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RESEARCH ON THE DEVELOPMENT OF CARBON TAX POLICY IN VIETNAM

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ABSTRACT

Climate change, the commitment to net zero emissions by 2050, and the formation of a carbon market necessitate research on carbon taxation in Vietnam. The dissertation builds a scientific and practical basis through three main research objectives: (1) Assessing the CO_2 emission reduction impact of the current environmental protection tax policy; (2) Analyzing factors affecting the intention of businesses to comply with carbon taxes; and (3) Synthesizing international experience on the design and management of carbon pricing. The results show that there is no clear statistical evidence that environmental protection taxes reduce CO_2 emissions in the long term; energy consumption and economic growth remain significantly linked to emissions. The model test shows that the intention of businesses to comply with carbon taxes depends not only on the tax rate but also on factors such as control, fairness, transparency, trust, and support for transition. Based on these foundations and international lessons learned, the dissertation proposes that a carbon tax policy should be implemented as a pillar of the national carbon pricing system in conjunction with the ETS. The dissertation proposes detailed content and a roadmap for implementation up to 2050.

Keywords: Carbon tax; Emission trading system; Environmental protection tax; Carbon pricing mechanisms.

CHAPTER 1. INTRODUCTION TO THE STUDY

1.1. The urgency of the topic

Greenhouse gas emissions from energy production, consumption, and fossil fuel use create environmental costs, but these costs are not fully reflected in market prices. Environmental taxes and carbon pricing tools are used to internalize externalities, altering the relative price between technologies and energy sources with different emission intensities, thereby promoting energy conservation, technological innovation, and a shift towards low-carbon production.

Vietnam has applied environmental protection taxes since 2012, but the tax base is mainly based on the quantity of taxable goods, not directly on carbon content or equivalent CO_2 emissions. The evaluation of this tool in this thesis does not equate environmental protection taxes with carbon taxes, but aims to identify the effectiveness and limitations of the current tax mechanism to provide a basis for a more direct pricing tool.

Besides the requirement to achieve net-zero emissions by 2050, Vietnam is developing its carbon market and facing increasing pressure from carbon standards in international trade. Businesses are both the cost bearers and the determinants of policy feasibility. Therefore, the design of a carbon tax needs to simultaneously address three issues: how existing environmental tax instruments relate to emissions; which mechanisms encourage businesses to comply; and how Vietnam needs to design, coordinate, and implement the policy according to a roadmap.

1.2. Research Objectives and Questions

The overall objective of this dissertation is to build a scientific and practical basis for proposing a carbon tax policy that is consistent with emission reduction goals, socio-economic conditions, state management capacity, and the adaptability of Vietnamese enterprises.

To achieve this overall objective, the dissertation undertakes the following specific objectives:

(1) Assessing the impact of environmental protection tax on CO_2 emissions in Vietnam during the period 2000–2024, thereby determining the short-term and long-term impacts and limitations of the current environmental tax instrument in achieving emission reduction goals.

(2) Evaluating the prospects of implementing a carbon tax policy in Vietnam by exploring and testing the factors affecting the intention of Vietnamese enterprises to comply with the carbon tax.

(3) Propose design orientations, implementation conditions, and a roadmap for applying carbon tax policies in Vietnam based on a synthesis of the results of the environmental protection tax impact assessment, the results of the analysis of carbon tax compliance intentions of enterprises, and international experience in designing and implementing carbon taxes.

Correspondingly, the dissertation answers three questions:

(1) How has the environmental protection tax impacted CO_2 emissions in Vietnam in the short and long term during the period 2000–2024?

(2) What factors influence the carbon tax compliance intentions of Vietnamese enterprises, what is the impact level of each factor, and what do

these results reflect about the prospects for implementing carbon tax policies in Vietnam?

(3) Based on theoretical foundations, empirical results in Vietnam, and international experience, what orientations, conditions, and roadmaps should be used to design and implement carbon tax policies in Vietnam?

1.3. Research Subjects, Scope, and Methods

The research subjects include economic, behavioral, and institutional relationships related to the development and implementation of carbon taxes in Vietnam. Macroeconomic research was conducted at the national level with data from 2000–2024; microeconomic research surveyed 388 enterprises in industries with high emissions or affected by carbon policies; international experience focused on countries with typical carbon tax and carbon pricing models.

The dissertation applies a multi-methods approach. ARDL and ECM models were used to analyze the cointegration relationships between CO_2 emissions, environmental protection taxes, energy consumption, income, urbanization, and patents. PLS-SEM was used to evaluate the carbon tax compliance intention model. Comparative policy analysis is used to synthesize international experience regarding MRV, tax scope, tax base, pricing levels, coordination with ETS, and revenue utilization.

1.4. Contributions of the dissertation

Scientifically, the dissertation connects three research directions often conducted separately: evaluating the effectiveness of environmental tax instruments, analyzing the intention of businesses to comply with carbon taxes, and designing carbon tax policies. The research framework integrates

macroeconomic evidence, microeconomic behavior, and institutional analysis in the context of a developing economy that has not yet implemented carbon taxes, such as Vietnam.

Practically, the dissertation provides a basis for determining the scope, taxpayers, tax points, tax base, principles for adjusting tax rates, coordination mechanisms with ETS, compliance management, revenue utilization, and implementation roadmap. The survey results also indicate that the effectiveness of implementation depends on control, fairness, transparency, trust, and support for transition, not just on the tax rate.

CHAPTER 2. LITERATURE REVIEW

2.1. Concepts and tools for carbon pricing

Environmental tax is a broad concept, encompassing levies on goods, activities, or agents that negatively impact the environment. Environmental protection tax in Vietnam is an indirect tax levied based on the quantity of certain goods such as gasoline, coal, and products that pose a risk of pollution. Carbon tax is a more direct pricing tool, where the obligation is determined based on the carbon content of the fuel or the amount of greenhouse gas emissions converted to CO_2 equivalent.

Direct carbon pricing mainly includes carbon tax and emission quota trading systems. Carbon tax establishes the emission price in advance; ETS determines the total amount of emissions and allows the market to form the quota price. The two tools are not mutually exclusive: the tax provides

relative certainty about the price, while the ETS provides relative certainty about the amount of emissions.

2.2. Theoretical framework for the impact of environmental taxes

Externalism theory and Pigou tax explain the use of taxation to incorporate the social cost of pollution into economic decisions. However, the level of emission reduction depends on the tax base, the elasticity of energy demand, the ability to substitute inputs, and the degree of tax transmission into prices. The expanded IPAT framework is used to identify emission determinants, including population size, wealth level, and technology. The environmental Kuznets curve hypothesis is applied to examine the non-linear relationship between income and emissions. The Green Paradox argument is only used as a theoretical possibility for responding to policy expectations; the thesis does not use short-term results to confirm this mechanism when the data does not directly measure expectations or resource exploitation.

2.3. Theoretical basis of intention to comply with carbon taxes

The theory of planned behavior directly explains intention through behavioral beliefs, normative beliefs, and perceived control. In the context of carbon taxes, behavioral beliefs relate to efficiency and fairness; normative beliefs reflect social expectations, trust in the regulatory body, and transparency; perceived control is extended to reflect the consequences and risks of non-compliance.

Institutional theory adds regulatory pressures, cognitive-cultural factors, and norms. The economic deterrence model explains the role of detectability and sanctions; the slippery slope framework emphasizes the combination of enforcement power and belief; the theory of distributive equity explains the

acceptance of the tax burden; stakeholder theory clarifies pressures from investors, customers, partners, and ESG standards. These theories are functionally integrated, avoiding viewing them as separate components.

2.4. Principles of carbon tax policy design

A carbon tax policy needs to ensure environmental effectiveness, economic efficiency, fairness, simplicity, transparency, and feasibility in management. The main components include emission scope, taxpayers, tax points, tax base, tax rates and adjustment mechanisms, exemptions and reductions, declaration management, MRV, revenue utilization, and coordination with ETS.

MRV is not just a technical requirement but a governance infrastructure for determining the tax base, cross-checking data, implementing deductions, and ensuring equal equity. Coordination of carbon taxes with ETS requires defining the scope, avoiding full double pricing for the same amount of emissions, and maintaining consistent pricing signals.

2.5. Research Overview and Gaps

Previous studies have focused on three areas: the impact of environmental taxes and carbon pricing on emissions; factors determining policy acceptance and compliance; and carbon tax design. However, evidence in developing economies is limited, while many studies only consider each area separately. This thesis identifies three gaps. In terms of content, there are few studies linking environmental efficiency, corporate compliance intentions, and policy design. In terms of context, Vietnam has not yet implemented a carbon tax, and environmental protection taxes are not directly based on emissions. In terms of methodology, few studies combine macroeconomic data,

microeconomic surveys, and policy analysis. In terms of policy, there is no proposed framework that simultaneously clarifies the carbon tax component, coordination with ETS, MRV, and implementation roadmap under Vietnamese conditions.

CHAPTER 3. RESEARCH METHODOLOGY

3.1. Research Design

The research process consists of three interconnected research components. The first component evaluates the current environmental tax instrument using time-series data. The second component evaluate the model of enterprise compliance intention. The third component combine the results with international experience to develop carbon tax policy design. This structure ensures that carbon tax policy design in Chapter 5 is based on empirical results and institutional conditions, and international experiences, rather than being merely general recommendations.

3.2. ARDL Model and Secondary Data

The dependent variable is CO_2 emissions. The explanatory variables include environmental protection tax, energy consumption, GDP per capita and the square of log GDP per capita, urbanization rate, and total number of patent applications. Environmental protection tax is measured by the proportion of revenue from environmental protection taxes, fees, and charges in total state budget revenue according to a series of data by the Vietnam Statistics Office.

Data before 2012 mainly reflects environmental protection fees and charges, while data from 2012 reflects environmental protection taxes. Standardization helps to form a continuous series for the period 2000–2024. The study performed ADF and PP unit root tests, lag selection, Bounds test, long-term ARDL and short-term ECM estimates, along with diagnostic and stability tests. The Bounds test is the main basis for determining cointegration because the variables have a combination of I(0) and I(1), with no I(2) variable.

3.3. PLS-SEM Model and Enterprise Data

The survey model includes carbon tax compliance intention and seven explanatory constructs: behavioral beliefs; normative beliefs; Perceptions of control and non-compliance risk; regulatory pressure; cognitive-cultural pressure; normative pressure; and economic factors. Higher-order structures were estimated using a two-stage method in PLS-SEM.

The scale was inherited and adapted through qualitative research and a pilot survey of 40 businesses. The formal survey obtained 388 valid observations. The evaluation process included the reliability, convergent and discriminant validity of the reflected structures; weights, loadings, and VIF of the formed structures; multicollinearity, path coefficients, bootstrap confidence intervals, explanatory power, and size of the structural model's influence.

3.4. Analysis of experience and policy proposals

The study synthesizes experiences from countries and regions that have applied carbon taxes or combined multiple carbon pricing tools. The comparative content includes coverage, tax points, price levels and adjustment schedules, MRV, revenue utilization, transition support, and the

relationship between carbon taxes and ETS. Lessons learned are compared with ARDL results, PLS-SEM, and Vietnam's legal framework to form proposals.

CHAPTER 4. RESEARCH RESULTS AND DISCUSSION

4.1. Evaluate the environmental effect of environmental protection taxes in Vietnam

The empirical results show that the variables are stationary at the original order or first-order difference and there is no variable I(2), consistent with ARDL. The Bounds test provides evidence of cointegration between CO_2 emissions, the variable representing environmental collection intensity, and socio-economic factors in the model. In the long run, there is no statistical evidence that environmental protection taxes reduce CO_2 emissions. The results suggest a non-linear relationship between income and emissions, but this is not sufficient to conclude that Vietnam has crossed the turning point of the environmental Kuznets curve. Urbanization and the total number of inventions are not statistically significant in the long run.

In the short run, the negative and significant error correction coefficients indicate that the system tends to adjust towards long-term equilibrium. The results reflect a positive relationship between environmental protection taxes and CO_2 emissions in the short run. Energy use fluctuations and income growth continue to be linked to CO_2 emissions in the short run.

The results imply that the current environmental protection tax instrument, calculated per commodity and measured in the study by revenue share, has

not yet generated clear evidence of long-term emission reduction signals. This finding does not negate the environmental impact of the environmental protection tax, but shows the need for a tax base more directly related to carbon content or CO_2 equivalent.

4.2. Results on the intention to comply with carbon taxes by businesses

The basic scales meet the requirements for reliability, convergent validity, and discriminant validity; the structures formed do not show serious multicollinearity. The structural model explains 79.5% of the variance of carbon tax compliance intentions, demonstrating high explanatory power within the research sample.

Perceptions of control and non-compliance risk have the strongest impact. The results show that businesses clearly react to the consequences, risks of detection, and costs of non-compliance. However, the implication is not just about increasing sanctions, but also about combining enforcement power with guidance and support to form sustainable compliance.

Normative pressure; behavioral beliefs; normative beliefs; Cognitive and cultural pressures both have statistically significant impacts. These results show that fairness, efficiency, transparency, accountability to stakeholders, governance culture, and trust in the regulatory body contribute to strengthening compliance intentions.

4.3. International experience and lessons for Vietnam

International experience shows that MRV and emission databases are prerequisites for determining obligations and monitoring compliance. Countries often use default coefficients to simplify management but allow specific coefficients when businesses have validated data.

The carbon pricing roadmap needs to be stable and predictable. Singapore is a clear example in ASEAN of a low starting price, increasing in stages as announced in advance. Other ASEAN countries implement it more cautiously, linking the price to the readiness of the industry, MRV, and the carbon market. The important lesson is not to copy a price, but to announce the adjustment trajectory and review criteria.

The international trend is to functionally coordinate carbon taxes and ETS. Taxes are suitable for fuels and dispersed emission sources; ETS is suitable for large-scale facilities. Utilizing transparent revenue sources for green transitions and vulnerable groups contributes to increased equity and acceptance.

CHAPTER 5. PROPOSED CARBON TAX POLICY

5.1. Basis, perspectives, and objectives

The proposed policy is based on three sets of grounds. ARDL results show that there is no clear evidence of the long-term emission reduction impact of environmental protection taxes, while energy remains a significant emission driver. PLS-SEM results show that the policy must simultaneously ensure control, fairness, transparency, trust, and support for compliance. International experience confirms the role of MRV, pricing roadmaps, and coordinated instruments.

The thesis proposes a carbon tax as a pillar of the national carbon pricing system, implemented simultaneously and in coordination with ETS. The carbon tax has an independent function in creating stable, broad-based

pricing signals and incorporating carbon costs into investment, production, and consumption decisions.

The policy aims to internalize emission costs, support emission reduction targets, promote energy and technology transition, increase the adaptability of businesses to international carbon standards, and create resources for equitable transition.

5.2. Main contents of the carbon tax policy

5.2.1. Position and scope of application

In the proposed mechanism, ETS controls emissions at large facilities through quotas; the carbon tax establishes prices for fossil fuels, dispersed emission sources, and activities not yet compatible with the quota mechanism. In the initial phase, the tax scope should focus on CO_2 from coal, gasoline, oil, natural gas, and other fossil fuels. When MRV is sufficiently reliable, the scope can be expanded to process emissions not covered by ETS.

The carbon tax is collected primarily at the extraction, production, or import stages of fuels. Upstream collection points help limit the number of taxpayers, leverage tax and customs data, and pass carbon costs into the price chain. For directly measured process emissions, the taxpayer is the emission base.

5.2.2. Tax Base and Tax Rate

For fossil fuels, the carbon tax payable is determined by the formula:

$$CT_i = Q_i \times EF_i \times P_C$$

Where:

CT_i is the carbon tax for fuel i;

Q is the quantity of taxable fuel; EF is the CO_2 emission factor of the fuel; and Pc is the carbon tax rate per ton of CO_2.

This formula is based on the principle that emissions are calculated by multiplying operational data by the emission factor according to the IPCC greenhouse gas inventory guidelines; the determined emissions are then multiplied by the corresponding carbon tax rate.

The emission factor must be uniformly issued, publicly available, and updated periodically. Businesses may use their own factor when they can demonstrate that the fuel or technology characteristics differ from the default factor and the data has been verified by a competent auditing organization. This mechanism ensures both simplicity in management and provides incentives for businesses to improve the quality of emission data.

For emission sources identified directly at the facility, the tax obligation is calculated using the formula:

$$CT_j = E_j \times P_C$$

Where:

CT_j is the carbon tax on fuel j;

E is the taxable amount of greenhouse gas emissions converted to CO_2 equivalent and assessed; Pc is the carbon tax rate per ton of CO_2 equivalent.

The tax increase roadmap needs to be announced in advance and comprehensively reviewed every three to five years based on the distance to emission reduction targets, carbon intensity, energy substitutability, technological progress, socio-economic impacts, ETS quota prices, and the completeness of MRV.

5.2.3. Coordination between carbon tax and ETS

The principle of coordination is to clearly define the scope and not impose two full obligations on the same emission amount. Emissions subject to ETS are subject to obligations through quotas and credits within limits; Fuel or emissions outside the ETS are subject to carbon tax. If fuel supplied to an ETS facility is already taxed upstream, a mechanism for deduction or refund should be in place corresponding to the amount of emissions that have fulfilled the quota obligation.

In the long term, when the market is liquid and data is reliable, Vietnam could apply a minimum carbon price mechanism to maintain investment signals when quota prices fall too low. Taxes and ETS should share a common MRV, registration system, and carbon database.

5.2.4. Management, declaration, and compliance

For fuel, taxpayers self-declare, self-calculate, and self-pay based on quantity, type, emission factor, and tax rate; data is cross-referenced with customs, electronic invoices, production, inventory, and distribution. For direct emissions, the declaration must be linked to the validated MRV report. Tax administration should be risk-based, focusing on large-scale cases, using specific coefficients, refund requests, or anomalous data. Besides penalties for fraud, the tax authority needs to publicly disclose calculation methods, provide declaration tools, technical guidance, training, and complaint resolution mechanisms.

5.2.5. Utilizing revenue and supporting transition

The primary goal of a carbon tax is behavioral change, but revenue can reduce transition costs and increase equity. Revenue needs to be tracked, transparent, and prioritized for targeted support for low-income households,

workers, and localities dependent on high-carbon industries; investment in power grids, public transport, renewable energy, MRV, and low-carbon technologies.

Support for businesses should be time-bound and linked to emission reduction results, focusing on energy audits, greenhouse gas inventories, equipment modernization, green credit, and training. Support should not be based on past fuel consumption or emissions as this can weaken the price signal.

5.3. Roadmap for Implementing Carbon Tax Policy

(1) Phase 2026–2030: Completing the legal framework, MRV, emission factors, database, and coordination mechanism; (1) Implement impact simulation and calculate pilot tax obligations during the operation of the ETS according to the current roadmap.

(2) Phase 2031–2035: Officially apply carbon tax on fossil fuels and non-ETS sources; announce the starting point and price increase trajectory; operate a tax deduction or refund mechanism for obligations already made in the ETS.

(3) Phase 2036–2040: Expand the tax to direct emission sources with reliable data; adjust the tax rate according to emission reduction results and coordinate more deeply with quota pricing; increase the scale of support for green transition.

(4) Phase 2041–2050: Complete the integrated carbon pricing system, manage overall tax obligations, quotas and credits on a unified platform, and adjust policies according to a net emission trajectory of “zero”.

CHAPTER 6. CONCLUSIONS AND PROPOSED SOLUTIONS

6.1. Conclusions

The thesis has achieved three research objectives. Macroeconomic results show that there is no clear evidence that the variable representing the intensity of revenue from environmental protection taxes and fees reduces CO_2 emissions in the long term; energy and economic growth remain significantly linked to emissions. Microeconomic results show that the intention to comply by businesses is a multi-layered phenomenon, in which control and non-compliance risk play a prominent role, while fairness, transparency, standards, and governance culture provide a legitimate foundation for policy.

Based on these results, a carbon tax is proposed as a pillar of the carbon pricing system, applied first to fossil fuels, with a tax base linked to equivalent CO_2, in coordination with ETS and implemented according to a foreseeable roadmap. Policies can only be effective when accompanied by reliable MRV, interconnected data, management capacity, business support, and transparent revenue collection mechanisms.

6.2. Solutions to support implementation

- Complete the specific legal framework for carbon tax and institutionalize the inter-sectoral coordination mechanism between finance, taxation, environment, customs, energy, and carbon market operators.
- Standardize MRV and build a national carbon database, integrating fuel data, emissions, tax obligations, quotas, credits, and deductions under a unified business identifier.

- Enhance the capacity of management agencies; provide manuals, tax calculation tools, and electronic declaration systems; combine inspection and sanctions with guidance and compliance support.
- Support businesses in technology and energy transition through green credit, energy audits, training, and conditional investment; Protect low-income households and workers through targeted transfers instead of fossil fuel subsidies.
- Publicize the pricing roadmap, tax base, revenue sources, and emission reduction results; organize business consultations and establish an independent monitoring mechanism, conduct annual technical reviews, and perform periodic comprehensive policy evaluations.

6.3. Limitations and directions for further research

Although the research objectives have been achieved, the thesis still has certain limitations that need to be noted to guide future research.

Firstly, due to the practical conditions of Vietnam, the thesis has limitations in data and sample size. The data representing environmental protection tax policies are not entirely consistent across periods. Data before 2012 mainly reflects fees and charges related to environmental protection, while data from 2012 onwards reflects revenue from environmental protection tax after the Environmental Protection Tax Law came into effect. The data from the Vietnam Statistics Office also inherits and standardizes data between the two periods, helping to form a continuous data series. The sample size of the time series is limited, and the ARDL results mainly reflect the direction of impact. The study uses Vietnamese data from 2000–2024, corresponding to 25 observations before adjusting for lags. Although ARDL is suitable for a

relatively small sample and allows distinguishing between short-term and long-term relationships, the number of observations is limited.

Secondly, the results on the new environmental Kuznets curve provide evidence of a non-linear relationship, but have not identified the income inflection point. The coefficients of per capita income and the sign of the squared variable are consistent with the EKC argument, but the thesis has not fully calculated and tested the inflection point, nor determined whether the inflection point lies within the observed range.

Thirdly, the study on businesses measures compliance intentions rather than actual compliance behavior. Since Vietnam has not officially implemented a carbon tax, the thesis uses the concept of compliance to reflect the expected behavioral orientation of businesses.

Fourth, the thesis has not quantified the optimal carbon tax rate and the socio-economic impacts of each tax rate scenario. The policy proposals in the thesis focus on the model, tax base, scope of application, coordination mechanism with ETS, implementation conditions, and implementation roadmap.

Fifth, the thesis's proposals are built on the existing legal framework and governance capacity, but some content may need to be adjusted when ETS comes into operation and data on quota prices, liquidity, compliance levels, and management costs become available.

In summary, these limits clearly define the areas that need further verification as Vietnam gains practical data on carbon taxation and ETS, thereby gradually improving the scientific evidence for the national carbon pricing system and aiming towards the goal of achieving net-zero emissions by 2050.

GENERAL CONCLUSION

Climate change is creating an urgent need for a transition to a low-carbon growth model. In the context of Vietnam's commitment to achieving net-zero emissions by 2050 and its ongoing implementation of a carbon market, research into carbon tax policy is significant both academically and practically. A carbon tax is not only a revenue-generating tool but, first and foremost, a mechanism for pricing externalities, incorporating emission costs into production, investment, and consumption decisions.

The dissertation approaches carbon tax policy through three logically related aspects: assessing the impact of the current environmental protection tax on CO_2 emissions; analyzing factors influencing businesses' willingness to comply with the carbon tax; synthesizing international experience; and, based on this, proposing a model, content, and implementation roadmap for a carbon tax policy in Vietnam.

Time-series analysis results show that there is no clear statistical evidence of the long-term CO_2 emission reduction impact of the environmental protection tax. This indicates that the current regulatory mechanism, which is primarily based on the quantity of taxed goods, has not created a direct and consistent link between financial obligations and emissions.

Business survey results show that the intention to comply with the carbon tax is formed from a combination of behavioral, institutional, and economic factors. Perceptions of control and non-compliance risks have a prominent influence, while fairness, transparency, policy effectiveness, trust in the regulatory authority, and normative pressure also contribute to strengthening

the intention to comply. This implies that carbon tax policy cannot rely solely on tax rates and penalties, but must simultaneously ensure the rationality of its design, accountability, support, and consistency in implementation.

From international experience, the dissertation recognizes that carbon taxes and ETS should be considered two pillars with different functions in a carbon pricing system. ETS is suitable for large-scale emitters and emission control through quotas; carbon taxes create stable, predictable price signals and cover fossil fuels and dispersed emission sources. The coordination between the two tools should be based on the principle of clearly defining scope, avoiding overlapping obligations, and using a shared MRV system, database, and monitoring mechanism.

Based on this, the dissertation proposes building a carbon tax as a pillar of the national carbon pricing system. Once the MRV system is perfected, the scope of the tax can be expanded to direct emission sources not included in the ETS. The tax rate should be applied gradually, announced in advance, and reviewed periodically based on emission reduction targets, the carbon price in the ETS, technological progress, and socio-economic impacts.

Overall, the dissertation concludes that a carbon tax should be implemented and gradually become an important tool for Vietnam to promote emission reduction and green transition. The effectiveness of the policy depends not only on the tax rate but also on the reliability of the data, the quality of the institutions, fairness, the level of acceptance by businesses, and the ability to coordinate with the ETS. This is the central message and the main policy contribution of the dissertation.

LIST OF RELATED STUDIES BY THE AUTHOR

No.	Research work	Year of Publication	Notes
After Admission to the Ph.D. Program			
1	The impact of Environmental Tax Awareness on Green Consumption Behavior in Vietnam	2025	
2	From Indirect Environmental Taxes to Carbon Pricing: A Theoretical Lens on Vietnam's Transition	2026	
3	Assessing the environmental effectiveness of the environmental protection tax in Viet Nam: Policy recommendations	2026	
4	Corporate Readiness for Carbon Tax: Behavioral and Institutional Drivers of Voluntary Compliance Intention in Vietnam	2026	