, but other relevant laws such as tax law, environmental fees on the principle that "polluters must pay the costs of environmental treatment, remedial, reclamation and restoration", "beneficiaries of environmental values must pay" have

not yet promoted their economic tools' role; lack of synchronization to create a legal corridor and a favorable environment to encourage the development of environmental services. Environmental protection and investment in environmental protection are not really considered attractive fields, especially waste water treatment services.

Secondly, the planning and implementation of industrial zones planning is not suitable, putting pressure on environmental protection in general and waste water treatment in particular. In particular, the orientation of industries to attract investment in industrial zones still lacks legal grounds for regulation, carries a kind of "begging and giving" mechanism and depends on the awareness of some localities and businesses, that is not meet the actual requirement. There are areas where a lot of industrial zones are concentrated, which are planned for industries in the List of 17 types that are at risk of causing environmental pollution, such as plating, textile dyeing... Up to now, Vietnam has not yet formed models of supporting industrial zones and providing services. Although Decree No. 82/2018/ND-CP does not stipulate, in fact, there has been a case of merging industrial zones, due to incomplete information when merging, which has led to difficulties in determining the scope of environmental protection work in the area.

Figure 1. Percentage of operating industrial zones with centralized waste water treatment plants meeting regulatory standards



▲ Source: Compiled from the National State of the Environment Report 2016 - 2020



Thirdly, reporting and updating information from industrial park investors, Industrial Park Management Boards and localities have not been carried out in accordance with the provisions of Circulars No. 35/2015/TT-BTNMT, Circular No. No. 19/2016/TT-BTNMT and Circular No. 29/2019/TT-BTNMT of the Ministry of Natural Resources and Environment (MONRE) which results in the assessment of environmental quality developments in industrial zones is not complete, accurate and objective. The report of the Ministry of Planning and Investment has not met the requirements of Circular No. 29/2019/TT-BTNMT, according to which, in several years, there is a lack of information and data in industrial zones and industrial zones with annual waste water treatment systems to the MONRE to review and unify reports to the Government and the National Assembly.

Fourthly, financial resources for investment in environmental protection in general and in environmental protection in industrial zones in particular are still limited. There is no regulation on the use of reserve capital from the central budget, prioritizing arrangements for programs and projects to protect the environment of industrial zones.

Fifthly, the work of disseminating legal policies, guiding enterprises, organizations and individuals to implement the legal provisions on environmental protection is still limited.

b. Difficulties and limitations in promoting private sector investment in urban waste water treatment

Firstly, the investment cost for urban waste water treatment is high because the urban drainage system built over many different periods is not complete and synchronous; The sewer lines are degraded, so the drainage capacity is low, the waste water is almost untreated and discharged directly into the receiving source, many urban areas are under construction, or there is no domestic or waste water treatment station. Preliminary treatment through septic tanks, then along sewer lines and direct discharge into the environment, the proportion of households connected to the urban drainage network in many places is still very low. Many sewer lines are not large enough for drainage; The concreting of canals and ditches also contributes significantly to limiting water drainage. Urban flooding occurs continuously in the Hồ Chí Minh City and Hà Nội when it rains heavily is the clearest evidence for the inadequacies in investment in urban waste water treatment infrastructure today.

Secondly, the incentive mechanism has not created a motivation for private enterprises to invest in the field of waste water treatment. Low cost recovery raises concerns for investments in sewerage and waste water infrastructure networks. This leads to a shortage of investment capital, private enterprises are not interested in these projects, water supply and drainage and waste water treatment are therefore still largely dependent on budget capital.

Thirdly, market conditions (transparency information, stability of policies, policies on partnership and cooperation mechanisms...) for investors to implement business effectively have not been completed. The world trend shows that it is necessary to convert and open some channels to call for private investment, equitize water supply companies, change policies towards socialization, on the principle that polluters must pay and have the effect of regulating behavior, not just to increase revenue.

III. SOME RECOMMENDATIONS ON ENCOURAGING INVESTMENT OF THE PRIVATE SECTOR IN INDUSTRIAL AND URBAN WATER TREATMENT IN VIETNAM

3.1. Continue to improve, supplement and amend regulations related to encouraging private investment in waste water treatment in industrial zones and urban areas

+ *Proposing to add the waste water treatment field to the List of industries and professions with special investment incentives and the List of industries with investment incentive.*

Currently, Decree No. 31/2021/ND-CP (issued on March 26th, 2021) details and guides the implementation of a number of articles of the Law on Investment. According to Appendix II, the List of industries with special investment incentives specified in Section A, Part III on environmental protection and infrastructure construction, including: concentrated waste collection, treatment, recycling and reuse; Building and trading infrastructure of industrial zones, export processing zones, high-tech zones, functional zones in economic zones; invest in the development of water plants, power plants, water supply and drainage systems; bridge, road, infrastructure, transport and railway industry; airports, sea-ports, inland waterway ports; airports, railway stations and other particularly important infrastructure works decided by the Prime Minister; develop public passenger transport in urban areas; invest in the construction, management and business of markets in rural areas; investment, development, operation and management of technical infrastructure works for industrial clusters.

Thus, waste water treatment activities in industrial zones and urban areas have not been included in the list of preferential industries in early 2022 in the field of environmental protection, therefore, it is proposed to add the field of waste water treatment to the list.



+ *Adjustments and supplements to the Law on Environmental Protection Tax in the field of waste water treatment, specifically:* Expand taxable objects to include environmental pollutants (not just goods as at present). This is also consistent with the new regulations in Clause 1, Article 136 of the LEP in 2020, that the environmental protection tax is applied not only to products and goods but also to environmental pollutants. The tax rate should be specified at the maximum or minimum level, the specific level will be based on the actual situation in the locality and the enterprise for regulation.

+ *Additional research on the Law on Water Resources, specifically:* (i) additional research on the provision of transferable emission quotas in the amended Law on Water Resources; (ii) have preferential and supportive policies for organizations and individuals investing in the development of technologies and products related to waste water treatment; (iii) Priority is given to encouraging the private sector to invest in the form of public-private partnership (PPP) in infrastructure development projects for waste water collection and treatment.

+ *Proposing to gradually adjust the environmental protection fee for waste water to suit reality,* in order to improve the responsibility of organizations and individuals for generated waste water. The survey results show that private enterprises evaluate environmental protection fees for waste water as an important management tool.

+ *Proposing to develop and issue guidelines on the process of selecting investors for waste water treatment projects under the public-private partnership (PPP) method to attract private investment.*

Previously, the implementation of PPP in the field of waste water treatment was not much, there were a number of projects implemented under the BT model (build - transfer) that did not meet the actual needs. The BTL model (build - transfer - lease service) is considered to be the most effective model among public - private partnership contracts in the field of waste water treatment and solid waste for the reason of cultural and educational works. Education and welfare include unprofitable waste water facilities, so total project costs are covered through local and Government rental fees instead of usage costs.

By 2020, the Law on Investment in the form of public-private partnership [5] stipulates: "PPP investment is an investment method made on the basis of limited-term cooperation between the State and private investors through the signing and implementation of public-private partnership project contracts in order to attract private investors to participate in public-private partnership projects". The field of environmental protection specified in Article 4 of this Law includes waste water treatment and waste treatment. However, after the Law on Public-private Partnership took effect, for many objective and subjective reasons, the public-private partnership approach in the field of waste water treatment and solid waste treatment has not been implemented much in Vietnam. Therefore, in order to create favorable con-

ditions for investors to apply clean and environmentally friendly technologies in waste water treatment, it is proposed to develop and issue guidelines for the selection process of waste water project investors and mechanisms, policies on credit, service fees, land... to attract private investment.

+ *Completing the planning of water drainage and waste water treatment in industrial zones and urban centers in accordance with the characteristics of each industrial zone and urban area and the zoning of waste discharge.* This is a necessary and prerequisite condition to help investors consider and propose investment projects and technology solutions for implementation. Water drainage and waste water treatment planning must be synchronous, specific and feasible. Information on planning and investment calling procedures should be public and transparent.

+ *Research and propose additional policy solutions to facilitate research, design, manufacture and import of various types of waste water treatment technologies suitable to Vietnam's conditions.*

+ *Continue to improve legal policies related to private investment incentives in the field of waste water treatment, including:*

Concretize regulations on environmental protection's incentives and support for waste water treatment and waste treatment activities in the legal documents under the Law, and at the same time, it is necessary to have specific instructions for investors, including private investors, be confident in making decision on investment.

Incentives and support for environmental protection (Article 141 - Decree No. 08/2021/ND-CP) stipulating that waste water treatment and waste treatment are investment and business activities in environmental protection that are entitled to incentives and support. These regulations need to be concretized in the documents under the Law, and at the same time, there should be specific instructions so that investors, including private investors, feel secure in making investment decisions. Localities need to soon promulgate implementation roadmaps and policies to support on-site collection and treatment of domestic waste water arising from organizations and households in non-concentrated residential areas in accordance with the LEP in 2020. Specifically:



Table 1. Summary of proposed amendments and supplements to encourage investment in industrial and urban waste water treatment

No.	Types of legal documents	Recommendation
1	The Law on Investment	Adding wastewater treatment to the list of preferential industries in early 2022 in the field of environmental protection
2	Regulation on environmental protection tax	- Expanding taxable objects to include environmental pollutants - The tax rate should be specified at the maximum or minimum level; the specific level will be based on the actual situation in the locality and enterprises to determine.
3	The LEP (2020)	- Specifically, detailing incentives and support for wastewater treatment (Article 141). - Service charges for waste water collection and treatment need to be studied and promulgated; - Concretize conditions to support private enterprises to access capital; - Supplementing regulations on access to green bonds issued by the Government and local authorities for infrastructure investment projects and waste water treatment equipment in urban areas and industrial zones (Article 150); - More specifically the principle that polluters must pay; economic tools (Chapter 11) (such as inspection, sanction, reward..);
4	Law on Public-Private Partnership	- Proposing the development and issuance of guidelines on the process of selecting investors for wastewater treatment projects and mechanisms and policies on credit, service fees, land... to attract private sectors to invest
5	Decree No. 08/2022/ND-CP	- Issuing environmental criteria and certification for wastewater treatment projects that are granted green credits and issuing green bonds (Article 154) - Proposing to include the waste water treatment sector as a priority field in the National Action Plan for the implementation of the circular economy (Article 139).
6	The Law on Water Resources	Additional regulations on transferable discharge quotas. Priority is given to encouraging the private sector to invest in the form of PPP in infrastructure development projects for wastewater collection and treatment.

Tax: Exemption and reduction of corporate revenue, exemption from import tax on equipment of waste water treatment works, exemption and reduction of VAT.

Regarding land: Land allocation, no land use fee collection for enterprises investing in construction of waste water treatment works.

Other incentives: Depending on the characteristics and conditions of each locality, specific policies can be introduced such as when investors invest in the construction of waste water treatment works of provinces and cities, they will be allocated another land area to invest in other fields that are likely to bring economic efficiency and faster return of capital, for example: construction of houses, offices, industrial parks, tourist and entertainment areas...

It is necessary to add waste water treatment as a specific industry and field that needs to be prioritized to develop a roadmap for implementation and guide the application of the circular economy model. Currently, circular economy has been included in the LEP in 2020 (Article 142) and detailed guidance in Decree No. 08/2022/ND-CP in Articles 138, 139 and 140. Waste water treatment activities are considered as a model which directly contribute to the implementation and application of the circular economy model in product production and waste treatment. In the coming time, MONRE is responsible for formulating the National Action Plan to implement

the circular economy, according to which it is necessary to define the tasks and roadmap for implementing the circular economy for sectors and fields, including identify priority sectors and fields for implementation in each period; develop a list of specific industries and fields that must have instructions for applying the circular economy. On that basis, it is proposed to add the waste water treatment field as a specific sector and field that should be prioritized to develop a roadmap for implementation and guide the application of the circular economy model.

+ *Proposing to supplement the list of types of wastewater treatment projects with classification criteria and thresholds in the green classification list.*

The MONRE is now prepared to submit to the Prime Minister for promulgating the Draft Decision to of regulations on environmental criteria and the certification of projects which are granted green credits and issuance of green bonds. Accordingly, projects or project's items that meet environmental criteria will be granted green credits and issued green bonds. Currently, the Draft "Green Classification List" has mentioned



Table 2. Proposed list of types of waste water investment projects eligible for green credit and green bond issuance

No.	Type of wastewater treatment project	Environmental protection benefits	Screening Criteria	Targets
1	Collecting wastewater in urban areas and concentrated residential areas	Effectively manage water resources and treat wastewater	1. Quality of collection 2. Infrastructure works, collection techniques	1. Meet the requirements on wastewater collection as prescribed by the LEP. 2. Satisfy the requirements for water drainage according to the national technical regulations on construction planning.
2	Treatment in urban areas and concentrated residential areas	Effective management of water resources and wastewater treatment	1. Quality of processing 2. Technology, processing techniques	1. Meet the requirements of wastewater treatment in accordance with the provisions of the LEP, meet the current Vietnamese technical regulations on wastewater. 2. Meet the requirements on technology and techniques for waste water treatment according to the LEP and construction.
3	Collection and treatment of medical waste water	Effective management of water resources and waste water treatment	1. Quality of collection and treatment 2. Technology, processing techniques	1. Meet the requirements on collection and treatment of medical waste water in accordance with the provisions of the LEP and related regulations and meet the current Vietnamese technical regulations on the quality of medical waste water treatment. 2. Meet the requirements on waste treatment technology and techniques according to the LEP and construction.
4	Collection and treatment of wastewater from production, business and service activities	Effective management of water resources and wastewater treatment	1. Quality of collection and treatment 2. Technology, processing techniques	1. Meet the requirements for collection and treatment of wastewater from production, business and service activities in accordance with the LEP and meet the current Vietnamese technical regulations on treatment quality. 2. Meet the requirements on waste treatment technology and techniques according to the LEP and construction.

waste treatment projects, including domestic waste water treatment, industrial waste water treatment, medical waste water treatment. It can be seen that the regulation on green credit and green bonds is necessary, timely and in line with international trends and practices, contributing to creating a legal corridor for the formation and development of the financial product market. In turn, the potential market will contribute to reorienting investment flows and implementing the policy of restructuring the economy towards a green economy and a circular economy.

On that basis, in line with the orientation of building a green classification list, it is proposed to supplement the list of types of waste water treatment projects with classification criteria and thresholds in the green classification list, thereby also promote the private sector to invest in waste water treatment in industrial zones and urban areas when accessing this green capital. In particular, relevant ministries such as the Ministry of Planning and Investment, the Ministry



of Finance, the MONRE and the State Bank of Vietnam need to create favorable conditions for commercial banks and investors of waste water treatment projects in urban areas, industrial parks access to green capital from international financial institutions.

3.2. Solutions to improve the efficiency of Law enforcement on wastewater treatment in industrial zones and urban areas

Enhancing the role of the Industrial Park Management Board in the management of industrial wastewater treatment. Accordingly, it is necessary to assign more authorities to the Industrial Park Management Board in managing the issue of environmental protection of the industrial park and in the treatment of industrial wastewater.

Develop guiding documents for the application of incentives, support and encouragement policies prescribed in the LEP. Organize propaganda and education to raise awareness of production and business establishments in the industrial parks about their rights and responsibilities for wastewater treatment. Emphasis on sanctions if production and business establishments violate regulations on waste water treatment in industrial zones. Forms of propaganda and education include: posting on the bulletin board of the industrial park, radio stations, websites, banners, slogans, etc.

Inspecting and examining the implementation of legal regulations on industrial park waste water treatment. This activity must be carried out on a regular basis, including inspection, pre-announcement and unscheduled inspection and audit.

Transparency of information, simplifying administrative procedures in project registration and bidding. It is necessary to thoroughly grasp the principles of publicity, transparency and objectivity; equality between state-owned enterprises and private enterprises in the process of investor selection in the spirit of the Investment Law 2020, the LEP in 2020, the Amendment of the Bidding Law 2022.

Supporting scientific research, application and technology transfer of waste water treatment in the country. Projects of scientific research, application and transfer of waste water treatment technologies in accordance with the conditions of Vietnam and the trend of the world. It also needs support policies such as those supported by the National Science and Technology Development Fund and the National Fund for Science and Technology Development. The local Science and Technology Development Fund provides funding and is supported with all or part of the costs of technology transfer, purchase of design rights, purchase of software, and human resource training from the Vietnam Environmental Protection Fund's capital and other funds.

Improving the quality of human resources for enterprises, including: Training staff for enterprises through local training sessions; Promote international cooperation in the field of human resource development, pri-

oritize cooperation in training students in environmental technology and engineering at advanced universities, colleges and vocational schools in the region and in the world; effectively attract and use highly qualified people and talented young people to cooperate in research and teaching of environmental goods in Vietnam.

Create favorable conditions for investment projects in the field of environmental protection, investment projects with environmental benefits and especially investment projects in the field of waste water treatment in industrial zones and urban areas, to access resources for environmental protection, green credit and green bonds.

Develop a separate project to clearly define the roadmap, assign responsibilities of Ministries, branches and localities in mobilizing the participation of the private sector in waste water treatment in general, industrial zones and urban areas in particular.

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References

1. Lê Duy Bình, *Vietnam Private Economy - Productivity and Prosperity. Mekong Region Private Sector Initiative (MBI)*, 2018.
2. *The 12th Party Central Committee, Resolution 10-NQ/TW dated 3/6/2017 of the 12th Party Central Committee on developing the private economy to become an important driving force of the economy. socialist-oriented market economy.* 2017.
3. *Decree No. 08/2022/ND-CP dated January 10th, 2022 of the Government detailing a number of articles of the LEP in 2020.*
4. *MONRE, Report on the State of the National Environment for the period 2016 - 2020.* 2021.
5. *Law No. 64/2020/QH14 dated June 18th, 2020 of the National Assembly promulgating the Law on Investment in the form of public-private partnership (2020).*