

UNDERSTANDING REGIONAL INTEGRATION VARIATION AND THE ADOPTION OF NEW TECHNOLOGY: EU AND ASEAN LEGAL FRAMEWORK ON ELECTROMOBILITY IN COMPARATIVE PERSPECTIVES

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Abstract

Climate change has a significant impact on multiple aspects of human life. The transportation sector, dominated by conventional vehicles, is one of the sources of carbon dioxide emissions that lead to climate change. Therefore, electric vehicle (EV) innovation is one of the prospective possible solutions. Multiple international organisations have adopted legal frameworks to encourage their member states to promote EV deployment within the energy transition framework and climate change adaptation. EU and ASEAN are two regional organisations that have adopted legal frameworks on electromobility. Furthermore, this study will discuss the variation and comparative influence of EU and ASEAN regional integration on adopting new technologies, namely EVs, in the context of climate change adaptation. The research method adopted in this study is comparative law by comparing two different legal systems with the same implementation period and circumstances. Moreover, this study aims to understand the effect of diverse regional integration on electromobility through adopting various legal instruments by regional organisations. A comparative study between the EU and ASEAN is still relevant due to the strengthening relationship between both organisations. Furthermore, in climate change, the EU has also been recognised as a global actor influencing many climate policy developments worldwide. Therefore, comparing the EU and ASEAN as regional organisations with their respective maturity and characteristics will provide a new perspective to analyse the development of electromobility. In addition, this study will also provide new research opportunities, particularly comparative law related to climate policy adopted by regional organisations.

Keywords: ASEAN, EU, comparative, electromobility, new technology, regional integration.

1. Introduction

The impacts of climate change are evident and could be significantly worse if there are no concrete actions to mitigate and manage it. The Intergovernmental Panel on Climate Change (IPCC) report released in 2022 explains that climate change poses significant human risks. Each region has its risks; Europe, for example, is at risk of increased temperatures that can cause crop failure and even human mortality.¹ The Asian region has different risks and a broader dimension. Climate change increases the risk of reduced biodiversity, crop failure, loss of renewable energy sources, and lack of clean water sources.²

Various approaches are being taken at the national and international levels to mitigate and cope with the impacts of climate change. One of these efforts is to reduce the generation of carbon emissions from various sectors. The energy and transport sectors contribute to 73.2% of global emissions.³ Therefore, reducing emissions from the energy and transport sectors will greatly affect efforts to mitigate the impacts of climate change. Transitioning fossil-fuelled vehicles to electric vehicles (EVs) is considered one of the solutions to reduce carbon emissions effectively.⁴ Various jurisdictions are starting to adopt various legal instruments to create an electromobility ecosystem that will catalyse EV development. The development of electromobility will not only

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¹ B. Bednar-Friedl *et al.*, *Europe*, in *Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, ed. H-O Pörtner *et al.* (Cambridge and New York: Cambridge University Press, 2022), p. 1817-1927, <https://doi.org/10.1017/9781009325844.015>.

² R. Shaw *et al.*, *Asia*, in *Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, ed. H-O Pörtner *et al.* (Cambridge and New York: Cambridge University Press, 2022), p. 1457-1579, <https://doi.org/10.1017/9781009325844.012>.

³ H. Ritchie, M. Roser, *Emission by Sector*, 2022, <https://ourworldindata.org/emissions-by-sector>.

⁴ A. Dall-Orsoletta, P. Ferreira, G. Gilson Dranka, *Low-Carbon Technologies and Just Energy Transition: Prospects for Electric Vehicles*, in *Energy Conversion and Management*: X 16, no. December 2021 (2022), <https://doi.org/10.1016/j.ecmx.2022.100271>.

catalyse the use of EVs, but will also reform charging infrastructure, conversion of power generation energy sources to renewable energy sources, and even transformation of transport management.⁵

In its development, efforts to develop electromobility are not only conducted at the national level. Regional organisations such as the EU and ASEAN have also taken the initiative to support the transition of energy and transport to become more environmentally friendly. This initiative aims to accelerate its member countries to develop electromobility in each national jurisdiction. Various legal instruments at the regional level, whether hard or soft law, are adopted to mitigate and cope with climate change's impacts. However, the different forms and variations of regional integration affect the speed, cohesiveness and harmonisation of legal instruments governing electromobility.

The EU and ASEAN are known as regional organisations with two different integration variants. Therefore, studies on the EU and ASEAN, especially in climate and energy policy, have been conducted by many scholars. Studies on renewable energy cooperation between the EU and ASEAN include Indeo and Huck et al.⁶ These two studies focus on aspects of renewable energy cooperation to address climate change. Another study has been conducted by Diaz-Rainey *et al.*, which examines the ASEAN energy policy.⁷ This study compared the EU's experience integrating energy security and decarbonisation policies. The three studies mentioned above discuss energy and climate change policies adopted by the EU and ASEAN from the perspective of cooperation and partnership.

This paper offers novelty from a comparative aspect, especially comparative law and policy. In addition, this paper also considers that the EU and ASEAN integration model is a variant that affects the adoption of legal instruments on new technologies. Therefore, this study will discuss and analyse the variant of regional integration and its influence on adopting new technologies such as electromobility. The EU and ASEAN legal instruments will be the subject of this comparative study. This study is important because of the increasingly significant role of regional organisations in climate policy. For example, climate change legal instruments adopted by regional organisations such as the EU become standards for other jurisdictions.

To address this topic, this paper is organised as follows. After the introduction, the paper discusses the EU integration model and the development of electromobility. First, the analysis covers the development of EU integration in times of crisis and the emergence of electromobility in the climate crisis. Next, it analyses ASEAN's compromise integration and electromobility development initiatives. Next, the discussion covers the ASEAN integration process and the role of ASEAN legal instruments in developing electromobility in member states. The last section will discuss the climate change commitment and consensus of regional organisation member states in two variants of regional integration. Finally, the conclusion section will complete this paper at the end.

2. EU Integration Model and The Development of Electromobility

This section will discuss the EU integration model and how it relates to the adoption of legal instruments on electromobility. The study argues that crises play an important role in regional integration. The first subsection will explain the EU integration in various crises that it has gone through, including the climate crisis. Furthermore, it will discuss the development of electromobility as a response to the climate crisis. To analyse the crisis experienced by the EU, this study adopts Ferrara and Kriesi's typology of crisis-decision making scenarios.⁸ The indicators of the typology are the existence of symmetrical or asymmetrical pressures on member states and the stronger or limited competence of the EU in the crisis issue.

⁵ T. Altenburg, E.W. Schamp, A. Chaudhary, *The Emergence of Electromobility: Comparing Technological Pathways in France, Germany, China and India*, in *Science and Public Policy* 43, no. 4 (2016), p. 464-475, <https://doi.org/10.1093/scipol/scv054>.

⁶ F. Indeo, *ASEAN-EU Energy Cooperation: Sharing Best Practices to Implement Renewable Energy Sources in Regional Energy Grids*, in *Global Energy Interconnection* 2, no. 5 (2019), p. 393-401, <https://doi.org/10.1016/j.gloi.2019.11.014>; W. Huck et al., *Framework and Content of Energy Transition in Southeast Asia with ASEAN and the EU*, in *The Journal of World Energy Law & Business* 15, no. August (2022), p. 396-408, <https://doi.org/10.1093/jwelb/jwac023>.

⁷ I. Diaz-Rainey et al., *An Energy Policy for ASEAN? Lessons from the EU Experience on Energy Integration, Security, and Decarbonization*, in *ADBI Working Paper*, 1217 (Tokyo, 2021), <https://doi.org/10.2139/ssrn.3807085>.

⁸ F.M. Ferrara, H. Kriesi, *Crisis Pressures and European Integration*, in *Journal of European Public Policy* 0, no. 0 (2021), p. 1-23, <https://doi.org/10.1080/13501763.2021.1966079>.

2.1. Integration in the Middle of Crisis

The EU integration model is categorised as a political union characterised by formal institutionalisation and division of functions between organs that have been defined in the founding treaty.⁹ It also has a centralised structure with clear jurisdictions.¹⁰ However, this form of integration was not achieved in a short time. The EU needed several decades to achieve the political union variant of integration with a supranational organisational form. One of the moments that shaped regional integration was the crisis that occurred and was experienced by the majority of member states. The response of EU member states to overcome the crisis by giving greater authority to EU organs became one of the instruments to strengthen integration.¹¹

Crises play an important role in shaping EU integration as a regional organisation. This study argues that at least four crises have shaped EU integration in the last two decades. These are the Eurozone, the refugee crisis, the COVID-19 pandemic and the climate crisis. Ferrara and Kriesi include Brexit as one of the crises affecting EU integration.¹² However, this paper does not include Brexit as one of the crises with the argument that the EU has predicted the Brexit crisis. It is different from other crises because of the uncertainty of its form and solution.

The Eurozone crisis occurred in 2009 due to the inability to manage debt experienced by several EU member states, especially Greece. The crisis also revealed that despite its strong competence, the EU's monetary and fiscal institutional architecture still has limitations.¹³ In addition, the Eurozone crisis also proved that the EU needed stronger integration and that there were constraints in the distribution of political power at the supranational level.¹⁴ The crisis's outcome was the Euro's survival as a strong currency and a strong demand to reform regional monetary and fiscal institutions and systems.¹⁵ According to the typology of crisis decision-making scenarios, the Eurozone crisis falls under high EU competence with asymmetric pressure on EU member states. This pattern results in dissensus among EU member states.¹⁶

Refugees coming from outside Europe have also caused a crisis for the EU. The rising tide of refugees from North Africa and the Middle East began in 2015. This crisis caused internal conflicts between member states due to the EU's incompetence in handling the refugee crisis immediately.¹⁷ The refugee crisis put unsymmetrical pressure on EU member states. For example, Italy and Germany, the destination countries for most refugees, have stronger pressure than Slovenia or Hungary, where refugees cross.¹⁸ In addition, the EU has quite limited competence in refugee affairs. Although the EU has adopted the Return Directive (2008/115/EC),¹⁹ it still requires further regulation in the national jurisdiction of each EU member state. However, in its development, the EU adopted some soft laws because it is considered more likely not to be rejected by member states.²⁰

The following crisis is the COVID-19 pandemic that has hit Europe since 2020. At the inception of this health crisis, it was apparent that the EU was poorly prepared to address the crisis due to its limited competence in public health.²¹ All member states experienced the same pressures in this crisis due to the borderless nature of the pandemic. The EU's limited competence and the symmetrical pressure on all member states led to a common

⁹ C. Closa, L. Casini, O. Sender, *Comparative Regional Integration: Governance and Legal Models*, Cambridge: Cambridge University Press, 2016.

¹⁰ R. Wong, *Creeping Supranationalism. The EU and ASEAN Experiences*, in *Drivers of Integration and Regionalism in Europe and Asia: Comparative Perspective*, ed. Louis Brennan and Philomena Murray, London and New York: Routledge, 2015, p. 235-251.

¹¹ Z. Lefkofridi, Ph.C. Schmitter, *Transcending or Descending? European Integration in Times of Crisis*, in *European Political Science Review* 7, no. 1 (2015), p. 3-22, <https://doi.org/10.1017/S1755773914000046>.

¹² F.M. Ferrara, H. Kriesi, *Crisis Pressures and European Integration*, *op. cit.*

¹³ D. Katsikas, *Reforming Under Pressure: The Evolution of Eurozone's Fiscal Governance During a Decade of Crises*, in *New Challenges for the Eurozone Governance: Joint Solutions for Common Threats?*, ed. Jose Caetano, Isabel Vieira, and Antonio Caleiro, Cham: Springer, 2021.

¹⁴ Ph. Genschel, M. Jachtenfuchs, *From Market Integration to Core State Powers: The Eurozone Crisis, the Refugee Crisis and Integration Theory*, in *Journal of Common Market Studies* 56, no. 1 (2018), p. 178-196, <https://doi.org/10.1111/jcms.12654>.

¹⁵ D. Katsikas, *Reforming Under Pressure: The Evolution of Eurozone's Fiscal Governance During a Decade of Crises*, *op. cit.*

¹⁶ F.M. Ferrara, H. Kriesi, *Crisis Pressures and European Integration*, *op. cit.*

¹⁷ L.A. Pertiwi, *Kompleksitas Rezim Di Uni Eropa: Upaya Penanganan Pengungsi Dan Pencari Suaka*, in *Jurnal Ilmu Sosial Dan Ilmu Politik* 19, no. 3 (2016), p. 218-233.

¹⁸ Ph. Genschel, M. Jachtenfuchs, *From Market Integration to Core State Powers: The Eurozone Crisis, the Refugee Crisis and Integration Theory*, *op. cit.*

¹⁹ Directive 2008/115/EC of the European Parliament and of the Council of 16.12.2008 on common standards and procedures in Member States for returning illegally staying third-country nationals.

²⁰ P. Slominski, F. Trauner, *Reforming Me Softly—How Soft Law Has Changed EU Return Policy since the Migration Crisis*, in *West European Politics* 44, no. 1 (2021), p. 93-113, <https://doi.org/10.1080/01402382.2020.1745500>.

²¹ A. Alemanno, *The European Response to Covid-19: From Regulatory Emulation to Regulatory Coordination?*, in *European Journal of Risk Regulation* 11, no. 2 (2020), p. 307-316, <https://doi.org/10.1017/err.2020.44>.

consensus.²² In fact, the EU adopted various legal instruments both soft and hard law to cope with the crisis caused by the COVID-19 pandemic. The EU's limited competence in the field of public health does not prevent efforts to respond. The legal instruments adopted include travel restrictions and the use of information technology during the pandemic.

Climate change is also leading to a deeply threatening crisis. For this crisis, the EU has strong competencies amidst the impacts faced by all member states. The EU is recognised as one of the key actors promoting mitigation and coping with the impacts of climate change globally. One of the efforts made by the EU to address the climate change crisis is to reduce emissions from the energy and transport sectors. To this end, the EU has adopted several legal instruments, both soft and hard law, to support electromobility development. This study notes that the EU adopts at least eleven legal instruments to tackle the climate crisis by strengthening the electromobility ecosystem. These legal instruments include energy efficiency, vehicle emission standards, renewable energy, building standards, and EU commitments to reduce emissions from various sectors.

The four crises have contributed to the EU's regional integration to the present day. The existence of regional legal instruments will directly or indirectly harmonise laws at the national and regional levels. Integration in the form of legal harmonisation, especially related to the adoption of new technology, is essential for the development of technology itself. Without harmonisation, the conditions will be resistance and disharmony of policies to overcome the climate crisis.

2.2. Climate Crisis: Rise of Electromobility

Climate change in the European region affects the agriculture, tourism, forestry, energy, health and infrastructure sectors.²³ In general, Europe is more resilient to climate change than other regions. However, this resilience has limits, so it is crucial to mitigate and address the impacts of climate change. This paper argues that the development of electromobility is one of the impacts of solid EU regional integration to address the climate crisis. There are at least three reasons that support this argument. Firstly, the EU mostly adopts hard laws to develop electromobility. Eleven main legal instruments form the basis for the development of electromobility in the EU region. The legal instruments are as follows:

Hard Law

- Regulation (EU) 2019/631 of the European Parliament and of the Council of 17.04.2019 setting CO2 emission performance standards for new passenger cars and for new light commercial vehicles;
- Regulation (EU) 2020/852 of the European Parliament and of the Council of 18.06.2020 on establishing a framework to facilitate sustainable investment;
- Regulation (EU) 2021/1119 of The European Parliament and of the Council of 30.06.2021 establishing the framework for achieving climate neutrality;
- Regulation (EU) 2022/869 of The European Parliament and of the Council of 30.05.2022 on guidelines for trans-European energy infrastructure;
- Regulation (EU) 2018/842 of the European Parliament and of the Council of 30.05.2018 on Binding annual greenhouse gas emission reductions by Member States from 2021 to 2030 contributing to climate action to meet commitments under the Paris Agreement;
- Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11.12.2018 on the Governance of the Energy Union and Climate Action;
- Directive (EU) 2018/2001 of The European Parliament and of The Council of 11.12.2018 on the promotion of the use of energy from renewable sources;
- Directive 2012/27/EU of the European Parliament and of the Council of 25.10.2012 on energy efficiency;
- Directive (EU) 2018/844 of the European Parliament and of the Council of 30.05.2018 amending Directive 2010/31/EU on the energy performance of buildings and Directive 2012/27/EU on energy efficiency.

Soft Law

- Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: a European Strategy For Low-Emission Mobility COM (2016) 501 of 20.07.2016;

²² F.M. Ferrara, H. Kriesi, *Crisis Pressures and European Integration*, op. cit.

²³ B. Bednar-Friedl et al., op. cit..

- Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions (European Green Deal) COM (2019) 640 of 11.12.2019.

The eleven legal instruments mentioned contain nine hard laws with regulations and directives. While soft law in the form of communications from the European Commission. Adopting hard and soft laws to build electromobility has advantages and disadvantages. The advantage is that legal instruments in the form of regulations and directives can harmonise laws at the regional and national levels.²⁴ Under these conditions, it is expected that the purpose of adopting these legal instruments can be achieved immediately. On the other hand, the disadvantage is the limited flexibility of member states to choose the method or mechanism of implementation in their national jurisdiction.²⁵

The adoption of soft law also has advantages and disadvantages. The advantages of soft law are flexibility and the possibility of implementation innovation to achieve legislative objectives.²⁶ However, it needs to be recognised that its weakness is the absence of binding legal force and has no legal consequences if the legislation is not implemented. Nevertheless, soft law still has legal relevance to the substance it regulates.²⁷ Moreover, soft law can also guide the establishment of hard law at the level of national jurisdiction. Therefore, adopting soft law to build electromobility is complementary to hard law.

The second argument is that the development of electromobility reinforces the climate change law adopted by the EU. EU legislation has evolved significantly with ambitious climate targets. The existence of electromobility will strengthen efforts to achieve these targets, especially emission reduction in the energy and transport sectors. This is partly because the EU has a strong constitutional basis for achieving climate targets. The Treaty of the Functioning of the European Union (TFEU) has mandated the use of renewable energy and implemented a supportive legal framework.²⁸ In addition, most climate and electromobility legal instruments adopted by the EU that are hard law in character also support the achievement of climate targets.

The development of electromobility also aligns with EU climate targets, especially the European Green Deal, which targets Net Zero emissions by 2050. This target will be achieved if the use of electric vehicles continues to increase in line with renewable energy as a primary energy source. Therefore, the development of electromobility and achieving climate targets support each other. Furthermore, the massive use of electric vehicles in EU member states will facilitate the achievement of climate targets. In this condition, legal instruments with a hard law character are expected to be a catalyst for electromobility.

Regional integration in the context of the EU is closely related to the type of character of legal instruments adopted to regulate new technologies such as electromobility. The climate crisis, considered a common problem and its impact can be experienced by all EU member states, makes adopting hard law instruments logical. The EU's strong competence in climate change also reinforces its dominance in setting climate targets that must be achieved together.

3. ASEAN Compromise Integration and Electromobility Development Initiatives

This section will discuss ASEAN integration and electromobility development initiatives. Firstly, a discussion will be presented on the ASEAN integration process since 1967. Then, this discussion will focus on elaborating on four legal instruments that influenced ASEAN integration. These are the Bangkok Declaration (1967), the Declaration of ASEAN Concord (1976), the Treaty of Amity and Cooperation in Southeast Asia (1976), and the ASEAN Charter (2008).²⁹ Furthermore, the role of ASEAN legal instruments in adopting new technologies, especially the development of electromobility in the Southeast Asian region, will be discussed.

²⁴ R.D. Kelemen, *Eurolegalism: The Transformation of Law and Regulation in the European Union*, Nucl. Phys., vol. 13, Cambridge and London, Harvard University Press, 2011.

²⁵ *Ibidem*.

²⁶ E. Ferris, J. Bergmann, *Soft Law, Migration and Climate Change Governance*, in *Journal of Human Rights and the Environment* 8, no. 1 (2017), p. 6-29, <https://doi.org/10.4337/jhre.2017.01.01>.

²⁷ *Ibidem*.

²⁸ Art. 194 of the consolidated version of the Treaty on the Functioning of the European Union [2012] OJ C 326/47.

²⁹ E. Yong Joong Lee, *Legal Development of the ASEAN Community Building*, in *ASEAN International Law*, ed. Eric Yong Joong Lee, Singapore: Springer Nature Singapore, 2022.

3.1. ASEAN Integration In the Making

ASEAN has experienced a slow evolution of regional integration. This regional organisation in Southeast Asia was established in 1967 by the five founding countries of Indonesia, Malaysia, the Philippines, Singapore and Thailand through the Bangkok Declaration. Its establishment's original purpose was to strengthen cooperation in economic, security, cultural, educational, agricultural, fisheries, and other objectives for mutual benefit.³⁰

The Bangkok Declaration officially embarked on the evolution of Southeast Asian regional integration through the establishment of ASEAN. This article argues that the declaration did not actually have a significant impact on ASEAN's regional integration.³¹ The arguments are that the purpose of the declaration is too broad, the organisational architecture lacks a permanent character, and the relationship between member states is not sufficiently clear in the declaration. The selection of the word 'declaration' for the name of the document also shows that there is a soft law character that is not legally binding for the ASEAN founding countries.

The progress of ASEAN regional integration continued with adopting the Declaration of ASEAN Concord or Bali Concord I. This document differed greatly from the Bangkok Declaration as it included more specific areas of cooperation. This document has many differences from the Bangkok Declaration as it lists more specific areas of cooperation. The areas of cooperation are political, economic, social, cultural and information, security, and improvement of ASEAN Machinery.³² Although it remains a 'declaration' document, there is a strong commitment among member states to adopt a permanent organisational design with specific areas of cooperation and objectives. Another difference is that the signatories of Bali Concord I are the Head of State or Head of Government of the member states, not the Foreign Minister as in the 1967 Bangkok Declaration.

The first hard law legal instrument adopted by ASEAN was the Treaty of Amity and Cooperation in Southeast Asia (TAC) in 1976. The TAC also included fundamental principles that influenced ASEAN integration for at least three decades afterwards. These principles are mutual respect, the right of state sovereignty, non-interference, peaceful settlement of disputes, renunciation of the threat or use of force, and effective cooperation.³³ The TAC was amended several times with the adoption of the first (1987), second (1998), and third (2010) protocols. After the third protocol was adopted, the scope of the TAC expanded even to non-Asian countries such as Australia, New Zealand, the United States, and France.³⁴

However, with these three legal instruments, it is still quite challenging to classify the model of regional integration initiated by ASEAN. The integration model leads to the community type with intergovernmental organisational forms and consensus decision-making. The Bangkok Declaration, Bali Concord I, and TAC did not establish a specific integration model. ASEAN attempted to become a community by adopting the ASEAN Charter in 2008.³⁵ This legal instrument marked a new era for ASEAN as a regional and legal entity. The ASEAN Charter is also an attempt by member states to provide a legal basis for more stable and sustainable regional cooperation.³⁶

Desierto argues that there are five significant differences in ASEAN post the ASEAN Charter's effective force in 2008.³⁷ Firstly, the ASEAN Charter recognises regional legal instruments that apply in ASEAN. Each member state must endeavour to implement ratified ASEAN legal instruments within its jurisdiction.³⁸ Second, the ASEAN Charter establishes an ASEAN bureaucracy as well as a clear hierarchy of decision-making mechanisms. The ASEAN Charter determines that the highest decision-making is in the ASEAN Summit forum attended by heads of state or government of member states.³⁹ Third, the ASEAN Charter formalises and limits the authority of

³⁰ The ASEAN Secretariat, *The ASEAN Declaration (Bangkok Declaration)*, 1967, <https://agreement.asean.org/media/download/20140117154159.pdf>.

³¹ S. Chesterman, *Does ASEAN Exist: The Association of Southeast Asian Nations as an International Legal Person*, in Singapore Year Book of International Law and Contributors 12 (2008), p. 199-211.

³² The ASEAN Secretariat, *Declaration of Asean Concord (Bali Concord I)*, 1976, <https://asean.org/the-declaration-of-asean-concord-bali-indonesia-24-february-1976/>.

³³ The ASEAN Secretariat, *Treaty of Amity and Cooperation in Southeast Asia*, 1976, <http://agreement.asean.org/home/index/3.html>.

³⁴ E. Yong Joong Lee, *Legal Development of the ASEAN Community Building*, *op. cit.*

³⁵ C. Closa, L. Casini, O. Sender, *Comparative Regional Integration: Governance and Legal Models*, *op. cit.*

³⁶ I. Deinla, *The Development of the Rule of Law in ASEAN: The State and Regional Integration*, University of New South Wales, 2009.

³⁷ D.A. Desierto, *Pre-Charter and Post-Charter ASEAN: Cross-Pillar Decision-Making in the Master Plan for ASEAN Connectivity 2025*, in *ASEAN Law and Regional Integration: Governance and The Rule of Law in Southeast Asia's Single Market*, ed. Diane A Desierto and David Cohen, New York, Routledge, 2021.

³⁸ Art. 5(2) ASEAN Charter.

³⁹ Art. 7(2) ASEAN Charter.

member states holding the ASEAN Chairmanship.⁴⁰ Before the ASEAN Charter, each ASEAN Chair would organise themes aligned with their national interests.⁴¹ This is considered to interfere with the principle of ASEAN centrality and the continuity of ASEAN priority programmes.

The other difference is that the ASEAN Charter has stated that ASEAN is a legal entity that also adopts ASEAN (legal) instruments in the form of treaties, conventions, agreements, concords, declarations, and protocols. Therefore, the implementation of ASEAN instruments is an obligation of member states to use the ASEAN Charter principles.⁴² Finally, the ASEAN Charter prioritises the principle of ASEAN primacy, especially concerning external politics and economic cooperation. Efforts towards a more solid regional integration are highly visible in the ASEAN Charter. Therefore, it can be said that the ASEAN Charter is a big leap for ASEAN towards the Community in 2025. Adopting the ASEAN Charter has completed some of ASEAN's major work towards more solid regional integration.⁴³ However, more important work must be done to realise the grand vision of ASEAN as a regional organisation with a special place in global politics, especially on climate change issues.

3.2. Role of ASEAN (Legal) Instruments in Electromobility Development

Southeast Asia is one of the most vulnerable regions to climate change.⁴⁴ This global phenomenon affects Myanmar, the Philippines, Thailand and Vietnam the most. The impact of climate change also has consequences in the economic sector.⁴⁵ ASEAN member countries are slowly experiencing economic losses as climate change disrupts agricultural production, fisheries, infrastructure development, energy, and transport.

The ASEAN region tends to gain less attention from the international community, especially regarding emission reduction targets.⁴⁶ However, ASEAN has adopted several ASEAN instruments to address climate change under its framework.⁴⁷ The term ASEAN instruments used in this paper refers to the definition in the protocol to the ASEAN Charter on Dispute Settlement Mechanisms, namely „*any instrument which is concluded by Member States, as ASEAN Member States, in written form, that gives their respective rights and obligations in accordance with international law.*“⁴⁸ Based on this understanding, it can be understood that the ASEAN instrument is a legal instrument adopted by ASEAN and imposes certain obligations on member states based on international law.

ASEAN has adopted ASEAN instruments that directly or indirectly support the development of electromobility as a response to mitigate and cope with the impacts of climate change. This paper notes at least fourteen ASEAN instruments with hard and soft law characters adopted in the era before and after the 2008 ASEAN Charter. These ASEAN instruments are:

Hard Law

- ASEAN Agreement on the Conservation of Nature and Natural Resources 1985;
- Agreement on the Establishment on the ASEAN Centre of Biodiversity 2005;
- ASEAN Agreement on Transboundary Haze Pollution 2002;
- Agreement on ASEAN Energy Cooperation 1986;
- Agreement on the Establishment ASEAN Centre for Energy 1998.

Soft Law

- Jakarta Resolution on Sustainable Development 1987;
- ASEAN Joint Statement on the Conference of the Parties to the United Nations Framework Convention on Climate Change (2009, 2011, 2014, 2016, 2017, 2018, 2019, 2020, 2021, 2022);

⁴⁰ Art. 32 ASEAN Charter.

⁴¹ D.A. Desierto, *Pre-Charter and Post-Charter ASEAN: Cross-Pillar Decision-Making in the Master Plan for ASEAN Connectivity 2025*, *op. cit.*

⁴² Art. 2(2) ASEAN Charter.

⁴³ S. Chesterman, *Does ASEAN Exist: The Association of Southeast Asian Nations as an International Legal Person*, *op. cit.*

⁴⁴ I. Overland *et al.*, *Impact of Climate Change on ASEAN International Affairs: Risk and Opportunity Multiplier*, 2017, <https://nupi.brage.unit.no/nupi-xmlui/handle/11250/2465067>.

⁴⁵ R. Rasiah *et al.*, *Climate Change Mitigation Projections for ASEAN*, in *Journal of the Asia Pacific Economy* 23, no. 2 (2018), p. 195-212, <https://doi.org/10.1080/13547860.2018.1442145>.

⁴⁶ I. Overland *et al.*, *The ASEAN Climate and Energy Paradox*, in *Energy and Climate Change* 2, no. November 2020 (2021): 100019, <https://doi.org/10.1016/j.egycc.2020.100019>.

⁴⁷ R. Letchumanan, *Climate Change: Is Southeast Asia up to the Challenge? Is There an ASEAN Policy on Climate Change?*, London, 2010, <http://www2.lse.ac.uk/IDEAS/Home.aspx>.

⁴⁸ Art. 1(a) Protocol to the ASEAN Charter on Dispute Settlement Mechanisms.

- ASEAN Socio-Cultural Community Blueprint 2025;
- ASEAN Plan of Action for Energy Cooperation 2016-2025;
- Roadmap for Energy-Efficient Buildings and Construction in ASEAN;
- ASEAN Transport Strategic Plan 2016-2025 (Kuala Lumpur Transport Strategic Plan);
- ASEAN Regional Strategy on Sustainable Land Transport;
- Phnom Penh Declaration on Sustainable Urban Mobility;
- ASEAN Taxonomy for Sustainable Finance.

Based on the aforementioned ASEAN Instruments, the majority are soft law that does not have legally binding force. Nevertheless, these soft law instruments still have legal relevance to the national jurisdiction of each member state. Based on the ASEAN Charter, the basic principles in ASEAN decision-making are consultation and consensus. Thus, the configuration of the majority of legal instruments characterised as soft law has also gone through a process of consultation and consensus among member states. Culturally, this principle of consultation and consensus is known as „The ASEAN Way”, which emphasises informality, trust and good working relationships.⁴⁹

Another perspective is that the hard and soft law classification in the ASEAN legal ecosystem is irrelevant. Instead, this opinion argues that ASEAN embraces flexible participation in its legal instruments.⁵⁰ Flexible participation means that even in instruments characterised as hard law, it still requires a voluntary ratification process by member states. This condition makes the applicability of ASEAN hard law instruments still challenging for implementation in all member state jurisdictions.⁵¹ Another challenge is the monitoring of ASEAN Instruments that lack a standardised mechanism.⁵²

The principles of consultation, consensus, informality, trust, good cooperation, flexibility and voluntariness in adopting ASEAN instruments also influence the development of electromobility in the region. Public adoption of electric vehicles in ASEAN tends to be low, although there is a significant upward trend.⁵³ Each member country has ambitions to get the public to use electric vehicles massively.⁵⁴ Indonesia, Malaysia, and Thailand are ASEAN countries with big electromobility ambitions. By 2030, Indonesia targets an electric vehicle population of 15 million units, Malaysia targets more than 200,000 electric vehicle units with 125,000 charging stations, and Thailand targets electric vehicle penetration to reach 30% nationwide.⁵⁵

In general, the ASEAN Instrument does not directly incentivise the development of electromobility in member states. However, the ASEAN legal framework provides relevant environmental and climate change guidance to achieve their respective national targets. This condition is under the culture of avoiding conflict and in accordance with the original purpose of establishing ASEAN to strengthen cooperation. In other words, ASEAN has chosen a compromise integration in climate change and electromobility.

4. Variations of Regional Integration: Legal Commitment and Consensus in the Electromobility Development

The development of electromobility is closely related to the commitment and consensus of regional organisations to mitigate and address the impacts of climate change. In the previous section, this paper has explained the influence of the EU integration model and ASEAN compromises integration on electromobility development in each region. Electromobility development as a response to the climate crisis is implemented differently by member states of regional organisations with the Political Union and semi Communities integration models. The question then arises, does the regional integration variant affect regional organisations' commitment and legal consensus towards electromobility development?

⁴⁹ W. Huck, *Informal International Law-Making in the ASEAN: Consensus, Informality and Accountability*, ZaöRV 80 (2020), p. 101-138, <http://www.zaoerv.de>.

⁵⁰ Y. Fukunaga, *Use of Legal Instruments in the ASEAN Economic Community Building*, in *Journal of Contemporary East Asia Studies* 10, no. 1 (2021), p. 65-82, <https://doi.org/10.1080/24761028.2021.1905199>.

⁵¹ K.Y. L. Tan, *ASEAN Law: Content, Applicability, and Challenges*, in *ASEAN Law and Regional Integration: Governance and The Rule of Law in Southeast Asia's Single Market*, ed. Diane A Desierto and David Cohen, New York, Routledge, 2021, p. 39-56.

⁵² *Ibidem*.

⁵³ I. Overland et al., *The ASEAN Climate and Energy Paradox*, op. cit.

⁵⁴ R. Safrina et al., *ASEAN Decarbonisation Pathway: A Policy Review on Variable Renewable Energy, Electric Vehicle, and Smart Microgrid*, Jakarta, 2022, <https://aseanenergy.org/asean-decarbonisation-pathway-a-policy-review-on-variable-renewable-energy-electric-vehicle-and-smart-microgrid/>.

⁵⁵ *Ibidem*.

By comparing the EU and ASEAN, the answer is yes. However, the legal commitment and consensus must be observed from the internal mechanism of each regional organisation. The EU, with a political union integration model, has the characteristics of legal instruments that can be interpreted specifically and clearly, and there is a clear mechanism for dispute resolution through the courts.⁵⁶ Meanwhile, ASEAN, with a semi-community integration model, has the characteristics of legal instruments that cannot be interpreted clearly, and there is no dispute resolution mechanism through the courts.⁵⁷

The EU integration model can harmonise laws to accelerate the development of electromobility. This harmonisation can also become a uniformity of laws and regulations that do not provide a space for innovation for member states. This model will be very effective and efficient in accelerating the development of electromobility as a new technology. On the other hand, ASEAN is a regional organisation that continues to evolve, including structuring its legal structure. The principles of consultation, consensus, mutual trust, and informality will likely remain the main preferences in responding to climate change and electromobility issues. Crises affecting all or most member states, such as the 1998 economic crisis, the 2004 tsunami disaster, and even the climate crisis, have not accelerated ASEAN regional integration. The development of electromobility still relies on the national legal initiatives of member states while following the guidelines contained in ASEAN legal instruments.

Legal instruments that support and accelerate electromobility development can be categorised as climate adaptation laws that promote new technologies as solutions. These laws promote initiatives on key adaptation objectives, science-based decision-making, risk and vulnerability assessment, incentive and disincentive policies, public education, and monitoring and evaluation.⁵⁸ The role of regional organisations and their member states in promoting this instrument is significant. Therefore, the role of the EU and ASEAN is strategic to catalyse and accelerate the development of electromobility within the legal framework of climate change adaptation. Member states also have a role to play in electromobility development because national legal and policy instruments will ultimately determine the speed of electromobility development and climate change adaptation.

5. Conclusions

Variants of regional integration influence the adoption of legal instruments to promote new technologies such as electromobility. For example, the EU integration model adopts more hard law than soft law, while the ASEAN integration model adopts the opposite. The advantage of adopting more hard laws is that it will effectively harmonise laws to achieve the ambition of agreed climate targets. However, this model can only be implemented in regional organisations that have achieved political union integration. At the same time, regional organisations with the community integration model will be able to catalyse and promote the adoption of new technologies by using soft law as a relevant guide in forming national laws.

The approaches adopted by the EU and ASEAN to electromobility adoption can be understood as a variation of regional organisational policies. The form of integration, values and principles the member states adopt influence this situation. Adapting to climate change by adopting new technology policies such as electromobility is essential. The choice of legal instruments of regional organisations largely determines the progressivity and speed of technological penetration. The fact that the EU prefers hard law is a reality that in climate policy, the EU has strong legal competence and is supported by the impact of climate change felt by all member countries. On the other hand, ASEAN considers that soft law is the best legal instrument to encourage its member states to adopt legal instruments that promote electromobility in each national jurisdiction.

Further studies on the variants of regional integration between the EU and ASEAN can be conducted using interdisciplinary or multidisciplinary approaches. Statistical and economic approaches would be beneficial to understand further the influence of the periodic adoption of legal instruments on the growth of electric vehicle use in the EU and ASEAN regions. The differences and similarities that arise by comparing numbers will bring a better understanding of the comparative study of these two regional organisations.

⁵⁶ N. Limsiritong, *The Problems of Law Interpretation under ASEAN Instruments and ASEAN Legal Instruments*, in MFU Connexion 5, no. 2 (2016), p. 136-155.

⁵⁷ *Ibidem*.

⁵⁸ J. McDonald, Ph.C. McCormack, *Rethinking the Role of Law in Adapting to Climate Change*, in Wiley Interdisciplinary Reviews: Climate Change 12, no. 5 (2021), p. 1-21, <https://doi.org/10.1002/wcc.726>.

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