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PRINCIPLES OF CARBON TAX DESIGN AND APPLICATION: LESSONS FOR VIETNAM'S CARBON TAX LEGAL FRAMEWORK

PRINCIPIOS DEL IMPUESTO AL CARBONO: LECCIONES PARA EL MARCO LEGAL DEL IMPUESTO AL CARBONO DE VIETNAM

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Abstract:

This article focuses on analyzing the principles of carbon tax application, drawing lessons from a comparative review of international experiences in Japan, Sweden and the European Union (EU) to make recommendations for Vietnam's carbon tax legal framework. Carbon tax is considered a powerful financial tool to internalize environmental costs, encourage the transition to clean energy and reduce greenhouse gas emissions. The implementation of carbon tax in Vietnam is urgent to fulfill international commitments (reducing greenhouse gas emissions by 15.8% by 2030, Net Zero 2050 according to the 2015 Paris Agreement), reducing dependence on fossil fuels, coping with climate change, promoting green growth and global competitiveness, and ensuring social equity. The key principles to consider include: fairness and equity (ensuring that no harm is done to vulnerable groups), environmental

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efficiency (reducing emissions), and protecting economic and social rights (not impoverishing people, supporting sustainable transitions).

The article uses AI as GROK for correcting footnotes and references in the correct format.

Resumen:

Este artículo se centra en el análisis de los principios de la aplicación del impuesto al carbono, extrayendo lecciones de Japón, Suecia y la Unión Europea (UE) para formular recomendaciones para el marco legal del impuesto al carbono en Vietnam. El impuesto al carbono se considera una poderosa herramienta financiera para internalizar los costos ambientales, impulsar la transición hacia energías limpias y reducir las emisiones de gases de efecto invernadero. La implementación del impuesto al carbono en Vietnam es urgente para cumplir con los compromisos internacionales (reducir las emisiones de gases de efecto invernadero en un 15,8 % para 2030, alcanzar el objetivo de cero emisiones netas para 2050 según el Acuerdo de París de 2015), reducir la dependencia de los combustibles fósiles, afrontar el cambio climático, promover el crecimiento verde y la competitividad global, y garantizar la equidad social. Los principios clave a considerar incluyen: justicia y equidad (garantizar que no se perjudique a grupos vulnerables), eficiencia ambiental (reducir las emisiones) y protección de los derechos económicos y sociales (evitar el empobrecimiento de las personas y apoyar transiciones sostenibles).

El artículo utiliza IA como GROK para corregir notas a pie de página y referencias en el formato correcto.

Keywords: Carbon tax. Climate change. Greenhouse gas emissions. Renewable energy. Sustainable development. Fairness Principle. Efficiency Principle. Socio-Economic Rights Protection.

Palabras clave: Impuesto al carbono. Cambio climático. Emisiones de gases de efecto invernadero. Energías renovables. Desarrollo sostenible.

Index:

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Índice:

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ISSN: 1989-5666; NIPO: 152-24-001-9; DOI: https://doi.org/10.56398/ajacieda.00445

1. INTRODUCTION

Climate change is not only a natural phenomenon but also an important legal and economic issue of the 21st century. This reality raises questions about the appropriate policy tools that countries should develop to reduce greenhouse gas emissions and promote sustainable development. Carbon tax, which internalizes the environmental costs of carbon dioxide (CO2) emissions, is a powerful financial tool aimed at encouraging the transition to clean energy and reducing dependence on fossil fuels.[1] Vietnam, like many other countries, with its commitment to reduce greenhouse gas emissions by 15.8% by 2030 and achieve Net Zero by 2050 under the 2015 Paris Agreement, is also concerned about the need to establish a carbon tax legal framework that is appropriate to the socio-economic context of a developing country.[2] However, the implementation of a carbon tax faces many complex challenges including ensuring social equity, maintaining economic competitiveness and complying with international requirements such as the EU's Carbon Border Adjustment Mechanism (CBAM).[3]

The research objectives of this article are: i) to survey legal and economic regulations on principles of designing and realization of carbon tax; ii) to examine carbon tax from international experiences in Japan, Sweden, and the European Union (EU); and iii) to make recommendations on legal and economic principles in the establishment of carbon tax legal relationship to be suitable for Vietnam, achieving the needs of environmental efficiency and achieving a balance of socio-economic interests.

2. RESEARCH METHODOLOGY

This study uses a comparative analysis of carbon tax models in Japan, Sweden and the European Union (EU) for its representativeness and success in combining environmental efficiency with social justice.[4] In addition, the article also conducts research and analysis of legal documents, policies and reports

[1] Baranzini, A., J. Goldemberg, and S. Speck. "A Future for Carbon Taxes." *Ecological Economics* 32, no. 3 (2000): 395–412.
[2] Baranzini, A., J. Goldemberg, and S. Speck. "A Future for Carbon Taxes." *Ecological Economics* 32, no. 3 (2000): 395–412.
[3] Dyarto, R., and D. Setyawan. "Understanding the Political Challenges of Introducing a Carbon Tax in Indonesia." *International Journal of Environmental Science and Technology* 18, no. 6 (2021): 1479–88.
[4] Harrison, K. "The Comparative Politics of Carbon Taxation." *Annual Review of Law and Social Science* 6, no. 1 (2010): 507–29.

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related to carbon tax and the environment in Vietnam along with an assessment of the socio-economic and legal context [5] to determine the appropriate principles for the carbon tax legal framework in Vietnam. Additional sources from international documents include legal documents such as Japan's revised Oil and Gas and Coal Tax Law and documents related to the "Climate Change Mitigation Tax"[6], Sweden's Act 1990:582[7] and relevant EU Directives and Regulations on carbon markets and carbon border adjustments[8] used to clarify the framework laws of these countries/regions, as the basis for recommendations to build a tax legal framework with principles suitable for Vietnam.

3. THEORETICAL BASIS OF THE PRINCIPLES APPLIED IN CARBON TAX

3.1. CONCEPT OF CARBON TAX

As stipulated by the law, carbon tax is not just a revenue for the state budget, it is an innovative financial product originating from the state and aimed at the regulation of the market in a way that upholds sustainable environmental goals. In simple terms, Carbon Tax is directly imposed on the carbon content of fossil fuels or indirectly on the basis of the carbon content of any product[9]. Carbon tax is primarily implemented with the aim of internalizing the negative externalities of the damages of greenhouse gas emissions for producers and users of polluting fuel. This means that this tax will force the parties that produce such polluting waste to bear the costs of the environmental damage they cause, rather than offloading those expenses onto society[10].

In theories of ecological economics, a carbon tax is likely to be a regressive tax, which taxes the poor relatively more than the rich. In this perspective, the free market does not allocate resources efficiently[11] because of a negative externality

[5] Kadarukmi, E. R. "Carbon Tax and Its Effect on the Economy, Taxes and Environment." *Awang Long Law Review* 6, no. 1 (2023): 237–44.
[6] "Japanese Carbon Tax - LPDD - Model Laws for Deep Decarbonization."
[7] Government of Sweden. "Sweden's Carbon Tax." *Government.se.*
[8] European Commission. "Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 Establishing a Scheme for Greenhouse Gas Emission Allowance Trading within the Community." *EUR-Lex.*
[9] Baranzini, A., J. Goldemberg, and S. Speck. "A Future for Carbon Taxes." *Ecological Economics* 32, no. 3 (2000): 395–412
[10] Metcalf, G. E. "On the Economics of a Carbon Tax for the United States." *Brookings Papers on Economic Activity* 2019, no. 1 (2019): 405–58.
[11] Timilsina, G. R. "Carbon Taxes." *Journal of Economic Literature* 60, no. 4 (2022): 1456–1502.

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like pollution. A tax on carbon emissions, on the other hand, generates a transparent price signal that the price of producing and consuming (and transporting) higher carbon goods and services will rise. That motivates companies and consumers to transition to cleaner, more energy-efficient technologies as well as clean forms of energy, which contributes to lowering emissions all over[12]. From a legal perspective, the imposition of the carbon tax is a government intervention in the market for the use of a fiscal instrument to discharge its obligation to protect the environment and its obligation as a State to address climate change.

Emissions Trading System (ETS) focuses on capping total emissions and lets the market to decide the price of carbon through allowance allocations, while carbon tax places a price on each ton carbon for GHG emission.[13] The latter offers businesses more stability and certainty around the price of carbon, but may not be as adaptable in achieving a specific reduction level in emissions.[14] The revenue generated from CO2 taxes can help to finance green projects, reduce other taxes or be given back to citizens directly and thus support to address issues of social equity and the levels of public acceptance of the policy.[15]

Accordingly, the carbon tax lies at the convergence of financial law with environmental law and economics in the form of a tool for pricing an externality in order to meet the dual objectives of environmental protection and the development of an efficient and equitable low carbon transition.

3.2. LEGAL PRINCIPLES APPLICABLE TO CARBON TAX

The design and implementation of a carbon tax must comply with legal principles to ensure its effectiveness, fairness and conformity with human rights. These principles not only reflect international legal standards but also ensure the legitimacy and social acceptability of the policy in the legal-economic context of Vietnam. The principles include:

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[12] Feng, K., et al. "Impact of Carbon Tax on Renewable Energy Development and Environmental–Economic Synergies." *Energies* 17, no. 21 (2024): 5347.
[13] Parry, I. W. H., J. Norregaard, and D. Heine. "Environmental Tax Reform: Principles from Theory and Practice." *Annual Review of Resource Economics* 4, no. 1 (2012): 101–25.
[14] Kadarukmi, E. R. "Carbon Tax and Its Effect on the Economy, Taxes and Environment." *Awang Long Law Review* 6, no. 1 (2023): 237–44
[15] Steenkamp, L. "A Classification Framework for Carbon Tax Revenue Use." *Climate Policy* 21, no. 7 (2021): 897–910; Ramadhani, D. P., and Y. Koo. "Comparative Analysis of Carbon Border Tax Adjustment and Domestic Carbon Tax under General Equilibrium Model: Focusing on the Indonesian Economy." *Journal of Cleaner Production* 377 (2022): 134288.

ISSN: 1989-5666; NIPO: 152-24-001-9; DOI: https://doi.org/10.56398/ajacieda.00445

3.2.1. The principle of equity and fairness

The principle of fairness and equity calls for designing carbon taxes so that they don't disproportionately burden vulnerable populations, like low-income households, workers in heavy carbon industries or communities most effected by climate change. Legally, equity is not just a moral issue, it is a legal obligation in order to protect social and economic rights such as the rights to energy and an adequate standard of living under the International Covenant on Economic, Social and Cultural Rights (ICESCR)[16]. Our policy packages need distributive mechanisms to offset negative impacts and to make near-felicific both the distributional and allocational consequences of environmental costs. This is evident through the contents:

i) Tax refund measures or indirect financial incentives may be introduced. Nations must institute measures such as support systems to alleviate financial pressure on the affected populations. Regarding Japan, instead of directly refunding the money to citizens, the government has decided to retain an inadequately low initial carbon tax rate (which is about 289 yen / tCO2 in 2024, which the government says was to avoid a sudden shock to the economy while not overburdening citizens and businesses)[17]. This small tax is attributed to the potential impact to secure the access to energy and to reduce or eliminate the risk of falling into poverty caused by increasing cost of living, though its direct positive impact on supporting low-income consumers might not be as evident as in rebate direct schemes[18]. Japan's carbon tax revenue funds government incentives for energy efficiency and renewable energy[19], possibly creating indirect equity gains through future reductions in energy costs for households and through the emergence of new green industries.

ii) Measures to bolster social-economic change in affected sectors and areas. Workers who were employed in heavy carbon industries need vocational training and reorientation support in order to secure their right to work under Art.6 ICESCR.[20] For example, while Japan has not introduced specific career transition support program explicitly connected to the carbon tax - as some other countries have, the reallocation of a portion of tax revenue to assist SMEs in installing energy-saving equipment, enabling them to adopt green

[16] United Nations. *International Covenant on Economic, Social and Cultural Rights*. 1966.
[17] Lewis, Jangira. "Assessing Japan's Carbon Tax." *Earth.Org*, February 24, 2022.
[18] Metcalf, G. E. "On the Economics of a Carbon Tax for the United States." *Brookings Papers on Economic Activity* 2019, no. 1 (2019): 405–58
[19] RECCPEDIA - Reccessary. "Carbon Tax in Japan."
[20] United Nations. *International Covenant on Economic, Social and Cultural Rights*. 1966; Pye, S., S. Bradley, N. Hughes, et al. "An Equitable Redistribution of Unburnable Carbon." *Nature Communications* 11, no. 1 (2020): 3968.

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technologies more readily, represents an approach to support these industries in implementing changes without incurring job losses, thereby reducing social risks as the economy transitions toward a lower-carbon model.[21] Japan's future policies within the GX Promotion Act will also focus on creating an enabling environment for the green transition that brings new economic opportunities and to minimize social disruptions from the transition.[22]

3.2.2. Principle of environmental efficiency and the right to a healthy environment

The principle of environmental efficiency insists that a carbon tax must succeed in reducing greenhouse gas emissions, as part of the commitment to safeguard the right to a healthy environment, a universal human right enshrined in the United Nation's Human Rights Council Resolution 48/13. [23] Legally, environmental efficiency not only fulfils international obligations, for example under the 2015 Paris Accord, but also reduces the long-term social costs generated by the damaging impacts of climate change — flooding and salinity intrusion in the Mekong Delta being the two most reported. [24] The design of carbon tax must be considered between the tax rate high enough to trigger energy shift and the economic feasibility of a developing country such as Vietnam. This is reflected in the following contents:

i) A reasonable tax level. Reasonable tax rate can be defined as the rate that is sufficiently high to make the household energy use performance change but does not excessively burden the economy. Following the path of countries like Indonesia, Vietnam could start by implementing a tax rate of 5-10 USD/ton CO2 and gradually increase towards the Emission Reduction Commitment 15.8% reduction over 2030.[25] This tax rate must be tailored to take into consideration economic and environmental evaluation, and compatibility with Vietnam's 45% reliance on coal for power generation.[26]

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[21] "Japanese Carbon Tax - LPDD - Model Laws for Deep Decarbonization."
[22] Mitsubishi Research Institute, Inc. "Japanese Carbon Price Forecast Based on the GX Promotion Act." *Research Articles*.
[23] United Nations. "Resolution 48/13: The Human Right to a Clean, Healthy and Sustainable Environment." 2021.
[24] Metcalf, G. E. "On the Economics of a Carbon Tax for the United States." *Brookings Papers on Economic Activity* 2019, no. 1 (2019): 405–58
[25] Ramadhani, D. P., and Y. Koo. "Comparative Analysis of Carbon Border Tax Adjustment and Domestic Carbon Tax under General Equilibrium Model: Focusing on the Indonesian Economy." *Journal of Cleaner Production* 377 (2022): 134288
[26] Dyarto, R., and D. Setyawan. "Understanding the Political Challenges of Introducing a Carbon Tax in Indonesia." *International Journal of Environmental Science and Technology* 18, no. 6 (2021): 1479–88.

ISSN: 1989-5666; NIPO: 152-24-001-9; DOI: https://doi.org/10.56398/ajacieda.00445

ii) Support green technology. It is important that the revenue from the carbon tax is used for renewable energy projects such as offshore wind projects in Binh Thuan or solar power projects in Ninh Thuan to stimulate the green transition and provide sustainable jobs, using the EU model. [27] The EU for instance has used €10 billion of ETS revenue spent on renewable energy during 2005-2020 which has contributed to the clean energy share rising to a current 22%.[28]

iii) Protect the human right to a clean, healthy environment. It protects the right to a healthy environment established in international law and the shield right [a right of protection] incomparable to the consequences of climate change. Put revenue from carbon taxation to renewable energy and climate adaptation projects - like flood defenses - helps to protect this right, while also supporting Viet Nam's Net Zero 2050 target.[29]

3.2.3. Principle of protection of economic and social rights

The principle of the protection of the economic and social rights entails that carbon taxes should not further impoverish or deny the impoverished from having access to fundamentals such as energy, food or health according to Article 11 of the ICESCR. [30] From a legal standpoint, respecting these rights leads not only to equity but also to greater social acceptability of the policy, particularly in Viet Nam where 4.2 % of the population live under government's national poverty line.[31] Carbon tax revenue disbursement mechanisms need to be architected to serve social welfare and a just transition.

i) Compensation policies. Carbon tax revenues should go to fund energy, food or health care vouchers for low-income homes. Sweden's experiment demonstrates that the vast majority (around 70%) of carbon tax revenues are used by the state in order to assist low-income households and social spending. [32] Therefore, to apply this principle, Vietnam would also need to earmark a portion of carbon tax revenues to finance subsidized energy sources for low-

[27] Feng, K., et al. "Impact of Carbon Tax on Renewable Energy Development and Environmental–Economic Synergies." *Energies* 17, no. 21 (2024): 5347
[28] Metcalf, G. E., and J. H. Stock. "The Macroeconomic Impact of Europe's Carbon Taxes." *American Economic Journal: Macroeconomics* 15, no. 3 (2023): 265–86.
[29] Timilsina, G. R. "Carbon Taxes." *Journal of Economic Literature* 60, no. 4 (2022): 1456–1502.
[30] United Nations. *International Covenant on Economic, Social and Cultural Rights*. 1966.
[31] General Statistics Office of Vietnam. *Statistical Yearbook of Vietnam 2022*. Hanoi: Statistics Publishing House, 2023.
[32] Dissou, Y., and M. S. Siddiqui. "Can Carbon Taxes Be Progressive?" *Energy Economics* 42 (2014): 88–100.

ISSN: 1989-5666; NIPO: 152-24-001-9; DOI: https://doi.org/10.56398/ajacieda.00445

income households in the Mekong Delta, that suffer most from the consequences of climate change. [33]

ii) Support actions required for migration to sustainable operational models. Encourage heavy carbon usage and emission industries such as coal power and cement to transform through preferential lending and green technology investment. This can be learned from the experience of the Just Transition Fund in the EU. [34]

iii) *Ensure economic rights of the people*. This principle is designed to safeguard individuals' right to an adequate standard of living and the right to work and access to services, and will prevent the carbon tax from exacerbating inequality. Remuneration rates and the levels of welfare support and occupational mobility must be established for administrative purposes explicitly to guarantee transparency and efficiency.[35]

4. INTERNATIONAL EXPERIENCE IN TRANSLATING PRINCIPLES INTO REGULATIONS IN CARBON TAXES

4.1. APPLICATION OF PRINCIPLES IN JAPAN'S CARBON TAX REGULATIONS

As one of the major developed countries focusing on carbon neutrality, Japan has been one of the early implementers of carbon pricing instruments—a crucial component for achieving climate targets. Through examining the Japanese experience from economic legal principles, it will be illustrative for foreign jurisdictions to plan effective legal frameworks for carbon tax.

4.1.1. Carbon Tax Regulations in Japan

Japan has adopted the "Tax for Climate Mitigation" since October 2012, and become the first example of the implementation of a national carbon tax in Asia.[36] It is designed as a tax surcharge on current taxes on fossil fuels (oil, natural gas and coal) upstream (fuel imports) in order to minimize administrative costs and broaden the tax base.[37] Beside the carbon tax, there are

[33] Malerba, D., A. Gaentzsch, and H. Ward. "Mitigating Poverty: The Patterns of Multiple Carbon Tax and Recycling Regimes for Peru." *Energy Policy* 149 (2021): 111961.
[34] European Commission. "Regulation (EU) 2021/1056 of the European Parliament and of the Council of 24 June 2021 Establishing the Just Transition Fund." *EUR-Lex*.
[35] Malerba, D., A. Gaentzsch, and H. Ward. "Mitigating Poverty: The Patterns of Multiple Carbon Tax and Recycling Regimes for Peru." *Energy Policy* 149 (2021): 111961.
[36] RECCPEDIA - Reccessary. "Carbon Tax in Japan."
[37] "Japanese Carbon Tax - LPDD - Model Laws for Deep Decarbonization."

ISSN: 1989-5666; NIPO: 152-24-001-9; DOI: https://doi.org/10.56398/ajacieda.00445

also local emissions trading systems (ETS), specifically, the Carbon Emissions Program of Tokyo Metropolitan Government (since 2010) and Saitama Prefecture (since 2011), as a way to respond to the national climate policy.[38] Against this backdrop, as the country moves towards carbon neutrality by 2050, Japan is currently working to establish new legal frameworks, such as the GX Promotion Act and the GX Decarbonized Power Act, with the plan to reshape carbon pricing systems starting in the fiscal year 2026.[39]

4.1.2. Applying the above principles in Japan's carbon tax regulations

The design and operation of Japan's carbon tax has struck a balance between economic and legal principles also in this respect, although sometimes suboptimal efficiency was not avoided:

i) Applying the principle of equity and efficiency fair. To prevent adversely affecting the economy and to avoid placing an excessive burden on the public and businesses[40], Japan keeps its initial carbon tax rate low (circa 289 yen/tCO2 in 2024). By taxing at the source, the same carbon price applies across all industries that use fossil fuels. Yet, this low level of taxation will give rise to concerns on the issue of burden sharing that may not be fair if there are no such compensation or redistribution mechanism, especially for low-income households[41]. Although carbon tax revenues are used to support energy efficiency projects and promote renewable energy, these are indirect measures aimed at promoting equity rather than direct mechanisms to mitigate the regressive impact of taxes on disadvantaged groups.

ii) *Environmental efficiency principle and right to a healthy environment*. The principal objective of the carbon tax is to give a price signal to reduce greenhouse gas emissions, which can be argued to help to protect the right to a healthy environment[42]. Japan has allocated revenues from carbon taxes to fund incentives to energy efficiency and renewable energy developments that go directly to enhancement of environmental quality and to decrease reliance on

[38] Nagashima Ohno & Tsunematsu. "Carbon Pricing in Japan – How Is It Situated in International Border Carbon Adjustment Measures?" *Publications*.
[39] Mitsubishi Research Institute, Inc. "Japanese Carbon Price Forecast Based on the GX Promotion Act." *Research Articles*.
[40] Lewis, Jangira. "Assessing Japan's Carbon Tax." *Earth.Org*, February 24, 2022
[41] Metcalf, G. E. "On the Economics of a Carbon Tax for the United States." *Brookings Papers on Economic Activity* 2019, no. 1 (2019): 405–58
[42] Feng, K., et al. "Impact of Carbon Tax on Renewable Energy Development and Environmental–Economic Synergies." *Energies* 17, no. 21 (2024): 5347

ISSN: 1989-5666; NIPO: 152-24-001-9; DOI: https://doi.org/10.56398/ajacieda.00445

fossil fuel[43]. Nevertheless, Japan carbon tax's environmental effectiveness is usually considered as limited, due to the fact that the tax base is too low to induce a fundamental change in the emissions behavior of economic agents[44]. This indicates that the concept of environmental efficiency has been accepted, but its application is not yet on the stage of promoting the green transition intensively.

iii) Principle of economic and social rights protection. Japan's carbon tax policy has tried to be sensitive to public concern about the social and economic effects. The moderate initial tax rate serves both to maintain industrial competitiveness and to prevent economic shocks that could lead to fluctuations in employment and income. Taxes are also redistributed in the support of small and medium-sized companies with the energy transition as a protection of the economic rights of those vulnerable sectors that have to face increasing carbon prices. But an absence of direct forms of compensation or clear beneficiaries in terms of households or industries could ultimately compromise the protection of socio-economic rights, particularly given Japan's intention to enhance the role of market-based instruments for pricing carbon over time.

4.1.3. Effectiveness of the provisions applying the above three principles

The effectiveness of applying these principles in Japan's carbon tax legal framework is "two-sided". In terms of environmental effectiveness, the low tax rate has significantly limited the ability to create strong behavioral change, causing the rate of emission reduction from the carbon tax to fall short of expectations[45]. This suggests that the balance between environmental objectives and concerns about initial economic impacts has tilted towards the latter, reducing the effectiveness of the carbon price signal.

In terms of equity and fairness, imposing taxes upstream and reusing the revenues to support green technology has represented an indirect approach to ensuring equity. However, the lack of direct offsetting mechanisms may result in a disproportionate burden on low-income households or energy-intensive industries, although the current low tax rate does not make this issue urgent.[46]

[43] RECCPEDIA - Reccessary. "Carbon Tax in Japan."
[44] Lewis, Jangira. "Assessing Japan's Carbon Tax." *Earth.Org*, February 24, 2022
[45] Ishikawa, Junko. "Equilibrium Carbon Price for Future Carbon Price in Japan." *Nomura Research Institute, Ltd.*, 2024.
[46] Fremstad, A., and M. Paul. "The Impact of a Carbon Tax on Inequality." *Ecological Economics* 163 (2019): 88–97.

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In terms of protecting socio-economic rights, current policy has prioritized economic stability and competitiveness, reflected in modest taxation. This has helped avoid major economic and social shocks, but could also be seen as delaying the necessary energy transition, creating risks for industries if there is no timely alignment with international carbon pricing mechanisms (such as the EU's CBAM).[47] Japan's upcoming legislative changes, notably through the GX Promotion Act, show that the country is recognizing the need to strengthen its carbon pricing mechanism to achieve its long-term climate goals, while still finding a delicate balance between efficiency, equity and competitiveness.

4.2. APPLICATION OF PRINCIPLES IN SWEDEN'S CARBON TAX REGULATIONS

4.2.1. Carbon Tax Regulations in Sweden

The Swedish carbon tax is regulated by the Carbon Tax Act (1990:582), passed in 1990 and most recently amended in 2013. The Swedish carbon tax is perhaps the oldest and most successful type of carbon taxes.[48] This imposes a levy on coal, oil, natural gas, gasoline, and domestic aviation fuel of $129.89 per ton of CO2 (2023), the highest carbon price in the world. The key provisions of Act 1990:582 on Carbon Tax include: the exemption of exports from taxation (Sections 6–8); the allocation of revenues to reducing income tax and financing renewable energy (Section 10); a requirement for transparent monitoring (Section 12); and a mandate for public stakeholder consultation, including with the Sami people (Section 15).[49]

4.2.2. Applying the above principles in Sweden's carbon tax regulations

i) Applying the principle of fairness and equality. Articles 6-8 of the Carbon Tax Act (1990:582) establish a 50-80% carbon tax discount for export industries (such as steel, cement, chemicals) in order to keep international competitiveness (Act 1990:582), while Article 10 declares that part of the carbon tax receipts (2.5 billion USD/year) is to be used for energy subsidies (500-1,000 SEK/household/year) to households with low incomes.[50] These have helped

[47] Ramadhani, D. P., and Y. Koo. "Comparative Analysis of Carbon Border Tax Adjustment and Domestic Carbon Tax under General Equilibrium Model: Focusing on the Indonesian Economy." *Journal of Cleaner Production* 377 (2022): 134288
[48] Government of Sweden. "Sweden's Carbon Tax." *Government.se.*
[49] Andersson, J. J. "Carbon Taxes and CO2 Emissions: Sweden as a Case Study." *American Economic Journal: Economic Policy* 11, no. 4 (2019): 1–30.
[50] Andersson, J. J. "Carbon Taxes and CO2 Emissions: Sweden as a Case Study." *American Economic Journal: Economic Policy* 11, no. 4 (2019): 1–30

ISSN: 1989-5666; NIPO: 152-24-001-9; DOI: https://doi.org/10.56398/ajacieda.00445

the Swedish steel industry hold on to a 10% share of the EU export market, whilst energy subsidies which support in excess of 500,000 low-income households (2020) have served to mitigate the risk of earning inequality, reducing it by 3%.[51] It is this principle of fairness that the previous paragraphs have reflected by safeguarding the rights of industrial worker to work and the rights of the low-income household to access to energy under ICESCR, Articles 6 and 11.[52] This suggests that, if applied effectively, the exemption/subsidy system can become an efficient target for redistribution, which reduces the regressive effect of the carbon tax.[53]

ii) Applying the principle of environmental efficiency and the right to a healthy environment. Section 1-3 Act 1990:582 on Carbon Tax set a high tax rate ($ 129.89/tCO2) as a means to stimulate the energy transition with an aim of reducing CO2 emissions by 25% between 1990 and 2020. Article 10 also provides that the revenue of the carbon tax shall be directed to the investment in wind and solar projects.[54] As a result of these provision and the application thereof, the CO2 emissions of Sweden have decreased by 25%, the ratio of renewable energy sources is 56% (in 2020) and on top of that 1 billion USD of the tax income has been invested into clean energy.[55] This suggests that while the carbon tax rate is quite high, its revenue has been reasonably used in renewable energy to protect the right to live in a healthy environment under Resolution 48/13.[56] These provisions indicate that the carbon tax can lead to substantial environmental efficiency provided that there is investment in green technology and they are also consistent with Sweden's international obligations.[57]

iii) On the use of the principle of protection of economic and social rights. If the free-market model is considered from a viable modification of the welfare perspective, then Art 10 of Act 1990:582 grants for a 70 % share of the carbon tax to relieve the fall-off in revenue from the reduction in personal income tax reduced from 32 % to 29 % for annual earnings less than SEK 30,000 and to underpin welfare entitlement in terms of, for example, health and education provision, depending

[51] Andersson, J. J. "Carbon Taxes and CO2 Emissions: Sweden as a Case Study." *American Economic Journal: Economic Policy* 11, no. 4 (2019): 1–30.
[52] United Nations. *International Covenant on Economic, Social and Cultural Rights*. 1966.
[53] Dissou, Y., and M. S. Siddiqui. "Can Carbon Taxes Be Progressive?" *Energy Economics* 42 (2014): 88–100.
[54] Andersson, J. J. "Carbon Taxes and CO2 Emissions: Sweden as a Case Study." *American Economic Journal: Economic Policy* 11, no. 4 (2019): 1–30
[55] Feng, K., et al. "Impact of Carbon Tax on Renewable Energy Development and Environmental–Economic Synergies." *Energies* 17, no. 21 (2024): 5347
[56] United Nations. "Resolution 48/13: The Human Right to a Clean, Healthy and Sustainable Environment." 2021
[57] Timilsina, G. R. "Carbon Taxes." *Journal of Economic Literature* 60, no. 4 (2022): 1456–1502.

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on the funds that have become available (EC (ed) (1998))[58]. This raised the disposable incomes of 2 million people and provided health benefits to 300,000 households (as of 2020), thereby reducing the risk of poverty associated with higher energy prices. [59]. The above provisions demonstrate that allocating tax revenue to welfare benefits protecting the right to minimum standard of living under Article 11 of the ICESCR is justifiable and also enhances social acceptability of the carbon tax (higher than 80% of public acceptance, 2020).[60] This can be regarded as one of the instances where a balance of interests has been reflected between environmental goals and protection of economic and social rights.

4.3. APPLICATION OF THE PRINCIPLES IN CARBON TAX SYSTEM AND ETS REGULATION IN THE EU

4.3.1. The EU's carbon tax system and Emissions Trading System

The EU's carbon tax system and Emissions Trading System (EU ETS) are regulated by several key legal documents: Directive 2003/87/EC (2003, amended 2023) establishes the EU ETS, applicable to major industries (electricity, cement, steel, intra-bloc aviation) with a market carbon price of 70-100 euros/tCO2 (2023); Regulation (EU) 2021/1119 (2021) sets a target of 55% reduction by 2030 and Net Zero by 2050; Regulation (EU) 2023/955 (CBAM) will responsibly impose a carbon tax on imports from countries without robust carbon policies, beginning in 2026; Regulation (EU) 2021/1056 establishing the Just Transition Fund (€17.5 billion, 2021-2027) to facilitate career transitions.[61]

[58] Dissou, Y., and M. S. Siddiqui. "Can Carbon Taxes Be Progressive?" *Energy Economics* 42 (2014): 88–100

[59] Malerba, D., A. Gaentzsch, and H. Ward. "Mitigating Poverty: The Patterns of Multiple Carbon Tax and Recycling Regimes for Peru." *Energy Policy* 149 (2021): 111961.

[60] Lindvall, D., et al. "The Role of Fairness for Accepting Stricter Carbon Taxes in Sweden." *Climate* 12, no. 11 (2024): 170.

[61] European Commission. "Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 Establishing a Scheme for Greenhouse Gas Emission Allowance Trading within the Community." *EUR-Lex*.; European Commission. "Regulation (EU) 2021/1056 of the European Parliament and of the Council of 24 June 2021 Establishing the Just Transition Fund." *EUR-Lex*; European Commission. "Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 Establishing the Framework for Achieving Climate Neutrality." *EUR-Lex*; European Commission. "Regulation (EU) 2023/955 of the European Parliament and of the Council of 10 May 2023 Establishing a Carbon Border Adjustment Mechanism." *EUR-Lex*.

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4.3.2. Applying the above principles in EU's carbon tax regulations

i) Applying the principle of fairness and equality. Regulation (EU) 2021/1056 stipulated that €17.5 billion would be assigned to the Just Transition Fund for vocational training and re-skilling of workers working in the polluting coal industry in Poland and Romania.[62] Moreover, as part of this framework, entry taxes will be imposed under Regulation (EU) 2023/955 on the Carbon Border Adjustment Mechanism (CBAM), with the aim of protecting domestic industry and ensuring fair competition.[63] Under the application of the Regulations, the Just Transition Fund is used to assist 100,000 workers in Poland in transitioning to renewable energy in order to reduce climate risks and CBAM can potentially help the EU cut by up to 15% the risk of carbon leakage arising from the sectors such as steel and cement.[64] These laws serve to protect the right to work and to ensure fair competition, consistent with international trade law (WTO) and article 6 of the ICESCR.[65] The Just Transition Fund is also an active redistributive lever that the EU employs to mitigate the unfair effects of the transition.[66]

ii) Regarding the application of the principle of environmental efficiency and the right to a healthy environment. Whereas Directive 2003/87/EC and Regulation (EU) 2021/1119 establish ETS caps that deliver a 35% reduction in ETS sector emissions (2005-2020), and 55% (2005-2030) with available resources funding renewable energy[67]. The implementation of these regulations has resulted in a 35% reduction in EU emissions in ETS sectors (2005-2020), a 22% share of renewable energy with €10 billion invested in wind and solar power.[68] Clearly, the ETS and the CBAM, when operational, have been operating in a manner consistent with the protection of people's right to a healthy environment under

[62] European Commission. "Regulation (EU) 2021/1056 of the European Parliament and of the Council of 24 June 2021 Establishing the Just Transition Fund." *EUR-Lex*
[63] European Commission. "Regulation (EU) 2023/955 of the European Parliament and of the Council of 10 May 2023 Establishing a Carbon Border Adjustment Mechanism." *EUR-Lex.*
[64] Pye, S., S. Bradley, N. Hughes, et al. "An Equitable Redistribution of Unburnable Carbon." *Nature Communications* 11, no. 1 (2020): 3968
[65] United Nations. *International Covenant on Economic, Social and Cultural Rights*. 1966.
[66] McKibbin, W. J., et al. "The Role of Border Carbon Adjustments in a U.S. Carbon Tax." *Climate Change Economics* 9, no. 1 (2018): 1840011.
[67] European Commission. "Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 Establishing a Scheme for Greenhouse Gas Emission Allowance Trading within the Community." *EUR-Lex.*
[68] Metcalf, G. E., and J. H. Stock. "The Macroeconomic Impact of Europe's Carbon Taxes." *American Economic Journal: Macroeconomics* 15, no. 3 (2023): 265–86.

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Resolution 48/13 [69] while supporting the Net Zero 2050 target. These rules provide a successful mix of market driving mechanism (ETS) and green-technology investment to obtain environmentally friendly operation.[70]

iii) Applying the principle of protection of economic and social rights. According to Regulation (EU) 2021/1056 ETS revenues can be used to assist social and labor market transitions, including health and education support, in coal regions.[71] In Romania, an energy discount to decrease the poverty risk index is provided to 50,000 households from the Just Transition Fund.[72] The use of the above revenues for welfare and occupational transitions aims to contribute to the protection of people's right to an adequate standard of living and the right to work under Article 11 of the ICESCR [73]. This mechanism represents a balance between environmental objectives and the protection of economic and social rights, enhancing social acceptability.[74]

4.4. THE NEED TO ISSUE A CARBON TAX IN VIETNAM

Imposing carbon tax in Vietnam is an urgent need to implement commitments to the international community, tackle issues arising in economic and environment, and develop sustainably in a country with lower-middle income. Carbon Tax is a means not only to internalize the social and environmental costs of GHG but also to redistribute resources, improve social equity, and promote international competitiveness.

First, international obligations and legal commitments. Vietnam has pledged to cut its greenhouse gas emissions by 15.8% by 2030 as well as a path to Net Zero by 2050 as per the 2015 Paris Agreement, now enshrined in the nation's 2020 Law on Environmental Protection.[75] A carbon tax is an effective economic instrument to give effect to these commitments, compliant with international law in the field of climate change, as well as escape trade sanctions such as [EU]'s Carbon Border Adjustment Mechanism (CBAM) proposed to be

[69] United Nations. "Resolution 48/13: The Human Right to a Clean, Healthy and Sustainable Environment." 2021
[70] Timilsina, G. R. "Carbon Taxes." *Journal of Economic Literature* 60, no. 4 (2022): 1456–1502.
[71] European Commission. "Regulation (EU) 2021/1056 of the European Parliament and of the Council of 24 June 2021 Establishing the Just Transition Fund." *EUR-Lex*.
[72] Malerba, D., A. Gaentzsch, and H. Ward. "Mitigating Poverty: The Patterns of Multiple Carbon Tax and Recycling Regimes for Peru." *Energy Policy* 149 (2021): 111961
[73] United Nations. *International Covenant on Economic, Social and Cultural Rights*. 1966.
[74] Fremstad, A., and M. Paul. "The Impact of a Carbon Tax on Inequality." *Ecological Economics* 163 (2019): 88–97.
[75] Timilsina, G. R. "Carbon Taxes." *Journal of Economic Literature* 60, no. 4 (2022): 1456–1502.

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enforced from 2026.[76] From the economic law aspect, the formation of carbon tax enables Vietnam to participate in the global trading system and legitimize environmental policies. [77]

Second, dependence on fossil fuels. Vietnam is a country dependent on coal, from which produces up to 45% of electricity in 2020, and emits 2.7 ton/person CO2, which is higher than the average of other Southeast Asian countries.[78] It would incentivize the shift to renewables — like offshore wind and solar energy — while reflecting the long-term social costs of air pollution and climate change. From the perspective of economic law, it is an inevitable choice for the government to impose a carbon tax in market to adjust behavior of economic actors in order to reduce dependency on fossil fuels and to drive to grow "green".[79]

Third, climate change. Vietnam is among the countries most affected by climate change, particularly in the Mekong Delta, which loses 2-3% of GDP to floods and salinity intrusion every year.[80] Revenues from carbon taxes would be available to fund climate-adaptation programs like the upgrading of flood proofing, and to protect the right of a healthy environment, as recognized by UN Resolution 48/13.[81] In terms of law and economics, carbon taxes are a textbook example of a Market-based policy instrument which improve social welfare by reducing the overall social cost associated with CO2 emissions.[82]

Fourth, green growth and global competitiveness. The carbon tax enables Vietnam to comply with requirements of CBAM, shield export industries, such as steel and cement, from increased taxes imposed on imports by the EU, and lure

[76] European Commission. "Regulation (EU) 2023/955 of the European Parliament and of the Council of 10 May 2023 Establishing a Carbon Border Adjustment Mechanism." *EUR-Lex*.
[77] McKibbin, W. J., et al. "The Role of Border Carbon Adjustments in a U.S. Carbon Tax." *Climate Change Economics* 9, no. 1 (2018): 1840011
[78] Dyarto, R., and D. Setyawan. "Understanding the Political Challenges of Introducing a Carbon Tax in Indonesia." *International Journal of Environmental Science and Technology* 18, no. 6 (2021): 1479–88.
[79] Metcalf, G. E., and J. H. Stock. "The Macroeconomic Impact of Europe's Carbon Taxes." *American Economic Journal: Macroeconomics* 15, no. 3 (2023): 265–86
[80] Malerba, D., A. Gaentzsch, and H. Ward. "Mitigating Poverty: The Patterns of Multiple Carbon Tax and Recycling Regimes for Peru." *Energy Policy* 149 (2021): 111961
[81] United Nations. "Resolution 48/13: The Human Right to a Clean, Healthy and Sustainable Environment." 2021
[82] Mintz-Woo, K. "Carbon Tax Ethics." *Wiley Interdisciplinary Reviews: Climate Change* 15, no. 1 (2024): e858.

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investments into clean energy. [83] Because 30% export turnover of Vietnam depends on the EU market, the taxation of carbon is implemented to ensure external competition and develop green economy in accordance with the National Strategy for Green Growth period 2021- 2030 (NSGG)…. [84] According to the economic law, the carbon tax is a trade policy instrument, thereby reinforcing Vietnam's role in the world production chain.[85]

Fifth, social equity and sustainable development. It shall yield revenue to be re-invested into vulnerable groups like low-income households (comprising 30-40% of the population earning VND 12 mil/month or less) and workers in carbon intensive industries like coal power and cement. [86] Tax proceeds could be applied to energy subsidy and job package policies, utilizing the experience of the EU to safeguard rights of energy and working under Articles 6 and 11 of the ICESCR.[87] From an economic law perspective, this redistributive role not only provides social fair share of the policy but also increases the policy's social acceptability with the minimizing of economic discrimination.[88]

Sixth, the limitations of the present instrument. Vietnam allows for VND 1,000-4,000 tax per h/l of fuel, nonetheless at this tax rate and absence of a transparent mechanism for revenue allocation, the potential for environmental outcome is so deficient.[89] In contrast, a carbon tax, with an appropriate tax rate (about USD 5-10/ton CO2) and a transparent allocation mechanism, would address the above constraints, achieve emissions reductions and provide support to the vulnerable groups, and be appropriate for the socio-economic situation of Vietnam.[90]

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[83] Ramadhani, D. P., and Y. Koo. "Comparative Analysis of Carbon Border Tax Adjustment and Domestic Carbon Tax under General Equilibrium Model: Focusing on the Indonesian Economy." *Journal of Cleaner Production* 377 (2022): 134288.
[84] Kadarukmi, E. R. "Carbon Tax and Its Effect on the Economy, Taxes and Environment." *Awang Long Law Review* 6, no. 1 (2023): 237–44.
[85] McKibbin, W. J., et al. "The Role of Border Carbon Adjustments in a U.S. Carbon Tax." *Climate Change Economics* 9, no. 1 (2018): 1840011.
[86] Fremstad, A., and M. Paul. "The Impact of a Carbon Tax on Inequality." *Ecological Economics* 163 (2019): 88–97.
[87] United Nations. *International Covenant on Economic, Social and Cultural Rights*. 1966.; Pye, S., S. Bradley, N. Hughes, et al. "An Equitable Redistribution of Unburnable Carbon." *Nature Communications* 11, no. 1 (2020): 3968.
[88] Cronin, J. A., D. Fullerton, and S. Sexton. "Vertical and Horizontal Redistributions from a Carbon Tax and Rebate." *Journal of the Association of Environmental and Resource Economists* 6, no. S1 (2019): 169–208.
[89] Kadarukmi, E. R. "Carbon Tax and Its Effect on the Economy, Taxes and Environment." *Awang Long Law Review* 6, no. 1 (2023): 237–44.
[90] Ramadhani, D. P., and Y. Koo. "Comparative Analysis of Carbon Border Tax Adjustment and Domestic Carbon Tax under General Equilibrium Model: Focusing on the Indonesian Economy." *Journal of Cleaner Production* 377 (2022): 134288.

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The promulgation of a carbon tax in Vietnam is due to international legal obligations, economic conditions that rely on fossil fuels, to advance the adverse effects of climate change and compete internationally, and create social equality. In the practice of many countries, the carbon tax is a necessary instrument that ensures the external costs to the environment internalization, the redistribution of resources, benefit future generations, promote sustainable economic development and a fundamental basis to ensure people the economic and social environmental health rights.

5. RECOMMENDATIONS IN THE USE OF PRINCIPLES IN THE PROCESS OF CONSTRUCTING THE LEGAL SYSTEM OF CARBON TAX IN VIETNAM ON THE BASIS OF LEARNING FROM OTHER COUNTRIES

While the details are beyond the scope of this paper, it is sufficient to conclude that the establishment of a carbon tax legal regime in Vietnam must incorporate lessons from both Japan, Sweden and the EU in terms of fairness and equality, environmental efficiency and preservation of socio-economic rights. The following recommendations focus on international experience that contains lessons for the country and specific legal mechanisms for operation, to ensure that such institutions are effective, legitimate and socially accepted in the context of the Vietnamese socio-economic environment, the commitment to Net Zero 2050 and the EU's Carbon Border Adjustment Mechanism (CBAM).

5.1. PRINCIPLE OF FAIRNESS AND EQUALITY

As the above analysis shows, Japan is regulating and applying a low carbon tax (289 yen/ton CO2, 2024) upstream to reduce the economic burden, while reallocating revenue to support small and medium-sized enterprises to install energy-saving equipment, indirectly protecting the economic rights of disadvantaged groups.[91] However, Japanese law does not provide direct compensation; and its support for low-income households does not generate enough effectiveness. Sweden, however, has a 50-80% tax break for the export sector (submitted by steel, cement) since the 1990s (Act 11.7 1990:582, Article 6-8) and has employed 2.5 billion USD/year income from carbon taxes to provide energy subsidies (500-1,000 SEK/household/year) based on Act 2000:289 [L50] in order for the 500,000 low-income household to face the risk

[91] Lewis, Jangira. "Assessing Japan's Carbon Tax." *Earth.Org*, February 24, 2022

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of inequality.[92] In the EU: The Just Transition Fund (17.5 billion euro 2021-2027) is allocated to support 100,000 Polish workers to switch professions, thereby safeguarding the right to work (ICESCR art 6).[93] This indicates that carbon taxes can exacerbate the cost of living, leading to economic disparity, particularly in Vietnam, where 4.2% of the population is living below the poverty line.[94] Accordingly, for a mechanism to redistribute carbon tax revenues to be effective, Vietnam needs to implement subsidies and vocational training programs. Such regulations will be necessary in the review mechanism in order to secure fairness and reduce societal opposition and to protect the right both to access energy and the right to work under ICESCR as demonstrated by the Swedish model with 80 % support by the general public.[95]

Specifically, the legal framework on the application and operation of carbon tax should note:

First, Vietnam should enact legislation on energy subsidies. To be specific, Vietnam needs clear regulations to stipulate the proportion of carbon tax revenues to be provided for energy subsidies (VND 500,000-1 million/household/year) to approximately 30-40% of households with fewer than VND 12 million/month, favoring regions heavily hit by climate change, especially the Mekong Delta. These rules specify the conditions for beneficiaries (income, locality), and establish an external audit mechanism that should provide some transparency about the program and prevent abuse, an idea inspired by Sweden.[96]

Second, Vietnam must set up laws and policies on career transition assistance. Accordingly, Vietnam should consider amending the 2020 Law on Environmental Protection to establish a Just Transition Fund. Funding also needs to include a share of the carbon tax levy depending on the revenue used to fund vocational training for workers in coal-fired power (45% of electricity supply; in 2020) and cement in Quang Ninh and Hai Phong. Regulations should specify criteria for funding (giving preference to workers under 40 years), rules for periodic reporting on

[92] Andersson, J. J. "Carbon Taxes and CO2 Emissions: Sweden as a Case Study." *American Economic Journal: Economic Policy* 11, no. 4 (2019): 1–30; Lindvall, D., et al. "The Role of Fairness for Accepting Stricter Carbon Taxes in Sweden." *Climate* 12, no. 11 (2024): 170
[93] European Commission. "Regulation (EU) 2021/1056 of the European Parliament and of the Council of 24 June 2021 Establishing the Just Transition Fund." *EUR-Lex*; Pye, S., S. Bradley, N. Hughes, et al. "An Equitable Redistribution of Unburnable Carbon." *Nature Communications* 11, no. 1 (2020): 3968.
[94] General Statistics Office of Vietnam. *Statistical Yearbook of Vietnam 2022*. Hanoi: Statistics Publishing House, 2023
[95] United Nations. *International Covenant on Economic, Social and Cultural Rights*. 1966.
[96] Fremstad, A., and M. Paul. "The Impact of a Carbon Tax on Inequality." *Ecological Economics* 163 (2019): 88–97.

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the number of workers supported and a system of monitoring, along the lines of the EU Just Transition Fund.[97]

These recommendations should help to safeguard socio-economic rights and diminish inequality as well as to promote social acceptance of the carbon tax. Subsidies and vocational training policies may be considered as the effective redistributive instruments to harmonize the environmental objectives with the social equity and, if appropriate to Vietnam's conditions, characterized by income disparities and reliance on coal.[98]

5.2. PRINCIPLE OF ENVIRONMENTAL EFFICIENCY AND THE RIGHT TO A HEALTHY ENVIRONMENT

One of the assets of the Japanese carbon tax is that the government has used some of the money raised through the tax to fund energy-saving and renewable energy programs but the low tax rate (289 yen per ton of CO2) is not effective for emission reduction.[99] In Sweden, the high tax level (129.89 USD/ton of CO2, year 2023) in accordance with Act 1990:582 1§:3 combined with 1 billion USD in wind and solar power subsidies has helped Sweden to cut CO2 emissions by 25% and at the same time raise the level of renewables to 56% (2020).[100] These analyses demonstrate that the carbon tax is an economic instrument for internalizing the environmental costs which also addresses the issue of substitution or (progressive) marginalization of the use of hydrocarbon that contributes in preserving the right to live in a healthy environment according to the Decree Resolution 48/13 of the Human Rights Council adopted on the 8/10/2021 as well as the 2015 Paris Agreement.[101] In particular, in Vietnam - where coal represents 45% of electricity production and climate change costs 2-3% of GDP annually in the Mekong Delta, the carbon tax needs to be high enough to trigger the transition of the energy system and have enough financial resources to invest in climate adaptation projects.[102] Therefore, Vietnam needs to:

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[97] Pye, S., S. Bradley, N. Hughes, et al. "An Equitable Redistribution of Unburnable Carbon." *Nature Communications* 11, no. 1 (2020): 3968.
[98] Kadarukmi, E. R. "Carbon Tax and Its Effect on the Economy, Taxes and Environment." *Awang Long Law Review* 6, no. 1 (2023): 237–44.
[99] Lewis, Jangira. "Assessing Japan's Carbon Tax." *Earth.Org*, February 24, 2022
[100] Andersson, J. J. "Carbon Taxes and CO2 Emissions: Sweden as a Case Study." *American Economic Journal: Economic Policy* 11, no. 4 (2019): 1–30; Feng, K., et al. "Impact of Carbon Tax on Renewable Energy Development and Environmental–Economic Synergies." *Energies* 17, no. 21 (2024): 5347
[101] United Nations. "Resolution 48/13: The Human Right to a Clean, Healthy and Sustainable Environment." 2021
[102] Malerba, D., A. Gaentzsch, and H. Ward. "Mitigating Poverty: The Patterns of Multiple Carbon Tax and Recycling Regimes for Peru." *Energy Policy* 149 (2021): 111961.

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First, find out the optimal tax rate that fulfills the objective. In this way, the amendment of the Law on Environmental protection tax 2010 aiming at implementing the first-time tax of 5-10 USD/CO2 and raising 2-3 USD/year is feasible. Another thing Vietnam has to consider will be a mechanism of adjusting taxes, fees based on the annual assessment of economic and environmental impacts to ensure the practicability for a coal-addicted country.[103]

Second, mobilize carbon tax revenues to support the investment and deployment of renewable energy projects including offshore wind in Binh Thuan and solar in Ninh Thuan and reach the goal of cutting emissions by 15.8% by 2030. "Thus, to have the spirit of good utility of investment activities become a reality, the law should also regulate the fair auction system, reporting the progress of the project and the previous investigation of the environment on the model of the European Union".[104]

Third, control and implementation of the emission checker. Amend the 2020 Law of Environmental Protection to have sections on a CO2 emission monitoring system where major industries (power, cement, steel) disclose regularly and undergo independent audits, drawing from the EU ETS.[105]

The suggestions on the appropriate taxation rate, investment in green technology and monitoring emission are the legal means to attain the emission reduction targets, protect environment rights and minimize the burden of the society due to the climate change. That rule-making balancing act puts respect for the environment against business acceptability, so that Vietnam can fulfill its Net Zero 2050 pledge without imposing an excessive burden on enterprises and residents.[106]

5.3. THE PRINCIPLE OF THE DEFENSE OF ECONOMIC AND SOCIAL RIGHTS

Japan's experience shows that low tax rates are beneficial for maintaining international economic competitiveness as well as stabilizing employment, but are not enough economic strength to change the mindset of switching to

[103] Ramadhani, D. P., and Y. Koo. "Comparative Analysis of Carbon Border Tax Adjustment and Domestic Carbon Tax under General Equilibrium Model: Focusing on the Indonesian Economy." *Journal of Cleaner Production* 377 (2022): 134288.
[104] Feng, K., et al. "Impact of Carbon Tax on Renewable Energy Development and Environmental–Economic Synergies." *Energies* 17, no. 21 (2024): 5347
[105] European Commission. "Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 Establishing a Scheme for Greenhouse Gas Emission Allowance Trading within the Community." *EUR-Lex*.
[106] Timilsina, G. R. "Carbon Taxes." *Journal of Economic Literature* 60, no. 4 (2022): 1456–1502.

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renewable energy, green energy as well as limiting financial resources to support low-income households.[107] Sweden, on the other hand, has used 70% of the revenue from its carbon tax to reduce income tax (by 3% for incomes under SEK 30,000/ year) and to pay health and education benefits for 300,000 households, not without achieving a gain in disposable income for 2 million people.[108] The EU has also used ETS funds to finance energy subsidies to 50,000 households in Romania and to facilitate career transition through the Just Transition Fund, preserving the right to an adequate standard of living under art 11 of the ICESCR.[109]

Those experiences illustrate that a carbon tax may lead to increased energy prices, disproportionately affecting low-income households and workers employed in carbon-intensive industries. Thus, what measures is Vietnam undertaking to ensure that tax revenue allocated to welfare spending for carbon tax is brought to the fore, so as to enable a just transition that protects social-economic rights, enhances social acceptance and reduces economic inequality, as in Sweden with an 80% support by the public?[110]

Specifically:

First, Vietnam should start by spending some of the carbon tax money on enhancing social welfare. Therefore, there must be specific provisions on the percentage of carbon tax revenue for funding the subsidies for energy, food and health with respect to the poor, with preference for those in Mekong River Delta. Because this is a region that will be profoundly impacted by climate change. In particular, the provision has to be specific about the percentage share for every content, for instance health, energy, food and so on. This is not just an expression of the government's concern for low-income families, but also a measure to help them get over the difficulties due to the influence of climate change on their living conditions.

Second, Vietnam also has to have more equitable transition rules. Therefore, Vietnam's code should also contain provisions to assist the coal-fired power and cement

[107] Lewis, Jangira. "Assessing Japan's Carbon Tax." *Earth.Org*, February 24, 2022; European Commission. "Regulation (EU) 2021/1056 of the European Parliament and of the Council of 24 June 2021 Establishing the Just Transition Fund." *EUR-Lex*.
[108] Dissou, Y., and M. S. Siddiqui. "Can Carbon Taxes Be Progressive?" *Energy Economics* 42 (2014): 88–100.
[109] European Commission. "Regulation (EU) 2021/1056 of the European Parliament and of the Council of 24 June 2021 Establishing the Just Transition Fund." *EUR-Lex*.
[110] United Nations. *International Covenant on Economic, Social and Cultural Rights*. 1966; Lindvall, D., et al. "The Role of Fairness for Accepting Stricter Carbon Taxes in Sweden." *Climate* 12, no. 11 (2024): 170

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industries to shift toward sustainable model through the creation of an incentive loan to the energy-saving and green technology. Regulations should clearly define the criteria for funding (in particular taking into account small and medium enterprises) and report on the progress on transition, with a focus on Quang Ninh and Hai Phong and with inspiration from the EU.[111]

The suggested regulation on the redistribution of carbon tax revenues to welfare and just transition is a vital legal guarantee for maintaining access to essential links and mitigating the risk of poverty and imposing it in the name of the green economic transition. These laws and regulations promote transparency, enhance public trust, and mitigation of the negative effects on disadvantaged groups in Vietnam's socio-economic situation[112] as it relates to the people's social and economic rights.

6. CONCLUSION

Global models suggest that we can develop carbon tax designs that utilize mechanisms for resource redistribution, such as tax rebates, financial subsidies and investment in the transition to green technology, which can both mitigate damage to vulnerable groups from tax implementation and help reach emission targets.

Carbon tax is an indispensable tool for Vietnam to carry out international obligations on emission reduction (Net Zero 2050), decarbonize economy, adapt to the effects of climate change, develop green economy, enhance competitiveness (especially in light of the EU's Carbon Border Adjustment Mechanism (CBAM)) and guarantee social fairness. It also makes up for the deficiencies of the existing Law on Environmental Protecting Tax.

Thus, principles below should be incorporated into the design of the carbon tax legal system in Vietnam:

i) *Fairness and equity*: Adopt transparent mechanisms of subsidy to ensure low-income households (30-40% of households under 12,000,000 VND / month) to access energy supply and provide the transition training and job opportunities for workers in high carbon industries (coal-fired power, cement) to protect the right to access energy and work.

[111] Pye, S., S. Bradley, N. Hughes, et al. "An Equitable Redistribution of Unburnable Carbon." *Nature Communications* 11, no. 1 (2020): 3968
[112] Kadarukmi, E. R. "Carbon Tax and Its Effect on the Economy, Taxes and Environment." *Awang Long Law Review* 6, no. 1 (2023): 237–44

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ii) *Environment effectiveness*: A modest carbon tax policy (starting with 5-10 dollars per ton of CO2) and a phased mechanism for raising taxes, and the revenue used on renewable energy projects and climate change adaptation, realizing the purpose of emission reduction, and protecting a healthy environment.

iii) *Guarantying social and economic rights*: By investing tax revenues from compensation policies in the form of health and education alternatives and sustainable transitions in other industries, securing the right to a decent standard of living, and the increase of the acceptability of the policy in society.

Establishing a sound and fair carbon tax law will be a crucial measure for Vietnam to meet its environmental, economic and social objectives, including sustainable development and the realization of human rights.

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