Updating Public Legal Awareness of Restricting Carbon Emissions in Indonesia

Andreas Tedy Mulyono¹, Rudy Pramono²³**

¹ Faculty of Law, Universitas Pelita Harapan, Indonesia.
² Faculty of Economics and Business, Universitas Pelita Harapan, Indonesia.
³ Center for Research and Community Services (LPPM), Universitas Pelita Harapan, Indonesia.

*andreas.mulyono@lecturer.uph.edu
**rudy.pramono@uph.edu

Abstract
The Government of Indonesia will impose restrictions on carbon emissions. The description of public legal awareness regarding this matter is currently an important aspect as one of the benchmarks, especially for updating the status of carbon emission regulations in Indonesian society. This literature study focuses on the importance and use of empirical quantitative research methods based on questionnaire data from respondents in various regions in Indonesia. The discussion using the Regulatory Status Analysis (RSA) path model assisted by the PLS-SEM software specifically provides an understanding of the relationship between the ideal Law and legal culture in the form of public awareness to comply with legal norms limiting carbon emissions. Another element of the legal system, namely the substance of the Law, also has a positive effect on awareness of obeying the Law. However, the legal Structure has no effect, either directly or indirectly. The possible reason is that the legal Structure, the indicator of which is law enforcement related to carbon emission cases, has not been widely processed in domestic courts in Indonesia. This study also conducts an intersubjective meaning approach by interviewing related entrepreneurs to strengthen statistical inferences. The article concludes by placing these findings in the discourse on limiting national carbon emissions based on political will and participatory governance.

Keywords: Carbon Emission; Legal Awareness; Legal System

A. Introduction
Limiting carbon emissions is a contemporary global issue that continues to roll. In the recent past, at the Climate Summit COP26, carbon emissions became a central topic, particularly the cessation of the use of fossil energy.¹ However, there are concerns that a

meaningful agreement on global carbon emission limits has not been reached until the end of the conference. The official statements of the participating countries’ leaders can be considered public pronouncements only. Therefore, it still takes extra effort, time, and money to perfect it. It is necessary, but legally uncertain.

The issue of carbon emissions is closely related to the climate change discourse, which has been feared as an empty campaign and tends to create rhetoric and even hypocrisy from various countries around the world, especially relating to the oil issue. Since the 2012 Climate Change Conference in Doha, Qatar, “The 18th Conference of the Parties (COP) of the United Nations Framework Conference on Climate Change (UNFCCC)”, Indonesia has declared a readiness to the global carbon market. This has emerged as one of the main topics in the debate on carbon trading in which Annex-1 developed countries are aggressively pushing for offset carbon trading. This Carbon offset scheme will continue until the Summit in Glasgow, October 31 - November 12, 2021 (COP-26). The character of the market mechanism is a mainstay in mitigating climate change, although it is still receiving various criticisms.

The scathing criticism is that the COP-26 agenda has shifted away from the original aims of the conference. It’s no longer looking for ways to reduce the earth’s temperature and help people mitigate the effects of climate change, but rather to create dangerous business

---

opportunities and tend to be polluters conferences. This means that this criticism expects climate change mitigation with a non-market character.

Non-market mitigation that is intensive is imposing a carbon tax (carbon tax policy). Several countries have tried to reduce carbon emissions by imposing carbon taxes that drive up energy costs and force polluters to pay domestic emissions taxes.\(^{10}\) The mechanism for limiting carbon emissions is more appropriate to use the term pricing carbon emissions as expressed by the OECD. Its publication on May 2021, states:

“Carbon pricing very effectively encourages the shift of production and consumption choices towards low and zero-carbon options that are required to limit climate change.”\(^{11}\)

Prices for CO2 emissions from energy use or pricing carbon emissions are set based on taxes and emissions trading.

This understanding is in line with the collaboration of market and non-market policies on carbon emissions. A tax is imposed on the carbon (CO2) produced if it exceeds the allowable threshold in the carbon tax scheme. Meanwhile, ETS does not impose such a penalty scheme because carbon emitters get CO2 credits (quota) per year; if they produce more CO2 than the quota, they have to buy short CO2 credits from other companies that have CO2 savings.\(^{12}\)

However, after the Plenary Session of the Indonesian House of Representatives (7-Oct-2021), which passed the Law on the Harmonization of Tax Regulations, Yasonna Laoly, Minister of Law and Human Rights of the Republic of Indonesia, said that the carbon tax to be imposed was set at Rp. 30 per kilogram of carbon dioxide. Equivalent (CO2e). The tax levy is applied to the emission amount exceeding the set limit. For the initial stage, starting in 2022, a


\(^{11}\) This mechanism is known as the cap-and-trade system, in which the tax serves to limit the issuer, but if it exceeds the limit, the issuer must enter and buy from the carbon market system as compensation for carbon costs. See further OECD, *Effective Carbon Rates 2021: Pricing Carbon Emissions through Taxes and Emissions Trading* (Paris: OECD Publishing, 2021).

carbon tax will be applied to the coal-fired power plant sector using a tax mechanism based on emission limits (cap and tax).\textsuperscript{13}

Limiting carbon emissions in Indonesia, both through market mechanisms (carbon trading) and non-markets (carbon taxes), should support all stakeholders. According to Joko Tri Haryanto, Senior Researcher of Fiscal Policy Agency for Climate Change Financing and Multilateral Policy, Ministry of Finance of Indonesia, the carbon tax policy is sustainable with carbon trading. In the future, established carbon trading will reduce the carbon emitter tax burden.\textsuperscript{14}

Regardless of the global pros and cons, we need to pay attention to national policies limiting carbon emissions in each country. At least the general mapping of the country’s people in question if carbon emission restrictions are enforced.\textsuperscript{15} “In any country, legal frameworks will either help or hinder green, low-emission and climate-resilient development”.\textsuperscript{16}

In Indonesia, this kind of mapping is a sociological study of the formation of laws and regulations. This follows the provisions in Law number 12 of 2011 concerning the Establishment of Legislation as amended by Law Number 15 of 2019.

The results of this scientific research must be accounted for as a solution to legal issues and needs, both for local and global communities.\textsuperscript{17} Even though Indonesia as a developing country does not yet have the resources, systems and preparations for welcoming these new global developments, this could be an opportunity or a disaster at the same time.\textsuperscript{18}

\begin{thebibliography}{99}
\bibitem{13} Its implementation is gradually in line with carbon trading as part of the green economy road map. This step is to minimize the impact on the business world but still play a role in reducing carbon emissions. See further Triyan Pangastuti, “Pajak Karbon Mulai April 2022,” Investor Daily, October 8, 2021, [https://beritasatumpedia.cld.bz/ID-211008/10/].
\bibitem{14} J. T. Haryanto, “Forum Pojok Desa #45: Kontribusi Perhutanan Sosial untuk Perubahan Iklim” (Webinar Discussion, TV Desa, February 1, 2022).
\bibitem{15} Socio-legal research has sufficiently reassessed its theoretical premises regarding the relationship between law, state and society. See further Reza Banakar, \textit{Normativity in Legal Sociology: Methodological Reflections on Law and Regulation in Late Modernity} (Switzerland: Springer Internasional Publishing, 2015), 41-55 and 77-95.
\end{thebibliography}
Apart from being a sociological study of the formation of laws and regulations that limit carbon emissions in Indonesia, this research also recognizes that building knowledge and awareness is a key to encouraging behavioural change. Lack of understanding, misunderstanding, the effort required, and inconvenience may hinder stakeholders from being more energy-efficient. Following the principle, good laws and regulations must be implemented. One of the foundations is empirical facts regarding conformity with the development of the problem (status updates) and the needs of society and the state.

Although defined as a general mapping, this sociological study becomes urgent because the Government of Indonesia has issued several related policies that will soon be effective. For example, an approach with a cap-and-trade system mechanism, where in 2022, a carbon tax will apply. President Jokowi officially promulgated the tax provisions on October 29, 2021, after the Government and the Indonesian House of Representatives ratified Draft Law Number 7 of 2021 concerning Harmonization of Tax Regulations (RUU HPP) on October 7, 2021.

The imposition of this tax is following the road map for controlling greenhouse gas emissions to achieve Indonesia’s nationally determined contribution (NDC) target. Research on public views on carbon taxation in several countries shows exciting findings. Research in Spain, it is concluded that carbon taxes evoke various public responses, often with negative implications for policy support, implementation, and austerity. In another study conducted in Germany in the same year (2020), Linus Mattauch, Stephan Sommer, and Michael Pahle

---

19 ‘Behavior can be influenced simply by an awareness of what other people do or don’t do, think or don’t think.’ See further Lawrence M. Friedman, Impact: How Law Affects Behavior (Cambridge: Harvard University Press, 2016), 18-23 and 67.

20 ‘Much more research is needed. More replications. More attempts at pulling the strands together. Otherwise, everything depends.’ Ibid., 249.


showed that while it is known that carbon taxes are effective in reducing emissions and can be made progressive, they remain unpopular among Germans.\textsuperscript{24}

The ideal Law will change from time to time. The size of legal ideals: justice, expediency, and legal certainty of statutory regulation must be tested for the awareness of the relevant domestic community to comply with positive legal norms that apply at a particular time and place. The assumption is that legal ideals and legal systems are the main aspects that influence each other and are related to the effectiveness of the national legal system in a country.

The legal concept related to this is the opinion of Gustav Radbruch. However, it is stated that: “The elaboration of Radbruch’s legal philosophy culminates in two developments”.\textsuperscript{25} The main discussion is about the conflict between justice and legal certainty.

In connection with Gustav Radbruch’s famous formulation of judicial decision-making, Brian H. Bix states two essential things.\textsuperscript{26} First, in conceptual analysis in general and theories about the nature of law, it is essential to explore its foundations. Second, it is necessary to understand any of the intended relationships between theories about the nature of Law and ideas about how to decide a case in court.\textsuperscript{27}

Based on the description above, this study aims to examine the effect of legal ideals on the legal culture of the community regarding the implementation of carbon emission restrictions in Indonesia. In addition, this study also wanted to test other correlations. Including but not limited to the correlation of the substance and legal structure of carbon emissions concerning the influence of legal ideals on the legal culture. Therefore, this study leads to an ideal carbon emission limitation law that influences public awareness and legal compliance through the norms of legal substance and the quo legal structure. So, this study maps out the general understanding of the Indonesian people towards the authoritative issuance of regulations related to limiting carbon emissions. This is a literature study on the importance

\textsuperscript{27} \textit{Ibid.}, 149.
and use of empirical quantitative research methods through the establishment of a path model called Regulatory Status Analysis. This study also conducts an intersubjective meaning approach by interviewing related entrepreneurs to strengthen statistical inferences.

The outline of the Discussion below (section B) begins with statistical data analysis and hypothesis testing (subsection B.1) in order to describe the hypotheses based on the RSA model that has been tested for validity and reliability (subsection B.1.1). Furthermore, subsection B.1.2 describes the results of hypothesis testing - both the accepted hypotheses (subsection B.2) and those that are rejected (subsection B.2.2) - which are then strengthened by an intersubjective meaning approach from the opinions of related entrepreneurs (subsection B.2.3). The statistical inferences recommend the need for political will and participatory governance as described in subsection B.2.4.

B. Discussion
B. 1. Statistic Data Analysis and Hypothesis Test

The description in this section is the result of quantitative analysis using statistical techniques on sample data from the questionnaire—an online questionnaire from 326 individual respondents from September 1 to November 23, 2021. Then the data in the form of opinions from businesses in Indonesia are described at the end through qualitative analysis. This secondary data was collected in the period before the ratification of the HPP Bill (July 2021) until after the ratification of the HPP Law (October 2021).

Respondent groups are distinguished by age, occupation or field of work, and domicile. Most of the respondents are in the productive age category, between 20-40 years. The majority of their fields of work are undergraduate and postgraduate students and academics, and legal practitioners. Respondents from environmental organizations (non-state actors) are relatively minimal. Based on domiciles, most of them come from the Greater Jakarta area (Jakarta, Bogor, Depok, Tangerang, and Bekasi).
Descriptive statistics in this study measure the average value obtained from the intermediate results of each variable indicator. The grouping of average results according to the Attitude Classification Table below is based on a Likert Scale and its variation.\(^{28}\)

<table>
<thead>
<tr>
<th>No.</th>
<th>Answer Score</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>&gt; 4.2 to 5.0</td>
<td>Strongly Agree (SA)</td>
</tr>
<tr>
<td>2</td>
<td>&gt; 3.4 to 4.2</td>
<td>Agree (A)</td>
</tr>
<tr>
<td>3</td>
<td>&gt; 2.6 to 3.4</td>
<td>Neutral (N)</td>
</tr>
<tr>
<td>4</td>
<td>&gt; 1.8 to 2.6</td>
<td>Disagree (D)</td>
</tr>
<tr>
<td>5</td>
<td>&gt; 1.0 to 1.8</td>
<td>Strongly Disagree (SD)</td>
</tr>
</tbody>
</table>

Table 1. Average Answer Score Attitude Classification\(^{29}\)

The overall results of the average indicator values of legal variables, both legal ideals (X) and the three elements of the legal system (CUL, SUB, and STR), indicate that the overall answers of respondents agree with these legal variables.

**B. 1. 1. Inferential statistics shows that RSA model is valid and reliable**

A study is valid if its measurements measure what it claims and no logical errors in concluding the data. Typology is much more important than understanding the types of questions that researchers should ask about research validity.\(^{30}\) The Regulatory Status Analysis (RSA) path model that connects these legal variables uses the chart below.

---


\(^{30}\) A measure may be reliable but not valid, but it cannot be valid without being reliable. That is, reliability is a necessary but not sufficient condition for validity. As just one example, in split-half reliability, the two batteries may be highly correlated on the Spearman-Brown coefficient, indicating reliability. Still, when the scale is considered together with other scales in the model, the validity may be less divergent. See further G. David Garson, *Validity and Reliability* (North Carolina: G. David Garson and Statistical Associates Publishing, 2013), 8 and 100.
Referring to the formation of the RSA Model above, there are at least two classical legal theories that might be considered: The Legal Ideals Theory from Gustav Radbruch and the Legal Systems Theory from Lawrence M. Friedman (1975) and Friedman & Hayden. Both theories rest on the assumption of axioms, which are postulates that are accepted as self-evident statements. The theory describes the elements of the model and their interrelationships to form the structure of the explanatory system. The elements of the model are Radbruch’s Legal Ideals or rechtsidee (X) whose indicators are justice, legal certainty, and expediency; and elements of Friedman’s Legal System, namely Substantive Law (SUB), Legal Structure (STR), and Legal culture (CUL~Y).

The description relates to “Radbruch’s formula”, distinguished by two quotations. In the first quotation, Radbruch writes that the conflict between justice and legal certainty can be resolved properly. The trick: positive law – secured by legislation and power – takes precedence even when its content is unfair and fails to benefit people. The exception is only if the conflict between justice and the Law reaches a certain intolerable level. In the second quotation, Radbruch argues that if legislators do not seek justice, where equality – as the essence of justice – is deliberately betrayed in the issuance of favourable laws, this shows, not only flawed laws (flawed Law) but also flawed laws.
Law has an ideal dimension that is supported by three elements, namely: justice, expediency, and legal certainty. However, Gustav Radbruch’s legal concept – through Radbruch’s formula – also distinguishes between abstract theoretical aspects in legal philosophy (legal theory) with concrete, practical elements to be applied in court (legal practice).

Public awareness is closely related to Legal culture as referred to by Lawrence M. Friedman. Friedman first discussed legal culture as one of the three elements of the Legal System in 1975 in his book “The Legal System: A Social Science Perspective”. Then forty years later, Friedman decided to revisit the topic. He focuses on studying the impact and develops a more comprehensive treatment of the subject in his book “Impact: How Law Affects Behavior” by relating the concept of legal consciousness and legal culture.31

Friedman sets out to build a framework to help impact itself a field of study.32 However, he conveys various challenges that are, in a way, paradoxical. Because in concluding, “Sometimes, it was possible to draw general conclusions. But at other times, this goal has been elusive”.33 He also sees the need to fit the various studies into the relevant boxes as far as this can be done.34

The impact is never total. There is rarely complete non-compliance or disuse. However, Law is out of social context. They reflect social norms. Overall, they depend on voluntary cooperation action more than force.35 Blankenburg has also pointed out a fundamental paradox: the more the Law asks us to do something far from what we want to do, the less effective it will be. The more the Law asks us to do what we want to do and want us to do, the more effective it will be.36

32 Ibid., 249-52.
33 Ibid.
34 Ibid.
Friedman actually places Legal culture as the third element of the legal system - after the Legal Structure and Legal Substance - which is described as “...the attitude of society towards the Law and the legal system”. Their beliefs, values, ideas, and expectations. Without a legal culture, the legal system becomes inert.

The legal culture of society is human thought in its efforts to regulate their lives. It is also known as written, unwritten and combinative public Law. It is also used to explain why the legal system cannot function properly or deviate from its original pattern from time to time.

In contrast, legal awareness is more the result of scholars’ thoughts, reasoning, and arguments, especially legal experts. Legal awareness is an abstraction (expert) of legal feelings from legal subjects. Thus, in the legal system, what is meant by the legal culture is the legal awareness of the legal subjects of that society as a whole.

The next element is the legal structure. However, based on various opinions of legal experts, especially socio-legal experts, legal structure, as meant by Friedman, tends to be associated with law enforcement. The first question is whether law enforcement becomes an essential element in the legal system or vice versa? Friedman argues that the effectiveness and success of law enforcement depend on three aspects of the legal system: legal structure, legal substance, and Legal culture. He specifically describes the first element of the legal system, namely the legal structure.37

In simple terms, the legal structure relates to the arrangement and performance of institutions and their apparatus in implementing and enforcing the Law; including the pattern of how the Law is implemented and enforced following its formal rules. This is related to legal performance. This description implicitly explains that the measure of legal implementation, namely legal structure, is connected to legal substance, including the importance of the formal arrangement.

This is also synergistic with Friedman’s opinion that: the substance of Law, the second component of the legal system, is the actual rules, norms, and patterns of behaviour of the people in the system. The substance of this Law includes principles and ethics, and court

---

37 The legal structure includes law enforcement officers; the legal importance includes statutory regulations. And legal culture is a living law that is practiced in a society. The three components of the legal system are interrelated. The three elements of Law must go hand in hand to make law enforcement effective and the community feels justice. Friedman’s opinion is to say that the legal system affects law enforcement. See further Friedman, Impact: How Law Affects Behavior, 5.
decisions. Therefore, the legal substance component consists of all legal laws, both written (law books) and unwritten (living Law), and court decisions that are followed by the community and the Government.

In line with Soekanto, who also emphasized that law enforcement is strongly influenced by several factors, which have a neutral meaning, that the positive or negative impact lies in the substance of the factors themselves. These factors are as follows: (i) the legal factor itself, the new legislation; (ii) Law enforcement factors, related parties that form and implement laws; (iii) Facilities or facilities to support law enforcement; (iv) Community factors, the environment in which the Law applies and is enacted; and (v) Cultural factors, as a result of works, creativity, and senses based on human initiatives in social life.  

The next question is whether the legal structure “represented” by the law enforcement aspect is correlated with the legal awareness of the community? As previously explained about legal culture, the element of legal understanding, in this case, represents legal culture. Following the concept of the legal system, Friedman said that legal culture is closely related to the legal structure. Furthermore, some argue that the legal culture affects the legal structure, but some argue otherwise, namely that it is the legal structure that affects the legal culture.

Rahayu argued that law enforcement is a series of processes to describe values, ideas, and ideals and become legal goals. Public awareness and compliance are determined mainly by its legal culture. The pattern of law enforcement with a cultural dimension manifests the synchronization of various aspects of meaning, structure, and culture. The correlation between law enforcement and legal culture can also be influenced by other factors that were not previously taken into account specifically.

In his description of the concept of Progressive Law as well as the relationship between Ethics, Culture and Law, Rahardjo said that Legal culture is the overall factor that

---

38 Soerjono Soekanto, *Faktor-Faktor Yang Mempengaruhi Penegakan Hukum* (Jakarta: Raja Grafindo Persada, 2008), 42.
39 Sometimes, the legal culture of society displays something unique. For example, a legal culture has spiritual essence and contextual existence. As a result, law enforcement in the context of Culture shares space with the other side of values that are believed to be sacred in religious substance and believe in the value of local wisdom. See further Derita P. Rahayu, Faisal, Rafaqa Sari, and Ndaru Satrio, “Law Enforcement in the Context of Legal culture in Society,” *Law Reform* 16, no. 2 (2020): 276–89, https://doi.org/https://doi.org/10.14710/lr.v16i2.33780.
determines how a legal system gets a logical place within the cultural framework of society, which is not just a collection of fragments of behavior and thoughts that stand alone, each other but interpreted holistically, the overall social values related to the Law and the attitudes that affect the Law. Again, this opinion does not explain whether legal culture influences the legal structure or vice versa.

It should be noted that research with the RSA model is a type of causal research to explain the position of the causal relationship of variables. In particular, the RSA model seeks to determine the effect of Legal Ideal (X) as an independent variable on Legal culture (CUL) as the dependent variable by including Substantive Law (SUB) and Legal Structure (STR) as mediating variables. In the end, the use of causal research aims to test the proposed hypothesis, either partially or simultaneously. SmartPLS software helps the process of drawing these conclusions from the beginning, namely from the evaluation of the measurement model (outer model), evaluation of the structural model (inner model), to hypothesis testing.

The evaluation of the measurement model or the outer model shows that the data collected from the respondents have met the validity and reliability requirements. The results of the actual validity test and reliability test indicate this.

Convergent validity test (using Average Variance Extract (AVE) value and factor loading value) and discriminant validity test (using (i) square root value of AVE concerning Fornell&Larcker criteria; (ii) Heterotrait-Monotrait (HTMT) value, and (iii) cross-loading value) indicates the validity of the instrument’s accuracy data in measuring a variable. The following is a PLS-SEM diagram related to the Measurement Model sourced from data processing results.
The outer or measurement model shows a reflective relationship between latent variables and research indicators. The strength of the relationship between variables based on the rho-A value also indicates a powerful relationship category.

The reliability test shows a good level of consistency. The test uses Cronbach’s Alpha and Composite Reliability values. The reliability test in this case includes the level of consistency of indicators on a variable and the level of consistency of respondents when answering questions on the questionnaire. It can be concluded that all latent variables are reliable or reliable.

<table>
<thead>
<tr>
<th>Var</th>
<th>Cronbach’s Alpha</th>
<th>rho_A</th>
<th>Composite Reliability</th>
<th>Average Variance Extracted (AVE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CUL</td>
<td>0.918</td>
<td>0.921</td>
<td>0.935</td>
<td>0.673</td>
</tr>
<tr>
<td>STR</td>
<td>0.916</td>
<td>0.919</td>
<td>0.931</td>
<td>0.630</td>
</tr>
<tr>
<td>SUB</td>
<td>0.855</td>
<td>0.862</td>
<td>0.896</td>
<td>0.635</td>
</tr>
<tr>
<td>X</td>
<td>0.855</td>
<td>0.854</td>
<td>0.892</td>
<td>0.580</td>
</tr>
</tbody>
</table>

Table 2. Validity and Reliability Test Results

---

42 SmartPLS software.
43 SmartPLS Report based on questionnaire data.
The structural model evaluation shows the relationship between latent variables. Based on the value of the coefficient of determination ($R^2$) on the Legal culture variable, it is influenced by the Legal Ideals (rechtsidee), Legal Substance, and Legal culture variables. It can also be concluded that the $R^2$ value of the three variables in this study has a correlation coefficient above 0.7, which means that it belongs to the moderate category.

Furthermore, the results of the Multicollinearity test show that the Variance Inflation Factor (VIF) value is below 5. It means that the independent variables in this study are not correlated or there is no multicollinearity. However, to produce a good regression model, there are several indicator items from the Legal Ideals (X), Legal Substance (SUB), Legal Structure (STR) and Legal culture (CUL) variables which were omitted because their values were above 5 or considered not valid. The omitted indicator items: (i) from the Legal Ideals variables are X1, X2, and X3; (ii) the Legal culture variables are CUL1 and CUL9; (iii) the Legal Substance variables are SUB1, SUB2, and SUB3; and (iv) the Legal Structure variable is STR9.

B. 1. 2. Hypothesis Test Result

Hypothesis testing in this study used a significance test and a mediation test. The significance test tests the five direct influence hypotheses, namely the first hypothesis to the fifth hypothesis ($H1 – H5$); while the mediation test is to test the hypothesis of two indirect effects, namely the sixth and seventh hypotheses ($H6$ and $H7$).

The results of the direct and indirect hypothesis testing based on the values of Path Coefficient, T-statistics, and P-value are as follows:

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Variable Relationship</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>Legal Ideals $\rightarrow$ Legal Substance</td>
<td>Legal Ideals has a positive relationship with Legal substance.</td>
</tr>
<tr>
<td>H2</td>
<td>Legal Ideals $\rightarrow$ Legal Structure</td>
<td>Legal Ideals has a positive relationship to Legal Structure.</td>
</tr>
<tr>
<td>H3</td>
<td>Legal Substance $\rightarrow$ Legal culture</td>
<td>Legal Substance has a positive relationship with Legal culture.</td>
</tr>
<tr>
<td>H4</td>
<td>Legal Structure $\rightarrow$ Legal culture</td>
<td>Legal Structure does not have a positive relationship with Legal culture.</td>
</tr>
<tr>
<td>H5</td>
<td>Legal Substance $\rightarrow$ Legal Structure</td>
<td>Legal Substance has a positive relationship with Legal Structure.</td>
</tr>
<tr>
<td>H6</td>
<td>Legal Ideals $\rightarrow$ Legal Substance $\rightarrow$ Legal culture</td>
<td>Legal Ideals has a positive relationship with Legal culture through Legal Substance.</td>
</tr>
</tbody>
</table>
The framework of analysis and discussion in this paper is guided by the Regulatory Status Analysis (RSA) scheme which links the legal variables of carbon emission restrictions. Indeed, it will be known the Effect of legal ideals (independent variable) on legal culture (dependent variable) with legal substance and legal structure as intervening variables related to the implementation of the cap-and-trade mechanism for carbon emissions in Indonesia. To facilitate the discussion, the description below is divided into two categories based on the conclusion of the hypothesis. First, the categories of hypotheses that are accepted or supported are H1 to H3, H5, and H6. Second, the category of rejected hypotheses, namely H4 and H7.

B. 2. Most of the Hypotheses are Accepted

The legal ideals indicators are: (i) Carbon Emission Restriction provides confidence to realize JUSTICE between the emitters and the community as victims; (ii) Restrictions on Carbon Emissions provide LEGAL CERTAINTY for carbon emitters; (iii) Limiting Carbon Emissions provides LEGAL CERTAINTY for the community as victims; (iv) Limiting Carbon Emissions provides BENEFITS for carbon emitters; (v) Limiting Carbon Emissions provides BENEFITS for the community as victims; and (vi) Communities feel safe from greenhouse gases after the Carbon Emissions limitation.

The first hypothesis (H1) states that legal ideals affect legal substances related to limiting carbon emissions. The study results followed the hypothesis (H1: X -> SUB, supported). This follows the legal philosophy of Gustav Radbruch, which says that awareness of the ideal Law – in a fair sense – produces legal products with good substance. Legislators' efforts to create equity are important because equality is the core of justice.

The indicators of legal substance are: (i) limiting Carbon Emissions providing tangible results for the community; (ii) pride in being a supporter of carbon emission laws; (iii) satisfaction with the principles and rules of regulating carbon emission restrictions; (iv) limiting Carbon Emissions provides satisfactory environmental quality, and (v) limiting Carbon Emissions offers results in line with community expectations.
The second hypothesis states that regarding the limitation of carbon emissions: legal ideals affect the legal structure. The study results followed the hypothesis (H2: X -> STR, supported). This is also following “Radbruch’s Formula” from a practical point of view concerning law enforcement through the judicial system. Judge decisions based on the ideal Law require law enforcement officers, institutions, and a capable enforcement process. The legal structure is the skeleton of law enforcement.44

Following the legal structure indicators in this study, namely: (i) law enforcement on Carbon Emissions restrictions relies on the judicial system in Indonesia; (ii) enforcement of the Carbon Emissions limitation law has good procedural Law; (iii) enforcement of the Carbon Emissions limitation law has sound material laws; (iv) law enforcement officers dedicated to limiting Carbon Emissions; (v) law enforcement officials have understood the provisions on Carbon Emissions restrictions; (vi) enforcement of the Carbon Emissions limitation law is the leading choice over other environmental laws; (vii) law enforcement on Carbon Emissions limitation has adequate supporting facilities; and (viii) enforcement of the Law on limiting carbon emissions has a supportive working environment.

The third hypothesis states that the legal substance affects legal culture related to limiting carbon emissions. The results follow the hypothesis (H3: SUB -> CUL, supported). Following the legal culture indicators in this study, namely: (i) providing a positive review of the limitation of Carbon Emissions; (ii) suggesting the need to limit Carbon Emissions to society; (iii) recommend limiting Carbon Emissions at every opportunity; (iv) Carbon Emissions restrictions are known to have a positive legal image; (v) suggesting the need to limit Carbon Emissions to families; (vi) suggesting the need to limit Carbon Emissions to friends, and (vii) suggesting the need to limit Carbon Emissions to the community.

Its relevance to the legal substance of limiting carbon emissions is that although it may not produce tangible results, there have been satisfied with the principles and rules of regulating carbon emission restrictions. In addition, the regulation of national carbon emissions can create pride in being a supporter of carbon emission laws that are universally believed to provide satisfactory environmental quality. This means that government policies to reduce Carbon

Emissions offer relevant results, not only expectations for local communities but also global communities.

The fifth hypothesis states that legal meaning affects the legal structure related to limiting carbon emissions. The results follow the hypothesis (H5: SUB -> STR, supported).

Practically the validity of the norms in the legal substance is related to the legal structure in the law enforcement process. Jan-ReinardSieckmann argues that:

“There is a link between the legal validity of a norm and the rational justifiability of a requirement that judges should apply this norm, based on a normative conception of legal validity and the postulate that judges should act as rational persons”.

His thesis is: “that a norm is legally valid only if the requirement that the organs of the legal system apply it is rationally justified.” The assumption is that “a link between the legal validity of norms and requirements addressed to law-applying organs, especially judges, that these norms be applied and followed”. This description:

“Deals with the requirement of a rational justification of the legal validity of norms and the consequences of this requirement would have for the structure of the legal system”.

However, it should also be noted that the structure and features and trends can influence a country’s legal system. Zhu Jingwen said that the relationship between normative legal documents and legal norms is between the form of expression and the inherent structure and between phenomena and substance. He describes it based on a review of the historical evolution of the legal system structure with a focus on the condition of national legislation through analysis of the classification of normative documents. Furthermore, an analysis of the nature of legal norms, both public and private legal norms as well as national and international Law.

Zhu Jingwen’s discussion is relevant for further research on the legal system in Indonesia related to the regulation of carbon emission restrictions. This is because the international victim emission discourse has existed in several previous national arrangements.

---


46Ibid.

However, the central and local governments impose partial levies in the form of taxes and levies on activities that cause carbon emissions. An example of a central government tax is the Value Added Tax (VAT) on Fuel Oil (BBM), namely VAT imposed on the delivery and import of taxable goods in the form of fuel or fossil fuels or other minerals as fuel in power and heat generation which cause adverse effects. Greenhouse gases or high emissions used in the production process by the cement, steel, ammonia industry, domestic liquid waste treatment industry, solid waste treatment industry at the final disposal site (TPA), and emissions resulting from the use of urea fertilizer. Also, Luxury Goods Sales Tax (PPhBM) on motor vehicles. Based on Government Regulation Number 73 of 2019. Imposed on the delivery of motorized vehicles once upon delivery by the manufacturer or at the time of import with a tariff of up to 95%. In the future, electric cars, because of low CO2 emissions, PPhBM will also be low. At the same time, examples of local government taxes are Motor Vehicle Tax (PKB), Motor Vehicle Transfer Fee (BBNKB), Motor Vehicle Fuel Tax (PBBKB), Surface Water Tax, Mineral and Non-Metal Excavated Material Tax, and Groundwater Tax.

Umbrella provisions for limiting carbon emissions have been regulated in general environmental policies. Since Law Number 4 of 1982 concerning Basic Provisions for Environmental Management which has been effective since March 11, 1982, it has included norms regarding environmental, economic policies. Then it was replaced successively with Law Number 23 1997 concerning Environmental Management and replaced again with Law Number 32 of 2009 concerning Environmental Protection and Management, which is still valid today. The relevant implementing regulations are Government Regulation of the Republic of Indonesia Number 46 of 2017 concerning Environmental Economic Instruments; where Article 33 of the a quo Government Regulation regulates incentives and/or disincentives policies, including applying taxes and levies, and environmental subsidies.

The legal awareness of the Indonesian people towards the carbon tax should have existed all this time, but has not been explicitly known or questioned. Public understanding may be simpler and harmonized with awareness to prevent air pollution only. In addition, the Government is also discussing the carbon tax as a new tax that is different from the existing state levies, both in the form of taxes/excise, Non-Tax State Revenue (PNBP), and levies (charges).
Another relevant but missed by this research is the linking of carbon emission restrictions with social risk. George L. Priest describes US experience in agency regulation and enforcing liability rules and statutory rights.48

Serious attempts to impose legal controls on sources of social risk only emerged in the 1960s. Most prominent in the public’s mind is creating a special federal agency to directly regulate certain social hazards, for example the Environmental Protection Agency. But far wider in scope and far more effective in impact than institutional regulation is the extension of civil Law to control risk. Then since the late 1960s, the US civil justice system has adopted the premise that civil redress awards that enforce liability rules and legal rights can optimally regulate each source of social risk. Building on this premise, our civil courts have become the most powerful modern state institutions to regulate risk.

These two discourses are closely related to the legal structure of limiting carbon emissions and deserve to be an additional analysis as an indicator of the legal structure variable in subsequent research because both arrangements already exist in environmental laws and regulations in Indonesia. Only the enforcement of the Law is still in question.

_B. 2. 1. The Influence of Legal Ideals on Legal culture which is Mediated by Legal Substance_

The sixth hypothesis states that related to limiting carbon emissions: legal ideals affect the legal culture of Indonesian society through legal substance. The results are in accordance with the hypothesis (H6: X -> SUB -> CUL, supported).

The Law that regulates the limitation of carbon emissions in Indonesia has been considered ideal (fair, sure, and beneficial) so that it affects the community’s positive attitude to comply with these legal rules. The results of statistical tests show that legal ideals affect legal culture; in this case, it is mediated by legal substance.

Legal substance, which is defined as the norm material in legislation, consists of material Law and formal Law. To seek legal sources of problems in temporal Law, law enforcers will follow traditional Law or procedural Law, which technically procedures must be carried out in court proceedings. Thus, it is very understandable if it turns out that the substance

of the carbon emission law is a good mediator for the effect of the ideal Law on law enforcement.

B. 2. 2. There are Two Rejected Hypotheses Regarding the Legal Structure

First, the fourth hypothesis which states that related to limiting carbon emissions: the legal structure affects the legal culture; where the research results do not match the hypothesis (H4: STR -> CUL, rejected). Second, the seventh hypothesis which states that related to limiting carbon emissions: legal ideals affect the legal structure. The results of the study were not following the hypothesis (H7: X -> STR -> CUL, rejected).

This means that the legal structure represented by law enforcement does not directly affect the legal awareness of the Indonesian people to comply with the provisions on carbon emissions. The legal structure mediation on the influence of legal ideals on legal culture also did not work. The analogy is that the enforcement of carbon emission laws does not play a role in “helping” legal ideals in influencing legal awareness. The Indonesian people’s view that law enforcement related to carbon emission restrictions does not affect the relationship between the ideal Law and public awareness to comply with limiting carbon emissions.

Apart from the possibility that there has not been a decision on carbon emissions cases in court, the small mediating function of this legal structure can be caused by other things that have been overlooked by research. This is in line with the theory of several legal experts who say that the legal awareness of the community to comply with regulations is influenced by the law enforcement process, not the other way around. In practice, various climate change legal decisions do require interdisciplinary analysis because they reflect a progressive cumulative.49

B. 2. 3. The entrepreneurs keep evading but the adjusting

The interests of Indonesia’s national economic development are currently one of the challenges in issuing regulations to limit carbon emissions. The economic pillar in this case, deals with the ecological pillar. Indonesia has included an acknowledgment of environmental protection in its constitution. The meta-principle of sustainable development is contained in the

Environmental Law and the 1945 Constitution of the Republic of Indonesia, in which sustainable development is one of the foundations of the national economic system.

The following are relevant insights from the business sector in Indonesia related to carbon taxation and carbon trading (carbon credits). Some have asked for a delay because they are worried about the rush of imported products. The carbon tax has the effect of eroding the competitiveness of the national industry. Some ask for support from the Government in the form of incentives that use environmentally friendly technology. They expect policy relaxation.\(^50\)

The Secretary-General of the Association for the Aromatic Olefins and Plastics Industry (INAPLAS), Fajar Budiono, said that implementing the carbon tax will inevitably increase electricity rates, which will burden production costs. Because the second largest cost after raw materials is electricity, both for the upstream and downstream petrochemical industry, with a portion of 80%. As a result, the competitiveness of local petrochemicals has been eroded. He also stressed that:

“Indonesia’s purchasing managers’ index, which is doing well, should not go down because of the carbon tax. Moreover, after Covid-19, Indonesia needs a growth engine”.\(^51\)

Previously, he also stated that:

“The carbon tax will make imported products increasingly dominate the domestic market. Strong industrial countries such as China, the United States, and India do not implement this policy.”\(^52\)

The Association of Indonesian Ceramics (ASAKI) also rejected the Government’s discourse to impose a carbon tax on industry. Because this will have a direct impact on the

---


\(^{52}\) In 2021 alone, the Indonesian ceramic industry has been attacked by imported goods. During January-May 2021, ceramic imports jumped 45%. ASAKI cannot imagine the state of the ceramic industry when the carbon tax applies because it is also worried about industrial solid countries that do not apply a carbon tax, such as China, the United States, and India. See further Harso Kurniawan, “Iklim Usaha Bisa Rusak: Industri Petro Kimia Tolak Pajak Karbon,” Investor Daily, August 5, 2021, https://beritasatamedia.cld.bz/ID-210805/10/.
decline in industrial competitiveness. Competitiveness is needed amid the economic crisis due to the Covid-19 pandemic.\textsuperscript{53}

General Chairperson of the Indonesian Textile Association, Jemmy Kartiwa Sastraatmaja, asked the Government to postpone or even cancel the carbon tax which will take effect on April 1, 2022, because the carbon tax will increase manufacturing production costs. In addition, the Government intends to increase the value-added tax (VAT) to 11% next year, which threatens sales as well as the recovery of the industry.\textsuperscript{54}

The secretary general of the Indonesian Fiber and Filament Yarn Producers Association (APSYFI), Redma Gita Wiraswasta, also questioned the application of a carbon tax to coal-fired power plants at a rate of Rp 30 per CO2e, because the carbon tax will increase the cost of producing upstream textiles and textile products. He said that APSYFI actually agreed to reduce carbon emissions. Even APSYFI and other associations have made suggestions about 2-3 years ago. This is in line with the world’s tendency to strive to reduce carbon emissions. The proposals are incentives for industries that want to reduce carbon emissions.\textsuperscript{55}

Meanwhile, INDEF researcher in the fields of Trade, Industry and Investment, Ahmad Heri Firdaus, said that the Government’s steps to reduce greenhouse gas emissions from the manufacturing industry must be done by reducing the use of coal in the production process and replacing it with fuel that is more environmentally friendly. “We need to look at the causes of greenhouse gases more comprehensively.” This opinion is in line with the Executive Director of INDEF, Tauhid Ahmad, who considers that the imposition of a carbon tax for industry in 2022 is not appropriate because the coal-using manufacturing industry is still trying to rise since being hit by the pandemic in early 2020. He added,

“And it is not easy to force the industry to switch from using coal to New and Renewable Energy, because in terms of price and available volume, it also does not meet the economic requirements.”\textsuperscript{56}

\textsuperscript{53} Ibid.
\textsuperscript{54} Ibid. This means that manufacturing will be hit repeatedly so that it can fall apart where in the end there will be layoffs. See further Leonard Al. Cahyoputra, “Pajak Karbon Tuai Polemik: Industri Hijau, Solusi Jitu Pangkas Emisi Karbon,” Investor Daily, October 14, 2021, \url{https://beritasatamedia.cld.bz/ID-211014/10/}.
\textsuperscript{55} Ibid.
\textsuperscript{56} Furthermore, Tauhid Ahmad also suggested that the Government should provide a series of incentives for the manufacturing industry that dares to invest in environmentally friendly technologies. \textit{Ibid.}
Opinions from business circles do have different perspectives in addressing the regulation of carbon emission restrictions in Indonesia. Of course, they prioritize the interests of entrepreneurs with economic motives. Although research by Edame and Okoi\textsuperscript{57} shows that taxation is negatively related to the level of investment and output of goods and services (GDP) and is positively related to government spending. Meanwhile, research by Wardhani, Rossieta and Martani proved that local government spending in Indonesia is not efficient in improving performance.\textsuperscript{58}

Economic motives will greatly affect awareness of complying with laws and regulations. Economic interests, according to Friedman, have made a major contribution to the science of human behaviour, including legal behaviour. It has made great progress but at a price. Generally speaking, economists make certain assumptions about human behaviour, and these assumptions are often far too narrow, if not downright wrong.

\textbf{B. 2. 4. Political will and participatory governance}

The Ministry of Finance of the Republic of Indonesia claims that fixing carbon prices is a policy Indonesia must take for several reasons. First, it is an effective climate change mitigation strategy. Second, provide significant revenue that can overcome the problem of budget deficits. Finally, it can be done in conjunction with eliminating fossil fuel subsidies to achieve a sustainable low-carbon economy. These points are valid and justified as long as the carbon tax policy is carefully designed. However, the parameters of the legal norms of fairness in tax collection can be seen from the fair and equal treatment of taxpayers and the protection of citizens from the actions of the ruling government in tax collection itself.\textsuperscript{59}


\textsuperscript{58}On the other hand, the results show the negative effect of government spending on performance. Good public governance has a positive effect on performance and reduces the inefficiency of government spending. See further Ratna Wardhani, Hilda Rossieta, and Dwi Martani, “Good Governance and The Impact of Government Spending on Performance of Local Government in Indonesia,” \textit{International Journal of Public Sector Performance Management} 3, no. 1 (2017): 77–102, \url{https://doi.org/10.1504/IJPSPM.2017.082503}.

On various occasions, formal and non-formal, the entrepreneur gave various rejections. The indication is that they are worried that the regulation of carbon emission restrictions in the future will have a negative impact on company profits. On the one hand, these signals need to be considered so that in the future the legal awareness of these economic stakeholders can adapt and support the limitation of carbon emissions as well as environmental stakeholders and the general public. On the other hand, they are believed to be adaptable because they have better resilience to limiting carbon emissions.

The objection from the entrepreneur shows their legal feeling instead of legal awareness. Legal feeling is spontaneous and subjective. The legal culture of Indonesia business community can also be treated with the same limitations as legal awareness but different from legal feelings. The different opinions from the business community require attention from the authorities and adjustments from the business itself for the safety of planet earth.

As Friedman argue that one generalization can be made quite safely. No laws, no decisions, no rules are entirely adequate, fully complied with, without dissent or non-compliance or disuse. There is always some deficiency. Some reasons are obvious. People are different: in personality, in their position in society, in their strength and power, in their ideologies. Regarding compliance with the Law, it is necessary to understand that the Law asks—no, demands—that we refrain from violating the Law. This means that the Law tells us to obey something we want to obey—or we have learned to want to obey.

C. Conclusion

Indonesia’s carbon emission policies have not yet been fully implemented so people have not heard many judges’ decisions in court concerning carbon emission legal cases. People view that limiting carbon emissions in Indonesia is an ideal arrangement because it fulfils a sense of justice, benefit, and legal certainty. The community’s attitude shows legal awareness to comply with the provisions in limiting carbon emissions. This means that limiting carbon


emissions requires public support and political will. For further research, elements of legal structure should be analyzed based on the number of court decisions, meaning that they are based on numerical data with nominal categories. Thus, in the future, when there is a lot of law enforcement related to carbon emission cases in Indonesia, parametric statistical analysis of court decisions can be carried out as a substitute for non-parametric statistics based on data with ordinal categories.

REFERENCES

Laws and Regulations

Law Number 4 of 1982 concerning Basic for Environmental Management.
Law Number 23 of 1997 concerning Environmental Management.
Law Number 32 of 2009 concerning Environmental Protection and Management.
Law Number 12 of 2011 concerning Establishment of Legislation as Amendment of Law Number 15 of 2019.
Law Number 7 of 2021 concerning Harmonization of Tax Regulation.
Regulation of the Government Number 46 of 2017 concerning Environmental Economic Instruments.
Regulation of the Government Number 73 of 2019 concerning Taxable Good Classified.

Books


Journal Articles


**Thesis or Dissertations**


**Scientific Papers or Focus Group Discussions**


**News or Magazine Articles**


Website Contents


Personal Communication