BADAN STRATEGI KEBIJAKAN HUKUM DAN HAM

Jurnal Penelitian Hukum De Jure

Published by The Law and Human Rights Policy Strategy Agency
Ministry of Law and Human Rights of the Republic of Indonesia
Volume 25, Number 3, November 2025 ISSN (Print) 1829-7706 ISSN (Online) 2548-1657
Journal Homepage: https://ejournal.balitbangham.go.id/index.php/dejure



Abandoning the Precautionary Principle in Environmental Licensing: a Comparison of Indonesia with Three Other Countries and a New Evidentiary Mechanism

Ajie Ramdan
Pusat Studi Kebijakan Kriminal,
Fakultas Hukum Universitas Padjadjaran, Bandung, Jawa Barat, Indonesia

Article Information

Corresponding Author. Email:
ajie.ramdan@unpad.ac.id

History:
Submitted: 07-07-2025;
Accepted: 31-11-2025

Keywords:
the precautionary principle, environmental permits, comparison, scientific proof

http://dx.doi.org/10.30641/dejure.2025.V25.277-290

Copyright © 2025 by Jurnal Penelitian Hukum De Jure.

This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International (CC BY-NC 4.0)

All writings published in this journal are personal views of the authors and do not represent the views of the Policy Strategy Agency.

Cara Mengutip:
Ajie Ramdan. "Abandoning the Precautionary Principle in Environmental Licensing: A Comparison of Indonesia with Three Other Countries and a New Evidentiary Mechanism". Jurnal Penelitian Hukum De Jure. Volume 25 Number 3, November 2025, 277-290. http://dx.doi.org/10.30641/dejure.2025.V25.277-290

Abstract

Law Number 6 of 2023 concerning Job Creation revises Law Number 32 of 2009 by decriminalising Article 102 and merging it with Article 109. They have been changed from conduct offences to result-based offences. This study uses a normative legal research method combined with a comparative study using a statute research approach, which is used to analyse, explore, and review changes to Article 109. The findings of this study explain that because of revision of those articles, criminal sanctions cannot be imposed if someone or entities do not have environmental permits until environmental damage has already occurred. A study of the UK, the Netherlands, and Sweden shows those countries apply the precautionary principle by penalising the actions of entities that do not have environmental permits as conduct criminal offences. A comparison will be made between this and the environmental laws of Indonesia. Currently, to enforce Article 109 of Law Number 32 of 2009, prosecutors will need to employ the same proof method as that used for criminal offences as stipulated in Articles 98, 99, and 100. The novelty of this research is that the change from conduct offences to result-based offences have the potential to damage Indonesia's environment. This will be scientifically proven in this article. The decriminalisation of Article 102 and the amendment of Article 109 of Law Number 32 of 2009 not only change the system of proof in cases of environmental permit violations, namely through scientific evidence, but also constitute a disregard for the precautionary principle.

1. Introduction

Many countries have enshrined the right to a healthy environment in their constitutions, including Indonesia. This right was constitutionalized in Indonesia in 2000, as stipulated in Article 28H paragraph (1) of the 1945 Constitution of the Republic of Indonesia. Therefore, Indonesia currently has a green constitution with strong recognition of the right to a healthy environment. To realize this right, Indonesia enacted Law Number 32 of 2009 concerning environmental protection and management.[1] The aforementioned legislation stipulated that entities engaging in commercial activities that result in a negative environmental impact are obligated to obtain an environmental licence. Failure to obtain such a licence is a criminal offence, punishable by imprisonment and substantial fines. This was a conduct offence, criminalised by Articles 102 and 109 Law Number 32 of 2009. However, in 2023, the government and the House of Representatives passed a new law to change this conduct offence to a result-based offence. This policy has the potential to ignore the precautionary principle because Indonesian Law Number 6 of 2023, which relates to Law Number 2 of 2022

1 Simon Butt and Prayekti Murharjanti, "The Constitutional Right to a Healthy Environment in Indonesia," *Journal of Environmental Law* 33, no. 1 (2021): 34, doi: 10.1093/jel/eqaa031.

concerning Job Creation, has revised Article 102 and Article 109 of Law Number 32 of 2009 to be result-based offences. The purpose of this abolishment is to attract more investment to Indonesia.[2]

Research on the amendment of these two articles is crucial because they were created to realise the right to a healthy environment, which is a human right.[3] Policies to attract investment should not open loopholes for Indonesian development at the expense of the environment. Ironically, as a result of the deletion of Article 102 and its merger with Article 109 by the current Job Creation Law, the lack of an environmental permit is no longer a criminal offence until environmental damage occurs. Thus, Article 109 is currently a result-based offence. It is defined as an offence that is deemed to have been completed by the infliction of the consequences prohibited and threatened with punishment by law. [4]

In comparison to the previous Articles 102 and 109, these articles had been regarded as conduct offences. They were deemed to have been completed by the commission of acts prohibited and threatened with punishment by law.[5] It is a suffering according to criminal law related to the violation of norms based on a judge's decision.[6] The precautionary principle posits that decision-makers should adopt precautionary measures to protect human health and the environment, even in the absence of definitive scientific evidence regarding the potential risks. That is to say, the implementation of precautionary restriction mechanisms is imperative to safeguard the well-being of individuals and the environment against the contingent risks posed by hazardous chemicals.[7] The existence of conduct offence is to follow the precautionary principle, which is absolutely important to protect the environment from the scientific uncertainty.

In accordance with the aforementioned principle, it is incumbent upon Indonesia to ensure the preservation of human health and the environment, notwithstanding the ambiguity surrounding the scientific evidence pertaining to the risk. The precautionary principle has been adopted by Indonesia in the interpretation of Article 2, letter f, Law Number 32 of 2009. This principle asserts that the uncertainty surrounding the consequences of a business or activity, stemming from the limited understanding of science and technology, should not be used as a justification for postponing measures aimed at minimising or averting threats to pollution and environmental degradation. It is important to note that every environmental licence falls under the purview of administrative law. In the event of any violation of this law, the relevant authorities reserve the right to resort to criminal law in order to protect the environment. In the event of criminal liability arising from the infringement of administrative law provisions (whether or not accompanied by additional requirements stipulated in criminal legislation), the criminal behaviour in question is typically discernible *a priori.* Thus, in the event of an administrative violation, the evidence should be straightforward and highly logical without the need for scientific proof, as no environmental permit has been issued.[8]

Article 109 stipulates that any individual conducting commercial activities without the requisite environmental impact assessment (AMDAL), environmental management efforts, and environmental monitoring efforts (UKL-UPL), or without a hazardous and toxic waste management licence, or who engages in the dumping of waste or hazardous and toxic waste shall be subject to criminal prosecution and, upon conviction, shall be sentenced to a minimum of one year's imprisonment and a maximum of three years' imprisonment along with a fine of at least IDR 1,000,000,000.00 (one billion rupiahs) and a maximum of IDR 3,000,000,000.00 (three billion rupiahs). The revision of Article 109 has rendered the task of proving environmental damage more technical and complex. Law enforcement officers such as the police and environmental investigators from the Ministry of the Environment must ascertain whether an individual or company has polluted the environment through laboratory testing of soil and/or water samples. This procedure is now required to prove an environmental crime, given the change in Article 109 which reclassifies such crimes from a conduct offence to a result-based offence.

---

2 Ajie Ramdan, 'UU Cipta Kerja Melindungi Pengelolaan Limbah B3 Tanpa Izin dari Pemidanaan', hukumonline.com, 2023, https://www.hukumonline.com/berita/a/uu-cipta-kerja melindungi-pengelolaan-limbah-b3-tanpa-izin-dari-pemidanaan-lt64db257b34ae0/, (accessed 1st July 2025).

3 Simon Butt and Prayekti Murharjanti, *op.cit*., 54.

4 Jan Remmelink, *Hukum Pidana* (Jakarta: PT Gramedia Pustaka Utama, 2003), 70-71.

5 *Ibid*

6 Topo Santoso, *Hukum Pidana Suatu Pengantar* (Depok: Rajawali Pers, 2024), 160.

7 Joonas Alaranta and Mirella Miettinen, "Precautiously Circular: Perspectives on the Application of the Precautionary Principle in European Union Waste and Chemicals Regulation," European Journal of Risk Regulation 14 no. 1 (2023): 15-18, https://doi.org/10.1017/err.2022.37.

8 Valsamis Mitsilegas et. al, *The Legal Regulation of Environmental Crime* (Leiden: Koninklijke Brill NV, 2022), 126.

The complete abandonment of the link between administrative and environmental criminal law would have the consequence that, in theory, a certain form of pollution could be authorised under an administrative permit. The protection afforded by criminal law is typically enshrined in a single article at the conclusion of an administrative statute. Such an article typically stipulates that any individual who contravenes the stipulations set forth in the act, regulation, or licences issued in accordance with the aforementioned documents shall be subject to a specific penalty. In certain instances, it is explicitly specified that any individual who operates without a licence or contravenes the conditions of a licence shall be held criminally liable in accordance with the specific provision.[9] Changing the conduct offence to the result-based offence by Indonesian Law Number 6 of 2023 is abandoning the relationship between administrative and environmental criminal law. It, therefore, will not prevent the environmental damage because there is no penalty for an individual or company who does not have environmental licences.

The majority of environmental criminal law is comprised of provisions incorporated in environmental statutes of an administrative nature, the primary function of which is to enforce compliance with administrative obligations. Consequently, a significant proportion of environmental criminal law is not formulated in an independent manner, but rather as an ancillary component of regulatory frameworks. In the context of legal practice, a large proportion of environmental criminal law is constituted of regulatory violations. For instance, the polluter may be prosecuted for discharging certain substances into the environment without the requisite permit, or for violating the conditions of a permit. The revision of Article 109 constitutes a disregard for the relationship between administrative law and criminal law because if a person or company carries out activities that will impact the environment without an environmental permit, it is not a criminal offence until environmental damage occurs. This is because Article 109 contains a phrase that refers to the occurrence of victims/damage to health, safety, and/or the environment. Therefore, in order to enforce Article 109, law enforcement officials cannot simply rely on the absence of an environmental permit. Instead, law enforcement officials must prove that environmental damage has occurred.[10]

This study distinguishes itself from previous studies by adopting a comprehensive and novel approach to analysing the consequence of abandoning the precautionary principle in the context of environmental licensing under job creation law and proving that the absence of an environmental permit results in victims/damage to health, safety, and/or the environment. The article with the title: "Ketentuan Pidana Administrasi (Administrative Penal Law) Dalam Penegakan Hukum Lingkungan setelah Diundangkannya UU Cipta Kerja" by Hajriyanti Nuraini, Nadia Astriani and Yulinda Adharani, has focused on analysing the change of the administrative penalty provisions in the Law Number 32 Year 2009 and the importance of administrative criminal provisions in the environmental field. This research targets changes in administrative criminal provisions in the environmental sector after the enactment of the Job Creation Law. In addition, it analyses the changes in the provisions on environmental law enforcement and provides recommendations so that environmental law enforcement in Indonesia can run effectively. In contrast, the focus of the research conducted by Ajie Ramdan concentrates on examining the consequence of abandoning the precautionary principle by revising Article 102 and 109 Law Number 32 Year 2009 and a new evidentiary mechanism in the event that the absence of an environmental permit results in victims/damage to health, safety, and/or the environment. The novelty of this research, compared to a previous study, is in the fact that the change from conduct offences to result-based offences have the potential to damage Indonesia's environment. This and the damage that can be caused by the absence of environmental permits must be scientifically proven.

This is the first time Indonesia has amended the environmental permit provisions stipulated in Articles 102 and 109 of Law Number 32 of 2009 to remove criminal sanctions as consequences until environmental damage occurs. This constitutes a disregard for the precautionary principle. In comparison, the United Kingdom, the Netherlands and Sweden require environmental permits before starting a business that will have an impact on the environment. If such a permit is not obtained, two sanctions may be imposed: administrative sanctions and criminal sanctions as a result of result-based offences. In addition, the decriminalisation of Article 102 and its incorporation into Article 109 means that incidents of pollution must be proven by scientific evidence, then establish whether an environmental permit had been issued. This study will answer three research questions. First, what is the consequence of disregarding the precautionary principle by decriminalising Article 102 and combining it with the revision of Article 109 of Law Number 2009 by the Job Creation Law? Second, how does the application of the

9 Michael G Faure, "Towards a new model of criminalization of environmental pollution: the case of Indonesia," in Environmental Law in Development Lesson from the Indonesian Experience, ed Michael G Faure & Nicole Niessen (USA: Edwart Elgar, 2006), 194-196.

10 Valsamis Mitsilegas et. al, *op.cit*., 126.

precautionary principle in Indonesia compare with that in the United Kingdom, the Netherlands, and Sweden in regards to environmental licensing? And third, what new scientific evidence mechanisms must be implemented in the event of a violation of Article 109?

2. Method

The method used in this study is normative juridical [11] combined with comparative legal studies with the United Kingdom, the Netherlands, and Sweden.[12] These three countries were chosen as comparators because they protect their environment by imposing criminal sanctions in addition to administrative sanctions in the event of environmental permit violations prior to conducting business activities that impact the environment. This is an application of the precautionary principle. The data analysis techniques used are qualitative and descriptive analysis techniques. This research can be broadly categorised into three different classifications: research focused on identifying and addressing problems, research centred on policy formulation, and research aimed at legal reform. It is acknowledged that these categories are not mutually exclusive and are identified in terms of assessing the main focus of the study. The frequent correlation between these two phenomena necessitates consideration for joint analysis.[13] The approach used is a statute research approach, which is used to examine, explore, and review various environmental laws and regulations. Additionally, a conceptual approach is employed to analyse and critique the concepts within criminal policy in the revision of Articles 102 and 109 of Law Number 32 of 2009, and a philosophical approach to analyse new concepts of evidence in the revision of Articles 102 and 109 of Law Number 32 of 2009 from the perspective of criminal policy philosophy. [14]

To ensure the validity of doctrinal data, this study uses triangulation[15] involving the collection and analysis of data from various sources of literature, legislation and court decisions. This study uses two different research methods, namely normative juridical and comparative legal studies. In addition, various theoretical frameworks are used, namely the precautionary principle, the principle of prevention, and the theory of negative proof with scientific methods. Triangulation is used to interpret the data in this study or perspective to confirm findings and overcome weaknesses.

3. Findings and Discussion

3.1 The Consequence of Abandoning the Precautionary Principle in the Context of Environmental Licensing Under Job Creation Law

The precautionary principle, formulated by the tribunal in the Trail Smelter Case and reiterated in the Rio Declaration, as highlighted by Nollkaemper, posits that states have a responsibility to prevent activities within their jurisdiction or control from causing harm to the environment of other states.[16] Principle 15 of the Rio Declaration on Environment and Development in 1992 suggests that where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation. In addition, the Convention on Biological Diversity (1992),[17] in a seminal moment in environmental politics, concluded in the context of the Rio Conference on Environment and Development. The Convention obliges States to undertake comprehensive and effective national action to halt the destruction of biological species, habitats and ecosystems, while ensuring that sovereignty over natural resources and national jurisdiction and control over their biological resources remains intact. Consequently, the Convention incorporates the precautionary principle.

---

11 Peter Mahmud Marzuki, *Penelitian Hukum*, (Jakarta: Kencana Prenada Media Group, 2005), 29.

12 Ian Curry-Summer *et al*., *Research Skills Instruction for Lawyers* (Nijmegen: Ars Aequi Libri, 2010), 5.

13 Ian Dobinson and Francis Johns, "Qualitative Legal Research," in Research Methods for Law, ed Mike McConville and Wing Hong Chui, (Edinbrugh: Edinburgh University Press, 2017), 19-20.

14 Peter Mahmud Marzuki, *op.cit.,* 93.

15 Filip Horák & David Lacko, "Triangulation of Theoretical and Empirical Conceptualizations Related to the Rule of Law," Hague Journal on the Rule of Law 15 (2022): 191-213, https://doi.org/10.1007/s40803-022-00181-x.

16 Andre Nollkaemper, "Sovereignty and environmental justice in international law" in Environmental Law and Justice in Context, ed Jonnas Ebbesson and Phoebe Okowa (London: Cambridge University Press, 2009), 255.

17 Nico J Schrijver, "Role of State Sovereignty in Securing the Planetary Future: Some Reflection," Environmental Policy and Law 54 no. 4-6 (2024): 261, https://uk.sagepub.com/en-gb/eur/journals-permissionsn.

The precautionary principle is invoked when there is an element of uncertainty surrounding the potential risks. Scientific uncertainty is often caused by our inadequate understanding of the nature of ecosystems (which are complex, resilient and adaptable). For this reason, the application of this substantive principle remains relevant for the future ambitions and challenges of environmental law. [18] Scientific information can be unclear (imprecise) if there is an epistemic debate ongoing in science (competing models or basic assumptions are adopted in different disciplines). Insufficiency may occur in the event of inadequate development of the disciplines involved in the assessment, such that the cause–effect relationship is not satisfactorily explained. Scientific uncertainty thus exists if it is difficult to specify a set of possible consequences of certain actions or to establish an accurate prediction model.[19] Another relevant principle is the prevention principle, which posits an obligation to avert environmental degradation. This principle entails the proactive mitigation of activities with the potential to cause or pose a risk of such damage, in addition to the reduction or control of those activities. The fundamental principle of environmental damage being addressed at its point of origin is closely associated with this prevention-based approach. It is imperative that action is taken at an early stage, ideally before the occurrence of environmental damage. The frequently irreversible nature of the detrimental effects on the environment, in conjunction with the inherent limitations of the mechanisms for redressing this type of damage, underscores the paramount importance of prevention in efficacious environmental policy.[20]

Indonesian Law Number 6 of 2023, which relates to Law Number 2 of 2022 concerning Job Creation, has abolished Article 102 and revised Article 109 of Law Number 32 of 2009. The government and the house of representatives have changed those articles to result-based offences, instead of conduct offences. This change has weakened environmental damage prevention because law enforcement officials can no longer enforce Article 109 based on the absence of environmental permits such as the requisite environmental impact assessment (AMDAL), environmental management efforts and environmental monitoring efforts (UKL-UPL), a hazardous and toxic waste management licence, and the dumping licence of waste or hazardous and toxic waste, but also based on the resulting harm to health, safety, and/or the environment during their business activities, even if they do not cause loss of life or harm to health, safety, and/or the environment. The existence of conduct offence is to implement the precautionary principle and the prevention principle, which are vital for preventing the damage of the environment due to the obligation of having an environmental licence before conducting business. When the government and the house of representatives decriminalised Article 102 and revised Article 109 of Law Number 32 of 2009 in 2023, it constituted a disregard for the precautionary principle.[21] This is contrary to Constitutional Court Decision Number 95/PUU-XII/2014, which states that failure to abide by the precautionary principle can be grounds to prosecute for criminal liability for negligence, and an individual could be held liable for not applying the precautionary standard.[22]

Most environmental criminal laws consist solely of provisions included in environmental laws that are administrative in nature and have the primary function of enforcing compliance with administrative obligations. The existence of Articles 102 and 109 as conduct offences serves to ensure administrative compliance with environmental licensing, which is the implementation of the precautionary principle.[23] In this case, criminal law punishes administrative non-compliance to prevent environmental damage.[24] In practice, it deals with decisions made in situations where the outcome is not clear by not requiring proof that the behaviour caused will lead to environmental harm. The application of the precautionary principle is to require every person or company to have an environmental permit before starting their business that will have an impact on the environment. The consequence of the revision of Articles 102 and 109 to be result-based offences, is that people or companies are unlikely to pay attention to environmental permits that must be obtained before starting a business since there is no punishment for them until they cause harm or damage to health, safety, and/or the environment.[25] When people or

18 K. J. de Graaf & S. E. Weishaar, "Introduction to The Future of Environmental Law" in the Future of Environmental Law: Ambition and Reality, ed S. E. Weishaar, & K. J. de Graaf, (Cheltenham: Edward Elgar Publishing, 2023), 5.

19 Joonas Alaranta and Mirella Miettinen, *op.cit*, 15-18.

20 K. J. de Graaf & S. E. Weishaar, *op.cit.*, 5.

21 Valsamis Mitsilegas et. al, *op.cit*., 111.

22 Simon Butt and Prayekti Murharjanti, *op.cit*., 49.

23 Valsamis Mitsilegas et. al, *op.cit*., 126.

24 Michael G. Faure, "the EU Environmental Crime Directive 2024: A Revolution in EU Environmental Criminal Law ?," Journal of Environmental Law 36 no. 3 (2024): 325-326, https://doi.org/10.1093/jel/eqae020.

25 Peter Gailhofer et al, "Corporate Liability for Transboundary Environmental Harm an International and Transnational Perspective," in Liability of Private Actors in International Law, ed Peter Gailhofer and Cara-Sophie Scherf, (Switzerland: Springer, 2023), 107-108.

companies get an environmental licence before going into business, they have already fulfilled the requirements to ensure that they will not damage the environment.

In accordance with Article 24 paragraph (5), Article 34 paragraph (3), Article 59 paragraph (4), Article 20 paragraph (3) letter b and Article 61 paragraph (1), every person who conducts business and/or activities must have the requisite environmental impact assessment (AMDAL), environmental management efforts and environmental monitoring efforts (UKL-UPL), a hazardous and toxic waste management licence, and the dumping licence of waste or hazardous and toxic waste. They are administrative laws and if someone or entities do not have those environmental licences before running a business, not only do they break the administrative law, but they also violate the criminal law. To safeguard the environment, Article 109 should be able to impose criminal sanctions on persons or companies that do not have an environmental permit without having to prove that the business or activity pollutes the environment. Combining Article 102 and Article 109 and turning them into result-based offences means that any suspect accused of environmental crimes must be proven to have caused victims/damage to health, safety, and/or the environment. Currently, Article 109 of Law Number 32 of 2009 allows environmental damage to occur due to the fact that the absence of an environmental permit is no longer a criminal offence until environmental pollution occurs.

Although Law Number 6 of 2023 prioritises the imposition of administrative sanctions before criminal sanctions in accordance with the provisions of Articles 82A and 82B, criminal sanctions should also directly protect Indonesia's environment by placing Article 109 as a conduct criminal offence. Criminal sanctions are essential as an *ultimum remedium* if administrative sanctions cannot address environmental permit violations. This is in line with explanation number 6 of Law Number 32 of 2009, which states that the application of the *ultimum remedium* principle only applies to certain conduct criminal offences, namely the prosecution of violations of wastewater quality standards, emissions, and disturbances. The underlying logic is that if the government is the standard-setter, the role of criminal law is subsequently to enforce these standards and to punish non-compliance. The foundation of criminal law is predicated on the premise that the specific obligations of permit holders are meticulously delineated. In order to comply with the *lex certa* principle, it is necessary to insist on the conditions for criminal liability being specified *ex ante*. It is important to note that the criteria for determining criminal culpability are established by the principles of administrative law.[26]

Therefore, within the paradigm of environmental harms, criminal law is invoked to address instances of administrative disobedience to protect the environment and prevent environmental degradation. According to the preamble of Law Number 6 of 2023 on Job Creation,[27] the purpose of deleting Article 102 and merging it into Article 109 is to attract more investment into Indonesia to create jobs. However, such policies should not open up opportunities for environmental degradation, as economic development must be in line with the environment as a constraint on development.[28]

In many legal systems, the majority of environmental criminal law is constituted of provisions incorporated in environmental statutes of an administrative nature (for example, the Clean Water Act), the primary function of which is to enforce compliance with administrative obligations. Consequently, a significant proportion of environmental criminal law is not formulated in an independent manner, but rather as an ancillary component of regulatory frameworks. In the context of legal practice, the majority of environmental criminal laws are constituted of regulatory violations. For instance, the polluter may be prosecuted for discharging certain substances into the environment without the requisite permit, or for violating the conditions of a permit. The obligation for every country to criminalise conduct that is 'unlawful' serves to confirm the accessory nature of environmental criminal law. The interrelation between criminal law and administrative legislation can be regarded as both a safeguard of and a risk to the principle of legal certainty.[29] The decriminalisation of Article 102 and its incorporation into Article 109, which changes it from a conduct offence to a result-based offence, is now in a form that does not reflect the close relationship between criminal law and administrative law to protect Indonesia's environment. As a result, the criminal law does not directly protect the environment. Research shows that the enforcement of environmental criminal law with scientific evidence takes a long time and is not yet oriented towards environmental restoration.[30]

---

26 Michael G. Faure, *op.cit*., 326.

27 Ajie Ramdan, *op.cit*, <https://www.hukumonline.com/berita/a/uu-cipta-kerja-melindungi-pengelolaan-limbah-b3-tanpa-izin-dari-pemidanaan-lt64db257b34ae0/>.

28 Badan Perencanaan Pembangunan Nasional, Ringkasan RPJMN 2025-2029 (Jakarta: BAPPENAS, 2025), 24.

29 Valsamis Mitsilegas et. al, *op.cit*., 126.

30 Azam Hawari et al, "Reorientasi Penegakan Hukum Pidana Lingkungan Hidup melalui Perjanjian Penangguhan Penuntutan," Jurnal Hukum Lingkungan Indonesia 6 no. 1 (2020): 72-92, https://doi.org/10.38011/jhli.v6i1.148.

The precautionary principle assumes particular significance in the context of ecosystem responses to the limitations of scientific assessment in dealing with complex and uncertain ecological risks. In a world undergoing a transition towards carbon neutrality, innovation will be necessary, and there will inevitably be considerable uncertainty with regard to environmental risks.[31] The requisite environmental impact assessment (AMDAL), environmental management efforts and environmental monitoring efforts (UKL-UPL), a hazardous and toxic waste management licence, and the dumping licence of waste or hazardous and toxic waste are essential before conducting business that has an environmental impact. Environmental approval policies mandate a comprehensive environmental impact assessment, encompassing not only direct impacts, but also considering the indirect and cumulative environmental consequences. This approach is intended to ensure that systemic and long-term ecological damage can be minimized.[32] Environmental permits are detailed expert assessments of the likely environmental impacts and assess the possible technologies that can be used to eliminate or minimise the risks. If the results of the expert assessment state that the proposed activity or business plan is not environmentally feasible, the environmental permit should not be granted.[33]

The application of the precautionary principle is applied when an environmental permit for an activity and/or business plan is issued after a study has been produced that concludes that the negative impacts of the activity can be recovered and the technology that will be used can eliminate the negative impacts that may occur.[34] The precautionary standards that must be observed to prevent violations of these interests depend on the magnitude of the damage and the level of probability of its occurrence. Therefore, preventive measures are 'the greater the danger and the greater the likelihood of its occurrence, the more reasonable they are'. The risk of serious damage justifies greater efforts to avoid damage, even if the probability is not very high.[35] Therefore, decriminalising Article 102 and incorporating it into Article 109 by changing it from a conduct offence to a result-based offence is a form of disregarding the precautionary principle because this change results in less effort to protect the environment from damage. As a result of this policy, environmental permit violations must be proven by the occurrence of harm/damage to health, safety, and/or the environment.

3.2 The Comparison of the Environmental Licence with England, the Netherlands, and Sweden

The field of criminal law is inextricably linked with the concept of state sovereignty and the exercise of state power. This is due to the fact that nations are reluctant to cede sovereignty and power to a supranational organisation.[36] Furthermore, Eddy O.S. Hiariej states that criminal law is defined as the legal rules of a sovereign state, containing prohibited or mandated acts, accompanied by criminal sanctions for those who violate or fail to comply, when and in what circumstances criminal sanctions are imposed, and how the enforcement of such sanctions is compelled by the state.[37] The use of criminal sanctions to reinforce compliance with environmental laws in the protection of the environment is also widely accepted by other countries, such as the European Union in its regulation on Environmental Protection through Criminal Law, where the preamble states the rationale for the regulation, namely, "Experience has shown that the existing systems of penalties have not been sufficient to achieve complete compliance with the laws for the protection of the environment. Such compliance can and should be strengthened by the availability of criminal penalties, which demonstrate a social disapproval of a qualitatively different nature compared to administrative penalties or a compensation mechanism under civil law." Thus, for certain environmental violations, criminal law is necessary to demonstrate social disapproval of such violations.[38]

---

31 K. J. de Graaf & S. E. Weishaar, "Sustainable Development, Principles of Environmental Law and the Energy Sector." in Energy Law, Climate Change and the Environment, ed M. M. Roggenkamp, K. J. de Graaf, & R. Fleming, (Cheltenham: Edward Elgar Publishing, 2021), 41-51.

32 I Gusti Ayu Ketut Rachmi Handayani, "Reform of Environmental Approval Policy for Renewable Energy in Indonesia," Journal of Sustainable Development and Regulatory 3 no. 2 (2025): 310.

33 Imamulhadi, "Teori Hukum Pembangunan Dalam Kebijakan Izin Lingkungan," in Sistem Hukum Lingkungan & Pengelolaan Sumber Daya Alam Yang Berkelanjutan, ed Nadia Astriani dkk (Bandung: Logoz Publishing, 2018), 222.

34 *Ibid*

35 Peter Gailhofer et al, "National Civil Liability and Transboundary Environmental Damage," in Liability of Private Actors in International Law, ed Peter Gailhofer and Cara-Sophie Scherf, (Switzerland: Springer, 2023), 223.

36 Valsamis Mitsilegas, *EU Criminal Law* (London: HART, 2021), 1.

37 Topo Santoso, *op.cit.*, 12.

38 Hajriyanti Nuraini dkk, "Ketentuan Pidana Administrasi (Administrative Penal Law) Dalam Penegakan Hukum Lingkungan setelah Diundangkannya UU Cipta Kerja," *Jurnal Magister Hukum Udayana* 11, no. 3 (2022): 588,

The UK protects its environment by criminalising breaches of environmental permits as conduct offences in the regulation of hazardous substances to avoid serious and/or irreversible harm to the environment. Article 38, paragraph 2 of the Environmental Permitting (England and Wales) Regulations 2010 states that it is an offence for a person to fail to comply with or contravene an environmental permit condition. The penalty for contravening this provision, as set forth in Article 39, is a fine not exceeding £50,000 or imprisonment for a term not exceeding 12 months, or both. Alternatively, on conviction on indictment, the individual may be sentenced to a fine or imprisonment for a term not exceeding 5 years, or both.[39] The UK also introduced administrative fines subsequent to the recommendations of Macrory in 2008-2009. In England and Wales, the power to impose a greater range of civil (administrative) sanctions was granted to regulatory bodies, including the Environment Agency, by the Regulatory Enforcement and Sanctions Act of 2008. Consequently, the Environment Agency is empowered to impose either a fixed monetary penalty or a variable monetary penalty. The imposition of these administrative fines is intended to address any enforcement gap that may occur in the context of prosecution.[40]

Dutch environmental law is largely influenced by EU law. Criminal environmental activities are penalised by the Economic Offences Act (EOA). This law is obliged to have the all-in-one permit for physical aspects to carry out waste activities. If the facility must have a permit, and it is not obtained, the operator commits a criminal offence and can be penalised fines and up to six years' imprisonment.[41] In the Netherlands, although a variety of different administrative remedies do exist, administrative fines have not been used in environmental law.[42] In addition, Chapter 29 section 4 the Swedish Environmental Code forbids unauthorized environmental activity; either wilfully or through negligence. The penalty for breaching this provision ranges from fines to imprisonment for up to two years. Chapter 30, Section 2 of the Swedish Environmental Code also regulates environmental sanction charges, which are administrative sanctions in the form of fines for disregarding environmental permits.[43]

3.3 A New Evidentiary Mechanism in the Event that the Absence of an Environmental Permit Results in Victims/Damage to Health, Safety, and/or the Environment

Indonesian Law Number 6 of 2023, which relates to Law Number 2 of 2022 concerning Job Creation, which revises Article 82 and Article 83 Law Number 32 of 2009 by adding three articles: 82A, 82B, 82C. Article 82B paragraph 1, states that "Any person conducting a business or activity that has the requisite environmental impact assessment (AMDAL), environmental management and monitoring efforts (UKL-UPL), a licence for the management of hazardous and toxic waste, and a licence for the disposal of waste or hazardous and toxic waste that does not comply with the obligations set out in the business licence or approval from the central or regional government, and/or violates the provisions of environmental protection and management laws and regulations, is subject to administrative sanctions." Law Number 6 of 2023 prioritises those penalties before imposing criminal sanctions. In the event that an individual or entity is unable to fulfil the administrative sanctions imposed by the government, criminal sanctions will be imposed upon them if it is proven in court that they have committed a result-based offence that has resulted in victims/damage to health, safety, and/or the environment. This is in accordance with Article 109 of Law Number 6 of 2023. Although these provisions are administrative laws that must be fulfilled and if not complied with will incur criminal sanctions, currently criminal sanctions can only be imposed if there are consequences, namely the emergence of victims/damage to health, safety, and/or the environment. When compared to law number 32 of 2009 before it was revised, an individual or entity found to be in violation of these administrative laws would be subject to legal prosecution without the requirement to demonstrate any casualties, damage to health, safety, or the environment resulting from the infringement. This constitutes a conduct criminal offence.

DOI:10.24843/JMHU.2022.v11.i03.p08.

39 British Academy, 'Consultation Response: Environmental Principles and Governance after the United Kingdom leaves European Union', The British Academy, England, British Academy, 2018, https://www.thebritishacademy.ac.uk/documents/2519/Environmental-Principles-Governance-after-Brexit.pdf, (accessed 1st June 2025)

40 Yin Law & Michael G Faure, "Environmental Crime," in Elgar Encyclopedia of Crime and Criminal Justice, ed P. Caeiro, S. Gless, V. Mitsilegas, M. J. Costa, J. De Snaijer, & G. Theodorakakou, (Edward Elgar Publishing, 2024): 200, https://doi.org/10.4337/9781789902990.

41 Jaap Koster et al., Q&A on Environmental Law in The Netherlands (London: Clifford Chance, 2012), 7-9.

42 Yin Law & Michael Faure, "Environmental Crime," *op.cit*., 200.

43 Ministry of Climate and Enterprise, 'The Swedish Environmental Code', 2000, https://www.government.se/legal-documents/2000/08/ds-200061/ (accessed 28th September 2025)

In the Mojokerto District Court decision Number 202/Pid. Sus/2018/PN Mjk, the panel of judges examined, tried, and sentenced the defendant who did not have a permit for the management of hazardous waste, as referred to in Article 102 in conjunction with Article 59 paragraph (4) of Law of the Republic of Indonesia Number 32 of 2009, without the public prosecutor having to prove first that there had been victims/damage to health, safety, and/or the environment, as Article 102, prior to its revision by the Job Creation Law, was a conduct offence. The district court's decision was upheld by the East Java High Court Decision Number 942/PID.SUS-LH/2018/PT SBY and the Supreme Court's cassation decision Number 3073 K/Pid.Sus. LH/2019, sentencing the defendant to 1 (one) year and 6 (six) months' imprisonment and a fine of Rp1,000,000,000.00 (one billion rupiah), with an alternative of 6 (six) months' imprisonment.

Furthermore, in High Court Decision Number 485/PID.SUS.LH/2021/PT SBY, which upheld the decision of the Jombang District Court Number 548/Pid.B/LB/2020/PN.Jbg, the panel of judges examined, tried, and ruled on the appeal filed by the defendant, who did not accept the district court's decision. In its considerations, the High Court panel of judges upheld the District Court's decision because the defendant did not have a permit to manage hazardous waste in the form of dross and aluminium slag based on a letter from the East Java Provincial Environment Agency number: 660/10000/111. 2/2018 dated 5 September 2018, signed by the Head of the East Java Provincial Environment Agency, Dr. Ir. Diah Susilowati, M.T., which stated that UD. Logam Jaya Mandiri did not have an environmental permit. Therefore, the defendant's actions violated Article 102 in conjunction with Article 59 (4) of Law Number 32 of 2009. For his actions, the defendant was sentenced to two years' imprisonment and a fine of Rp1,000,000,000.00 (one billion rupiah), or six months' imprisonment as an alternative.

The following decision differs from the five previous decisions mentioned above, as the Supreme Court's cassation decision Number 6138 K/Pid.Sus-LH/2023 scientifically proves the environmental damage based on expert research, which serves as expert testimony and documentary evidence in accordance with Article 184 of the Criminal Procedure Code (KUHAP). The expert research involved taking samples in Kampung Nelayan, Sandana Village, Galang Subdistrict, Tolitoli Regency. Based on the results of vegetation analysis, data was obtained in the form of a decrease in mangrove vegetation density at the tree level in mangrove areas damaged by logging. The vegetation density was 250 (two hundred and fifty) individuals per hectare. The logging and land filling carried out by the defendant for the road resulted in a reduction in mangrove vegetation at the tree level, so that based on standard criteria and guidelines for determining damage, the logging activities caused the death of mangrove trees and had caused damage to the mangrove habitat at that location. Based on the results of this expert research, the Supreme Court cassation panel was convinced that the defendant was guilty of committing a criminal act in the form of damage to the mangrove habitat environment as regulated by Article 98 Paragraph (1) of Law Number 32 of 2009. Therefore, the Supreme Court panel revised the Central Sulawesi High Court Decision Number 82/PID. SUS/2023/PT PAL dated July 18, 2023, which upheld the Tolitoli District Court Decision Number 11/Pid. Sus2023/PN Tli dated May 16, 2023, regarding the criminal punishment imposed on the Defendant to 2 (two) years and a fine of IDR 1,000,000,000.00 (one billion rupiah).

Amendments to Article 109 of Law Number 32 of 2009 through the Job Creation Law have consequences for the burden of proof, which will use scientific evidence in proving environmental damage, such as Cassation Decision Number 6138 K/Pid.Sus-LH/2023. Therefore, it is not only documentary evidence stating the absence of an environmental permit that is required, but also scientific evidence from experts proving that damage/harm to health, safety, and/or the environment has occurred due to the absence of the requisite environmental impact assessment (AMDAL), environmental management efforts and environmental monitoring efforts (UKL-UPL), a hazardous and toxic waste management licence, and the dumping licence of waste or hazardous and toxic waste. Environmental Quality Standards (BMLH) and Environmental Damage Standards (standard damage) as standards for determining the occurrence or absence of pollution must be proven by scientific evidence, which may take the form of direct expert testimony in court or written testimony, as well as the results of accredited laboratory tests.[44] The proof of Article 109 of Law Number 32 of 2009, which has been changed to a result-based offence, will heavily depend on scientific evidence to find the material truth. According to Article 71 of Supreme Court Regulation (PERMA) Number 1 of 2023, such scientific evidence includes:

a. witness testimony
b. expert testimony
c. documents:

44 Nur Syarifah dkk, Laporan Kajian Putusan Perkara Lingkungan Hidup (Jakarta: Lembaga Kajian dan Advokasi Independensi Peradilan (LeIP), 2020), 20.

1. laboratory results, which can be corroborated by experts in court;
2. records of sample collection, where the samples must be collected in accordance with the scientific procedures in effect at the time and/or in accordance with Indonesian national standards;
3. interpretations of documents or written materials from satellite images;
4. official letters, memorandums, or any related documents;
5. maps;
6. scientific study documents, including minutes of KLHS meetings, Amdal, UKL-UPL, SPPL.

d. electronic evidence:
   1. electronic information;
   2. electronic documents; and/or
   3. printed copies of electronic information and/or electronic documents.

e. guidelines
f. defendant's statement
g. corporate statements
h. environmental, forestry, and wildlife forensic results; and/or
i. other evidence as regulated in the provisions of laws and regulations

Proving whether or not the defendant committed the alleged act is the most important part of Indonesian criminal procedure law, which uses a negative system of evidence according to the law. If a person is proven to have committed a criminal act based on scientific evidence accompanied by the judge's conviction, they will be punished, so scientific evidence is very important in proving the result-based offence threatened by Article 109.[45] Damage to the environment usually takes the form of pollution. It can be defined as a form of environmental impairment, disturbance, change, or destruction. In fact, the presence of foreign objects in the environment prevents environmental elements from functioning properly. Every human activity adds matter or energy to the environment. If that matter or energy is harmful, or if it depletes resources, either directly or indirectly, it is classified as pollution. Pollution occurs when pollutants are in the wrong place, at the wrong time, and in the wrong amount. Air, water, and food can contain foreign substances, so pollution in this sense can also be considered as an attempt to make a value judgement about the quality or quantity of these foreign substances. Scientifically, pollution also requires scientific standards, which can provide a benchmark for determining whether pollution that threatens the environment is occurring.[46]

Decriminalising Article 102 and revising Article 109 of Law Number 32 of 2009 in 2023 to be result-based offences has consequences for the use of scientific evidence to prove environmental permit violations and environmental damage, as scientific evidence is often necessary and decisive in determining the guilt of the defendant in court. Article 96 of Law Number 32 Year 2009 defines evidence that can be used in court as consisting of witness testimony, expert testimony, letters, clues, testimony of the defendant and other evidence, including evidence regulated in laws and regulations. Article 96 letter f describes 'other evidence' as including information that is spoken, sent, received, or stored electronically, magnetically, optically, and/or similar; and/or data evidence, recordings, or information that can be read, seen, and heard that can be released with and/or without the aid of a means, whether it is written on paper, any physical object other than paper, or recorded electronically, not limited to data, recordings, or information that can be read, seen, and heard that can be released with and/or without the aid of a means, whether it is written on paper, any physical object other than paper, or recorded electronically, not limited to writings, sounds or images, maps, plans, photographs or the like, letters, signs, numbers, symbols, or perforations that have meaning or that can be understood or read.

The system of evidence adopted by Article 183 of the Criminal Procedure Code is a negative proof system of evidence which stipulates that judges may only impose penalties on defendants if the evidence is strictly defined by law and supported by the judge's conviction of the existence of such evidence. The negative proof system of evidence is based on:[47]

45 Febby Mutiara Nelson *et al*, "Finding the Truth in A Virtual Courtroom:Criminal Trials in Indonesia during the COVID-19," Sriwijaya Law Review 7 no. 2 (2023): 237, https://doi.org/10.28946/slrev.Vol7.Iss2.2465.pp228-243

46 M. Daud Silalahi, *Hukum Lingkungan Dalam Sistem Penegakan Hukum Lingkungan Indonesia* (Bandung: Alumni, 2001), 154-155.

47 Eddy O. S. Hiariej, *Hukum Acara Pidana* (Tangerang Selatan: Universitas Terbuka, 2022), 6.27.

1. procedural and evidentiary procedures in accordance with the evidence as specifically determined by law;
2. the judge's conviction regarding the evidence, both materially and procedurally.

The negative proof system under Article 183 of the Criminal Procedure Code is also adopted by Law Number 32 of 2009 and its revision by Law Number 6 of 2023 as formal criminal law. Since Article 96 and the explanation of Article 96(f) of Law Number 32 of 2009 have limitedly determined the scientific evidence that may be used to prove the occurrence of harm/damage to health, safety, and/or the environment, the negative proof of the occurrence of the result-based offence under Article 109 of Law Number 32 of 2009 must be based on Article 183 of the Criminal Procedure Code, Article 96, and the explanation of Article 96(f) of Law Number 32 of 2009. However, based on the results of the research, environmental court proceedings have weaknesses that can take years until a final and binding decision is reached. The complex nature of proving environmental cases, which are heavily reliant on scientific evidence, especially those involving corporations, and the high costs involved can delay the implementation of environmental restoration.[48]

The decriminalisation of Article 102 and the amendment of Article 109 of Law Number 32 of 2009 change the mechanism of proof in cases where there is no environmental permit when conducting business activities that have an impact on the environment. Prior to the amendments made by Law Number 6 of 2023, the burden of proof focused on the presence or absence of an environmental permit when conducting business activities that impact the environment. However, Article 109 has now become a result-based offence, and the burden of proof must be established if it results in harm or damage to health, safety, and/or the environment, using scientific evidence. Article 72 paragraph 1 of Supreme Court Regulation Number 1 of 2023 stipulates that in examining scientific evidence submitted in environmental court proceedings, the examining judge shall consider the accuracy of the methods and validity of the sampling procedures, taking into account laboratory accreditation and expert opinions from the public prosecutor and/or the defendant. In addition, Article 47 paragraph 1 of Perma Number 1 of 2023 stipulates that the Examining Judge shall apply the precautionary principle, as referred to in Article 2 letter f of Law Number 32 of 2009 concerning Environmental Protection and Management, if there is uncertainty in proving causality and impact in environmental cases, taking into account the three criteria set forth in Article 47(2) of PERMA Number 1 of 2023 concerning Guidelines for Adjudicating Environmental Cases, namely:

a. there is a serious threat that may be irreversible, whether to the environment or to the health of current and future generations;
b. there is scientific uncertainty in determining the causal relationship between activities/businesses and their impact on the environment; and
c. preventive measures to avoid environmental damage are prioritised, even if such preventive measures require higher costs than the initial costs of the planned activities/businesses.

The new mechanism of proof under Article 109 of Law Number 32 of 2009, which uses scientific evidence, will employ the same method of proof as that used for criminal acts regulated by Articles 98, 99, and 100, as Article 109 has been changed to a result-based offence. Therefore, the enforcement of Article 109 is not only based on the lack of an environmental permit. However, it must also prove that environmental damage has occurred using scientific evidence. These four articles prohibit the resulting consequences, in this case, environmental pollution. The decriminalisation of Article 102 and the amendment of Article 109 of Law Number 32 of 2009 not only changes the system of proof in cases of environmental permit violations, namely by means of scientific method, but also constitutes a disregard for the precautionary principle. The existence of conduct offences in Law Number 32 of 2009 are intended to prevent environmental damage, as before undertaking any activity that may impact the environment, every individual or corporation must obtain an environmental permit as a procedure that must be fulfilled to prevent environmental damage. The procedure that must be fulfilled, namely the environmental permit, is part of the implementation of the precautionary principle. However, currently, if there is no environmental impact analysis (AMDAL), environmental management efforts and environmental monitoring efforts (UKL-UPL), as well as permits for the management and disposal of hazardous and toxic waste when conducting activities that impact the environment, such actions are no longer considered criminal offences unless they result in harm or damage to health, safety, and/or the environment.

48 Azam Hawari et al, op.cit., 72-23, https://doi.org/10.38011/jhli.v6i1.148.

4. Conclusion

The consequence of disregarding the precautionary principle is the possibility of serious environmental damage that cannot be prevented. Therefore, this action has theoretical implications, namely that it not only violates the precautionary principle, but also violates the prevention principle. In addition, this legal policy has the potential to damage the environment because if a person or corporation does not have an environmental permit, namely an environmental impact assessment (AMDAL), environmental management efforts and environmental monitoring efforts (UKL-UPL), as well as a permit for the management and disposal of hazardous and toxic waste (B3) when conducting activities that impact the environment, the enforcement of criminal sanctions as a substitute for administrative sanctions must wait until damage or harm to health, safety, and/or the environment has occurred.

The United Kingdom, the Netherlands, and Sweden each implement the precautionary principle by criminalising acts committed by individuals or companies when they do not have environmental permits to conduct business that impacts the environment as conduct offences and they have administrative punishments as well. In contrast, Indonesia is the opposite of these three countries, in that it criminalises acts that do not have environmental permits as result-based offences.

The new mechanism of proof based on Article 109, which uses scientific evidence, will employ the principle of premium remedium because Article 109 has now changed from a conduct offence to a result-based offence. The decriminalisation of Article 102, combined with Article 109, not only changes the proof system to a scientific proof method but also constitutes a disregard for the precautionary principle and the prevention principle. Based on previous research, environmental court proceedings have weaknesses that can take years to reach a final and binding decision. The complex nature of proving environmental cases, which is highly dependent on scientific evidence, especially those involving corporations, as well as the high costs involved, can delay the implementation of environmental restoration. Therefore, the policy of decriminalising Article 102 and combining it with Article 109 has the implication of not being able to prevent environmental damage and delaying environmental restoration.

5. Acknowledgement

I would like to express my sincere gratitude to the individuals and organisations that have supported this research. I would also like to express my sincere gratitude to the authors of books, journals, and other scientific works who have made efforts to disseminate their work so that it may serve as the foundation for research and function as an invaluable reference. I am aware that there is always room for improvement in what I have done, and I welcome constructive feedback and criticism from all parties to enhance its quality. I hope this article can serve as a valuable resource for academics, professionals in this field, and the general public, aiding in the understanding and resolution of challenges related to the enforcement of environmental criminal law in everyday life.

References

Alaranta, Joonas and Mirella Miettinen. "Precautiously Circular: Perspectives on the Application of the Precautionary Principle in European Union Waste and Chemicals Regulation." European Journal of Risk Regulation 14 no. 1 (2023): 15-18. https://doi.org/10.1017/err.2022.37.

Badan Perencanaan Pembangunan Nasional. *Ringkasan RPJMN 2025-2029*. Jakarta: BAPPENAS, 2025.

British Academy. *Consultation Response: Environmental Principles and Governance after the United Kingdom leaves European Union*. England: British Academy, 2018, https://www.thebritishacademy.ac.uk/documents/2519/Environmental-Principles-Governance-after-Brexit.pdf, (accessed 1st June 2025).

Butt, Simon and Prayekti Murharjanti. "The Constitutional Right to a Healthy Environment in Indonesia." *Journal of Environmental Law* 33, no. 1 (2021): 34. doi: 10.1093/jel/eqaa031.

Curry-Summer, Ian *et al*. *Research Skills Instruction for Lawyers.* Nijmegen: Ars Aequi Libri, 2010.

De Graaf, K. J. & S. E. Weishaar. "Sustainable Development, Principles of Environmental Law and the Energy Sector" In Energy Law, Climate Change and the Environment edited M. M. Roggenkamp. K. J. de Graaf, & R. Fleming, 41-51. Cheltenham: Edward Elgar Publishing, 2021.

De Graaf, K. J. & S. E. Weishaar. "Introduction to The Future of Environmental Law" In the Future of Environmental Law: Ambition and Reality Edited by S. E. Weishaar, & K. J. de Graaf, 5. Cheltenham: Edward Elgar Publishing, 2023.

Dobinson, Ian and Francis Johns. "Qualitative Legal Research." In Research Methods for Law edited by Mike McConville and Wing Hong Chui, 19-20. Edinbrugh: Edinburgh University Press, 2017.

Faure, Michael G. "the EU Environmental Crime Directive 2024: A Revolution in EU Environmental Criminal Law?." Journal of Environmental Law 36 no. 3 (2024): 325-326, https://doi.org/10.1093/jel/eqae020.

Faure, Michael G. "Towards a new model of criminalization of environmental pollution: the case of Indonesia." In Environmental Law in Development Lesson from the Indonesian Experience, Edited by Michael Faure & Nicole Niesse, 194-196. USA: Edwart Elgar, 2006.

Gailhofer, Peter et al. "Corporate Liability for Transboundary Environmental Harm an International and Transnational Perspective." In Liability of Private Actors in International Law. Edited by Peter Gailhofer and Cara-Sophie Scherf, 107-108. Switzerland: Springer, 2023.

_____, "National Civil Liability and Transboundary Environmental Damage," in Liability of Private Actors in International Law, ed Peter Gailhofer and Cara-Sophie Scherf, 223. Switzerland: Springer, 2023.

Hawari, Azam et al. "Reorientasi Penegakan Hukum Pidana Lingkungan Hidup melalui Perjanjian Penangguhan Penuntutan." Jurnal Hukum Lingkungan Indonesia 6 no. 1 (2020): 72-23, https://doi.org/10.38011/jhli.v6i1.148.

Imamulhadi. "Teori Hukum Pembangunan Dalam Kebijakan Izin Lingkungan." in Sistem Hukum Lingkungan & Pengelolaan Sumber Daya Alam Yang Berkelanjutan. Edited by Nadia Astriani dkk, 222. Bandung: Logoz Publishing, 2018.

Koster, Jaap et al., Q&A on Environmental Law in The Netherlands. London: Clifford Chance, 2012.

Mahmud Marzuki, Peter. *Penelitian Hukum*. Jakarta: Kencana Prenada Media Group, 2005.

Mitsilegas, Valsamis et. Al. *The Legal Regulation of Environmental Crime*. Leiden: Koninklijke Brill NV, 2022.

Mitsilegas, Valsamis. *EU Criminal Law*. London: HART, 2021.

Nelson, Febby Mutiara *et al*, "Finding the Truth in A Virtual Courtroom:Criminal Trials in Indonesia during the COVID-19," Sriwijaya Law Review 7 no. 2 (2023): 237, https://doi.org/10.28946/slrev.Vol7.Iss2.2465.pp228-243

Nollkaemper, Andre. 'Sovereignty and environmental justice in international law' in Jonnas Ebbesson and Phoebe Okowa (ed), Environmental Law and Justice in Context. London: Cambridge University Press, 2009.

Horák, Filip & David Lacko, "Triangulation of Theoretical and Empirical Conceptualizations Related to the Rule of Law," Hague Journal on the Rule of Law 15 (2022): 191-213, https://doi.org/10.1007/s40803-022-00181-x.

Handayani, I Gusti Ayu Ketut Rachmi, "Reform of Environmental Approval Policy for Renewable Energy in Indonesia," Journal of Sustainable Development and Regulatory 3 no. 2 (2025): 310.

Law, Yin & Michael G Faure. "Environmental Crime." in Elgar Encyclopedia of Crime and Criminal Justice. Edited by P. Caeiro, S. Gless, V. Mitsilegas, M. J. Costa, J. De Snaijer, & G. Theodorakakou. 200. Cheltenham: Edward Elgar Publishing, 2024, https://doi.org/10.4337/9781789902990.

Ministry of Climate and Enterprise, 'The Swedish Environmental Code', 2000, https://www.government.se/legal-documents/2000/08/ds-200061/ (accessed 28th September 2025)

Nuraini, Hajriyanti dkk, "Ketentuan Pidana Administrasi (Administrative Penal Law) Dalam Penegakan Hukum Lingkungan setelah Diundangkannya UU Cipta Kerja," *Jurnal Magister Hukum Udayana* 11, no. 3 (2022): 588, DOI:10.24843/JMHU.2022.v11.i03.p08.

O. S. Hiariej, Eddy, *Hukum Acara Pidana*. Tangerang Selatan: Universitas Terbuka, 2022.

Ramdan, Ajie. 'UU Cipta Kerja Melindungi Pengelolaan Limbah B3 Tanpa Izin dari Pemidanaan.' hukumonline. com, 2023, https://www.hukumonline.com/berita/a/uu-cipta-kerja melindungi-pengelolaan-limbah-b3-tanpa-izin-dari-pemidanaan-lt64db257b34ae0/, (accessed 1st July 2025).

Remmelink, Jan. *Hukum Pidana*. Jakarta: PT Gramedia Pustaka Utama, 2003.

Santoso, Topo. *Hukum Pidana Suatu Pengantar*. Depok: Rajawali Pers, 2024.

Schrijver, Nico J. "Role of State Sovereignty in Securing the Planetary Future: Some Reflection." Environmental Policy and Law 54 no. 4-6 (2024): 261, https://uk.sagepub.com/en-gb/eur/journals-permissionsn.

Silalahi, M. Daud. *Hukum Lingkungan Dalam Sistem Penegakan Hukum Lingkungan Indonesia*. Bandung: Alumni, 2001.

Syarifah, Nur dkk, *Laporan Kajian Putusan Perkara Lingkungan Hidup*. Jakarta: Lembaga Kajian dan Advokasi Independensi Peradilan (LeIP), 2020.