Received: 7 November 2021 | Accepted: 12 May 2022

DOI: 10.1111/dpr.12650

ARTICLE

WILEY

The contestation of ideas behind Indonesia's rural electrification policies: The influence of global and national institutional dynamics

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Funding information

General Directorate of Higher Education, Ministry of Education and Culture Republic of Indonesia; University of Leeds; Engineering and Physical Sciences Research Council, UKRI, Grant/Award Number: EP/R030243/1

Summary

Motivation: Progress in Indonesia towards achieving Sustainable Development Goal (SDG) 7 involves contestation between the global goals and the country's political ambition. The electrification rates ambition has triggered a policy trilemma. There are targets for meeting national energy demand; there are equally important targets for improving energy access and minimizing negative impacts on the environment.

Purpose: This article illustrates idea contestation within Indonesia's rural electricity policy subsystem by: (1) analysing the position of the global sustainability storyline in pre- and post-SDG and Nationally Determined Contribution (NDC) periods; and (2) exploring the dynamic of coalition structure within both periods.

Methods and approach: The data is derived from statements of political actors in the national news articles and is analysed using Discourse Network Analysis. To investigate the influence of global agendas, we perform a timeframe analysis in pre- and post-SDG and NDC periods.

Findings: Our analysis presented empirical evidence of the energy trilemma. The contestation between energy access, energy security, and climate change mitigation is observed in the ideas that emerged within the existing storylines. We find that sustainability has not been a primary topic of debate within the policy subsystem in pre- and post-SDG and NDC periods. The findings also reveal how the global deployment of sustainability has triggered the emergence of discursive intermediaries within the policy subsystem. They are essential to framing global environmental issues to fit into internal debates.

Policy implications: First, the narration of implementing renewable energy has to emphasize its benefits over the energy poverty problem while injecting some messages related to environmental profit. Second, the issue of decentralization has always been the most frequent and mutually connected topic, both in terms of source utilization and governance. Therefore, it needs more attention from policy-makers.

KEYWORDS

discursive contestation, Indonesia, rural electrification, storylines, sustainability

1 | INTRODUCTION

Progress in Indonesia towards ensuring "access to affordable, reliable, sustainable and modern energy for all" as outlined by the United Nations Sustainable Development Goal 7 involves contestation between the global UN SDG goals and the country's political ambition. Many countries have declared their commitment to prioritizing the use of renewable energy sources. However, the extent to which global targets influence national electricity policies depends on the underlying political settings, and these can have widely varying effects. In Indonesia, the low-carbon energy transition is considered to be hampered by the decentralized institutional setting as it triggers policy disintegration (Gunningham, 2013). In contrast, the centralized nature of South Africa's electricity provision is deemed to be the main factor that inhibits energy transition as the policy actors are trapped by large-scale generation and transmission investments that are dependent on coal (Lawrence, 2020). Elsewhere, for example in the UK (Essletzbichler, 2012), decentralization is encouraged as it can accelerate the development of niche innovation.

Although Indonesia has committed to achieving the SDG goals and United Nations Framework Convention on Climate Change (UNFCCC) targets, the country still struggles to achieve its NDC to reduce greenhouse gas emissions and provide clean energy access. The effort has been considered "highly insufficient" (Climate Action Tracker, 2020). To remedy this, the government of Indonesia has paid a lot of attention to the electricity sector as a significant contributor to GHG emissions, for example encouraging the use of renewable energy in off-grid powerplants, particularly for electrifying rural areas and islands. This effort has benefitted from substantial external investment. Between 2000–2013, Indonesia received USD 5.8 billion from 22 foreign funding institutions for 423 energy-related projects (Tierney et al., 2011; AidData, 2017), focusing on off-grid energy provision in remote rural areas (Marquardt, 2017). However, research studies have highlighted that the government's efforts to achieve the NDC and SDG 7 targets are inconsistent with other policies and somewhat vague (Maulidia et al., 2019; Tacconi, 2018). Although the SDGs and NDC have been institutionalized, the use of fossil-fuel-based electricity generation is rising to meet increased demand and expansion of electrification (Maulidia et al., 2019).

From a perspective of discursive institutionalism, we argue that contestation of the actor's ideas within the policy subsystem constructs such a situation. This article emphasizes that policies are shaped by an actor's beliefs constructed within specific institutional settings (Sabatier & Weible, 2007; Schmidt, 2008). By examining political statements of actors within the Indonesia rural electricity subsystem, this article provides empirical evidence of ideas contestation among actors. How the global and national institutional arrangement influences actors' ideas is empirically analysed by exploring the existence of storylines and shifts in actor coalitions in pre-and post-SDG and NDC periods.

This article is structured as follows: after this introduction, Section 2 reviews the institutionalism literature that underpins this research, particularly the discursive layer of institutional dynamics. Section 3 explains the methodology used in this research, including how data is obtained, processed, and analysed using Discourse Network Analysis (DNA). A brief explanation of DNA is presented in this section to describe how the methodology works. The next section presents the institutional setting of Indonesia's rural electrification, including the emergence of the sustainability discourse in Indonesia's rural electricity subsystem, which occurred primarily after formulation of the SDGs and Indonesia's commitment to achieving the NDC. Section five explains the results and their interplay with the current body of both theoretical and empirical literature; and lastly, the concluding section summarizes the findings and discusses policy implications.

2 | LITERATURE REVIEW

2.1 | Discourses and institutional dynamics

The explanatory power of discourses and the informal institutions of social norms, culture, and ideas have been widely recognized as an important part of understanding institutional dynamics in policy-making processes, lead-

ing to a formal analytical framing under the term "discursive institutionalism" (DI). Rather than a static arrangement that focuses on equilibrium, DI treats institutions as context setters that construct the ideas of actors through discursive practices (Schmidt, 2008). Consequently, the actions taken by actors are constructed by their ideational background within a particular institutional arrangement. At the same time, they also bring their ideational abilities to the fore when critically determining whether to change or maintain the institutional arrangement (Schmidt, 2008).

DI scholars emphasize that ideas do not stand alone. Values and preferences alter an actor's perception of reality, affecting how they perceive and interpret some aspects of reality as more essential than others (Cox, 2004). The perception of different agents in different spheres is negotiated when one meets another, resulting in degrees of agreement or disagreement that lead to a competition in which one agent struggles to dominate and diminish the influence of others. This perspective has opened space for scientists to unfold the complexities and dynamics of institutional arrangements that are constantly changing. It provides a comprehensive analysis of how certain discourses arose, are subsequently conveyed, and then institutionalized within a particular context. New ideas expressed through emerging discourses can determine policy direction and change in institutional composition by altering actors' perception of the policy problems, policy legacies, and fit, influencing their preferences, and, thereby, enhancing their political-institutional capacity to change' (Schmidt & Radaelli, 2004, p. 188). The failure of Nepal's forest policies during the 1950s is an example of how a stringent incumbent law and feudal control empowered a public discourse to deinstitutionalize the conservation policy (Laudari et al., 2020). In this case, Laudari et al. (2020) also emphasize the importance of multi-domain actor involvement and intensive discursive practices to translate the global sustainability discourse into the current institutional arrangement of Nepal forest policy.

A policy subsystem is an arena in which various actors participate and exercise their power to drive the policy-making process. Actors are equipped with certain beliefs shaped by the institutional arrangement and are motivated to translate them into actual policy (Sabatier & Weible, 2007). The more closely aligned their beliefs are on a particular policy issue, the more likely they work together within the same coalitions. The shared beliefs consolidate the grouping of actors who have similar interpretations on what a policy should be and the shared vision that guides their strategic behaviour to dominate the subsystem (Sabatier & Weible, 2007). Indonesia's energy subsystem, for example, consists of three dominant coalitions: (1) environmentalists who advocate clean energy; (2) anti-poverty groups who focus on energy access; and (3) a pro-market coalition that brings the privatization issue to the fore (Gunningham, 2013). These three groups contest control of the discourse in energy policy formulation. This contestation provides a possible explanation for Indonesia having "put most of its policy eggs into the coal basket" despite abundant renewable sources (Gunningham, 2013, p. 189).

This situation also leads to an energy trilemma in Indonesia. On the one hand, there are targets for overcoming energy poverty; but on the other hand, the target for achieving national energy security and minimizing negative impacts on the environment are equally essential (Gunningham, 2013). Several scholars have coined the term "coal dilemma," to describe the actions of the many countries—including Indonesia—that rely on the abundance of coal over renewable energy due to the former being cheaper, thereby neglecting impacts to the environment even if they have signed up to environmental conventions (Halimanjaya, 2019; Kurniawan & Managi, 2018; Qi et al., 2020; Rehman et al., 2021; Wang et al., 2021). Energy sovereignty also plays a role in the justification of combining the target of meeting national energy demand with Indonesia's own coal reserves, suggesting Indonesia's energy policy should be determined by this special condition (Suroso et al., 2021).

Using the existing frame of ideational scholars, this article uses discourse analysis as a tool to investigate the role of institutional arrangements in both international and national spheres for accelerating or exacerbating deployment of the global discourse on sustainability. Indonesia's rural electricity subsystem is selected to highlight the influence of the distribution of power between multi-level jurisdiction spheres, a complex issue that is often overlooked in the debates around Indonesia's energy policy.

2.2 | Indonesian rural electrification

2.2.1 | Institutional background

Formal institutional arrangements are contained in the Electricity Law 30/2009 (see Appendix 1 for a brief description of the law), which emphasizes the role of the state in ensuring the availability of electricity in Indonesia. Although the law opens the possibility of the private sector, co-operatives, or non-governmental organizations (NGOs) participating, the state controls electricity generation, transmission, and distribution through the state electricity company Perusahaan Listrik Negara (PLN). According to Law 30/2009, the electricity supply is integrated with all activities carried out by one business entity in one business area, it could be either the state through PLN, or the independent power producers (IPPs). However, in 2015, the Constitutional Court closed the door to full privatization, while at the same time providing a dominant bargaining position for PLN in the electricity sector. The argument was based on Article 33, paragraph 2 of the 1945 Constitution, which states that "Production branches which are important for the state and affect the people's livelihood are controlled by the state." The court noted that involvement of the private sector in public electricity business is still allowed as long as it is controlled by the state, even when the companies are mandated to manage electricity distribution and transmission. In other words, PLN is prioritized to run the electricity supply business. The private sector is encouraged to participate if the PLN cannot penetrate a particular business area due to geographical hurdles. However, few private companies are interested, particularly in remote rural areas, because they will still be subject to state control.

At national level, PLN is struggling to provide electricity for all Indonesians and so meet the needs of SDG 7. Around 77% of the electricity supply in Indonesia is controlled by PLN, and this has led to a large financial burden (Gielen et al., 2017). To avoid financial shortfalls, and ensure electricity affordability (Bridle et al., 2018), the Indonesian government regularly injects capital into PLN. This was nearly 70 trillion rupiah (IRD) a year in 2013–2018 (Badan Pusat Statistik, 2019). However, the financial support provided has not overcome the gaps in access to electricity. While most of western Indonesia have good access to electricity, many communities in eastern Indonesia are still not connected. Although official data recorded a significant increase in the electrification rate from around 67% in 2010 to 98% in 2018, research reveals that this may be an overstatement and not represent the actual situation (Maulidia et al., 2019; Sambodo, 2015; Setyowati, 2020). Trying to calculate the electrification rate is problematic since it is done by top-down estimation. For example, if one house in a particular village is connected to electricity, then it is assumed that all other houses in the village are also connected (Suroso et al., 2021). Nor do the official data take into account the reliability of the mains connection, or the amount of power and the duration of daily power connections. Alternative estimates suggest there are many villages with a connection of fewer than two hours a day, and villages that receive sufficient electricity for only a lightbulb per household (Setyowati, 2020).

Despite the authority and resources given to PLN, the institutional setting behind Indonesia's electricity provision is more complicated than a single-actor-monopoly. On the national level, the Ministry of Energy and Mineral Resources (MEMR) is formally the regulator of all energy-related issues. However, other ministries are inevitably engaged in generation, transmission, and use of electricity across the nation. The Ministry of State-Owned Enterprises (MSOE) is a shareholder of PLN, and the Ministry of Finance is responsible for financing projects by providing loans, subsidies, and grants. The Ministry of Villages and Disadvantaged Regions and Transmigration (MVDRT) oversees rural-area development, including fulfilling electricity needs. The Ministry of Co-operative and Small and Medium Enterprises and the Ministry of Women's Empowerment and Child Protection empower both small and medium-sized enterprises (SMEs) and women. Lastly, the Ministry of National Development Planning (Bappenas) has the authority to determine the direction of Indonesia's overall development.

Since the era of decentralization, based on Law 23/2014, provincial governments have been responsible for formulating additional technical regulations and strategies, and establishing low voltage power plants and electricity businesses that are not within the scope of PLN. At this level, provincial governments have a specific department to handle energy and electricity affairs, which is termed the Department of Energy and Mineral Resources (DEMR).

Besides implementing provincial energy regulation, DEMR is also authorized to issue permits, carry out facilitation activities, and establish small-scale infrastructure. Law 23/2014 also reduces the municipal government's authority to increase the effectiveness of bureaucracy and enable inter-municipality energy systems (Benita, 2018). At the village jurisdiction level, Law 6/2014 elevates village authorities from the lowest hierarchy of government to "an autonomous legal subject with its authorities and rights" (Vel et al., 2017, p. 448). This law entitles village government to do their planning processes, including setting priorities and procuring goods and services. In addition to that authority, village governments are provided with fiscal capacities of approximately one billion rupiahs (around USD 67,000). In many cases, the provision of this village budget has succeeded in increasing villagers' access to essential services, including electricity.

2.2.2 | The emergence of sustainability discourse in Indonesia's energy policy

A strong global discourse on the importance of renewable clean energy has been building momentum since the 1992 United Nations Framework Convention on Climate Change, though energy as a specific topic was notably missing from the Millennium Development Goals launched in 2000. Nonetheless, access to "affordable, reliable, sustainable and modern energy for all" was included in the SDGs as Goal 7 in 2015 in recognition of the cross-cutting importance of clean energy, for example to poverty alleviation (SDG1), health (SDG3), gender equality (SDG5), and climate action (SDG13). In meeting the SDGs, the expectation is that parties to the agreement will accelerate implementation of electrification while simultaneously promoting renewable energy.

Indonesia accepted the global sustainability discourse through its active participation in supporting formulation and implementation of the SDGs. The SDGs fit in well with Indonesian national development objectives and commitment to the UNFCCC. In 2015, around 30 million Indonesians had no access to electricity, while at the same time, Indonesia's GHG emissions have been increasing due to land-use conversion and the rapid increase in use of fossil fuel (Maulidia et al., 2019; Ministry of Energy and Mineral Resources, 2017). Under the UNFCCC Paris Agreement, Indonesia pledged to an NDC of unconditionally reducing its GHG emission to 29% under the business-as-usual scenario, increasing to 41% subject to international support. Further, the commitment is expressed by the ratification of Law 16/2016 which accentuated the NDC as a national agenda. Although these targets might initially seem unrealistic due to Indonesia's high reliance on coal, the Paris Agreement marks a moment for Indonesia to begin reforming its energy sector to be more focused on renewables.

Indonesia has long recognized the importance of clean energy, including it as a priority programme since 1998 (Maulidia et al., 2019). This commitment was translated eight years later into a more practical policy through Presidential Decree 5/2006, which was revised in 2014 with Regulation 79/2014 and the National Energy Policy (KEN). This regulation created a target for the minimum use of renewable energy up to 23% by 2025 and 31% by 2050. Further, this target is detailed using practical, measurable, indicators, including the use of primary energy per capita, provision of electricity generation, electrification rates, GHG emission reduction target, and energy conservation.

Following the expression of national commitment, the development plan documents have incorporated the NDC and translated it into a target, indicator, and action plan (see Table 1). In the National Medium-Term Development Plan (RPJMN), the NDC target to reduce the GHG emission in 2030 is translated into the GHG emission reduction by 2024, while the implementation of the RE electricity target is elaborated into the renewable energy share in 2024 (Arinaldo, 2019). Regarding energy policies, the National Energy Masterplan (RUEN) explicitly stated the NDC's GHG emission reduction as a national target, while the National Electricity Masterplan (RUKN) and the Electricity Business Plan (RUPTL) primarily refer to the renewable energy share as stated in RUEN.

Given the complexity of the institutional setting and existence of contesting discourses, debates on the Indonesian electricity policy have proliferated among academics and NGOs. Scholars have enriched the literature about Indonesia's energy policy by addressing various political and institutional variables such as finance (Setyowati, 2020, 2021), co-ordination (Marquardt, 2014), institutional challenges (Dutu, 2016), micropolitics (Fathoni et al., 2021), and the private sectors' perspective (Maulidia et al., 2019). Further, within the last decade, some researchers have

TABLE 1 The NDC and energy target in Indonesia's energy development policies

Documents	Targets
Updated NDC 2021	• 29% unconditional GHG emission reduction by 2030 • 41% GHG emission reduction by 2030 with international support • RE for electricity (21.65 GW) • RE for transport & industry (90%–100% 830) • 75%–100% implementation of clean power plants
RPJMN 2020–2024	• 27.3% GHG emission reduction by 2024 • 24% GHG emission intensity reduction by 2024 • 20% of RE share by 2024 • 37.3 GW RE powerplant installed by 2024 • 50.8% domestic market obligation on coal
RUEN 2017	• 29% unconditional GHG emission reduction by 2030 • 41% GHG emission reduction by 2030 with international support • 23% of RE share by 2025 and 31.2% by 2050
RUKN 2019–2038	• 23% of RE share by 2025 • The use of clean coal technology on coal powerplant • Oil-based power plant only for specific circumstances • Smart grid for remote areas • Nuclear powerplant should be built in accordance with KEN
RUPTL 2019–2028	• 23% of RE power generation • 56,395 MW powerplant established • 57,293 km transmission line constructed • 472,795 km distribution line constructed • 33,730 MVA distribution stations

Source: Arinaldo (2019) Suroso et al. (2021).Abbreviations: RE, Renewable Energy GHG, Greenhouse Gas.

used the actor-centred approach in which the actor is the main unit of analysis. In particular, exploring actors' behaviour towards energy policies (Dzikrurrokhim, 2021; Enzary, 2017; Yudha & Tjahjono, 2019), identifying actors' interests (Jakob et al., 2020; Yudha et al., 2018) and preferences (Yudha et al., 2021), and explaining the institutional barriers (Marquardt, 2017; Yudha & Tjahjono, 2019).

The research presented here also uses the actor as the unit of analysis to gather all discourses in Indonesia's electricity policy subsystem, particularly in rural areas. By doing so, we aim to provide a comprehensive picture of how ideas are contested behind the electricity policies and examine the influence of institutional dynamics. This analysis is beneficial to the relevant stakeholders for understanding the dynamics of the policy subsystem to identify possible coalitions and develop an appropriate strategy.

3 | MATERIAL AND METHODS

This article primarily relies on the application of Discourse Network Analysis (DNA). This method focuses on the affiliation and actor congruence network (Leifeld, 2016). The affiliation network represents the degree of the actor's agreement regarding specific concepts. In the analysis there are two binary relationships between actors and concepts: agreement and disagreement. The weight of relations, usually represented by the thickness of each connecting lines, indicates the degree of agreement or disagreement (see Figure 1). These elements are "bricks" that constitute a discursive relation as actors use the concept to justify their actions and influence others (Leifeld, 2016). The actor

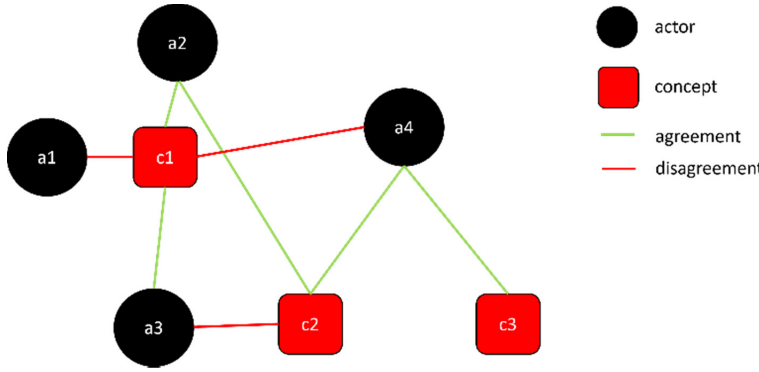

FIGURE 1 Illustration of the affiliation network. *Source* Leifeld and Haunss (2012, p. 391).

congruence network represents the degree of agreement among actors. The more concepts that two actors agree on, the more likely it is that they will participate in the same coalition (Leifeld & Haunss, 2012). The weight of the edge represents the number of common concepts as the "stickiest glue" between actors within the coalition (Sabatier & Weible, 2007). These networks provide sufficient explanations regarding which concept dominates the subsystem and who is behind the dominating concepts.

The political actor's statements obtained from Indonesia's national newspapers are the basis of the analysis. We selected three Indonesian national newspapers, written in Indonesian language (*Bahasa*), with the highest number of visits and sites linked in to the newspaper based on Alexa.com (2021). The platform provides a country-by-country traffic rank, including the average daily unique visitors and estimated number of pageviews from a sample of millions of internet users over the past three months (Alexa.com, 2021). Articles from the three selected news websites (Tribunnews.com, Kompas.com, Detik.com) were collected within two timeframes: 2010–2014 (T1) and 2015–2020 (T2). These timeframes are determined by considering external and internal institutional changes related to Indonesia's rural electrification in 2015. First, the SDGs were ratified in 2015 and integrated into the National Medium-Term Development Plan (RPJMN) 2015–2020. This integration was done by adjusting the national priorities to achieve 94 of 169 global targets (Halimatussadiah, 2020). Second, 2015 was also the first implementation year of Law 6/2014 regarding villages. This law provides the village authority with the capacity to manage a village, for example by providing a fund of approximately IRD one billion (around USD 67,000). 2015 was also the first year implementing the new decentralization Law 23/2014. This law significantly affected the efforts of rural electrification by erasing the authority of the municipal government to issue energy-related permits, establish a low-voltage power plant, and manage electricity businesses not within the remit of PLN. These powers were transferred to the provincial government for greater administrative efficiency and for enabling inter-municipal energy systems (Benita, 2018).

In total, 273 statements from 50 actors were extracted from 229 articles. Two keywords representing the topic of rural electrification are used to identify the relevant articles, i.e. "*listrik AND terpencil*" (electricity AND remote), and "*elektrifikasi*" (electrification). Only articles published within the 2010–2014 and 2015–2020 timeframes and discussing electrification issues were selected. The selected articles were coded using the Discourse Network Analyzer, free open-access software designed explicitly for performing DNA (Leifeld & Haunss, 2012). The coding process was conducted iteratively by the two Indonesian authors who are fluent in Bahasa. The involvement of two people was done to minimize personal bias and error during the process. At least three elements of statements, namely (1) an actor; (2) a concept; and (3) the binary information of agree/disagree, were recognized. Every time actors expressed an opinion regarding the solution of rural electrification as well as the problem, their statement is coded as a concept. At the first coding attempt, 109 concepts were identified. The two coders worked together to recheck the process and categorize the concept into a broader statement. In the end, there were nine concepts considered to

TABLE 2 The list of interviewed actors

Organization	Domain
Asian Development Bank	Donor organization
Ministry of National Development Planning (Bappenas) – energy division	National government
Ministry of National Development Planning (Bappenas) – multilateral funding division	National government
Bappeda East Sumba (Municipal Development Planning Agency of East Sumba) - economic development division	Municipal government
Energy and Mineral Resources Agency of NTI Province	Provincial government
Ministry of Energy and Mineral Resources – Directorate General on new and renewable energy and energy conservation	National government
Hivos (national and regional secretariat)	NGO
IBEKA (national and regional secretariat)	NGO
Ministry of Villages, Development of Disadvantaged Regions, and Transmigration	National government
PT. PLN (state-owned electricity company)	State-owned company

be storylines behind the efforts to electrify Indonesia's remote rural communities. Finally, the coding outputs were exported to Visone for visualization and SPSS for cluster analysis.

In addition to the methodologies above, semi-structured interviews were also conducted. The interviews were focused on investigating the dynamics of institutional arrangements, challenges, ideas, and the current progress of Indonesia's rural electrification. During the pandemic the interviews were mostly done remotely using online meeting software, while some were face-to-face, with the interviewees' consent. In total, 10 actors were interviewed using *Bahasa Indonesia*, including representatives from the national government, NGOs, donor organizations, state-owned companies, provincial government, and municipal government (see Table 2 for details). While DNA is the primary analytical method, the information obtained from the interviews supports the DNA's findings and gives depth to our understanding for the interpretation and discussion.

4 | RESULTS

4.1 | The storylines

Nine storylines underlying Indonesia's rural electrification policies were identified (see Table 3). First, some actors call for decentralizing energy sources (S2) due to the abundance of natural resources. This storyline emphasizes using locally available resources to accelerate the electrification rates, particularly in remote areas. In line with S2, the need for a clean energy storyline (S4) advocates a similar solution but with a different emphasis. This storyline highlights the environmental benefit of using decentralized energy sources. Apart from the efficiency reason, the use of locally available sources can also reduce coal and fuel dependence. In addition, the fuel resource reduction (S5) storyline is on the same trajectory. By emphasizing the high financial costs of using diesel powerplants in remote areas due to fuel transportation costs and high global oil price (Blum et al., 2013; Soto, 2018), the actors behind S5 advocate reducing diesel use and maximizing local energy sources.

In contrast to the above storylines, some political actors encourage maximizing the use of coal (S7) as it is Indonesia's most long-standing reliable energy source. The use of coal in both time periods is considered to produce relatively cheap electricity generation while remaining responsive to the significant increase in demand. Considering that electricity is a basic need of every person, providing a reliable electricity supply that matches Indonesians' affordability is an obligation for the government, and coal-based energy is the most viable solution. Therefore, the S7 and S3 storylines share a common trajectory as both emphasize the importance of fulfilling people's electricity rights

TABLE 3 Storylines behind the Indonesia's rural electrification policy

Storylines	Shortened	Code
PLN is no longer reliable in terms of providing electricity to remote communities due to unprofitable and geographical condition. Involvement of other actors crucial to fill this gap.	Involvement of actors	S1
Indonesia has abundant electricity sources that have not been well used. The use of other electricity sources will help to electrify remote communities due to the availability of the resource in rural areas.	Decentralizing energy sources	S2
Electricity is a basic need, so the state has to fulfil it regardless of the source.	Electricity is a basic need	S3
The reliance on coal has produced a vast amount of GHG emissions and other pollutants. Clean energy generated from renewable sources is urgently needed.	The need for clean energy	S4
The use of fuel-based (diesel) powerplant has burdened PLN due to the high distribution costs, hence needs to be reduced.	Fuel usage reduction	S5
Nuclear has the potential to overcome all of Indonesia's electricity problems due to its massive power generation ability.	Nuclear (use of)	S6
The use of coal in Indonesia's power sector has produced a significant amount of power that is beneficial to electrify the archipelago. Coal-based power plants have relatively cheap generation cost and are easy to manage.	Continue to depend on coal	S7
Regulations in Indonesia's electricity sector have slowed down electricity investment. A complicated permit mechanism is a central aspect that needs to be simplified.	Regulation simplification	S8
Indonesia's government has spent a huge amount of money to subsidize electricity that is not appropriately allocated. Vulnerable remote communities in rural areas still have no subsidy for their off-grid renewable powerplants.	Subsidy reallocation	S9

regardless of the sources. In addition, although it is a small component, the idea of using nuclear as an "antidote" to Indonesia's electricity problem (S6) also exists. This storyline is based on the existing powerplants struggling to meet the growing energy demand and the unreliability of renewable generators.

Besides debates about energy generation, some institutional storylines also exist. Storyline eight (S8) addresses the complexity of Indonesia's energy regulations, particularly regarding power generation permits. Actors behind this storyline argue that, in order to attract more private investment, such regulations have to be simplified. Moreover, the large government subsidies for electricity have always been debated; hence the idea of cutting the subsidy budget and reallocating it to other budgetary posts (S9). Calls for other involvement of other organizations were also frequently heard due to the difficulties experienced by PLN in electrifying remote areas. This triggered the idea of involving local governments, NGOs, and the community in generating electricity (S1).

4.2 | A structural comparison of the discourse network

The results of DNA analysis are illustrated in Figures 2 and 3. In the network graph, several symbols need to be explained before discussing the results. There are two types of nodes, i.e. nodes with a black circle shape and nodes with a red square shape. The black nodes represent the actors who participated in the discourse contestation, while the circle's diameter represents the frequency of the statements they make. The square nodes represent the idea that they agree/disagree with. The size of the square illustrates the frequency with which political actors discuss the idea. Another component in Figures 2 and 3 are the lines which represent the link between the actor and the storyline that they agree/disagree with. The colour of the edge represents the net agreement/disagreement of actors with a particular idea. Actors can express both agreement and disagreement simultaneously. In the coding process, a positive linkage represents an agreement, and a negative linkage represents disagreement. The

connecting lines presented in Figures 2 and 3 are the sum results of both positive and negative agreement values. The green lines show that actors express agreement more frequently on specific ideas despite some disagreement, and the red lines show the opposite. In order to simplify the graph, we eliminate insignificant connections by simply removing the lines with a weight lower than 0.25 after normalization. Therefore, rather than illustrating exclusive support, the lines in Figures 2 and 3 indicate a topic in which actors most frequently express their agreement/disagreement. Moreover, the elimination of insignificant connections results to the emergence of independent concepts, a concept that has no connection with any actors. Such concepts are also eliminated to obtain clearer graphs.

There are differences in the storyline that dominates the T1 (2010–2014) and T2 (2015–2020) contestation. In T1, S2 (decentralizing energy sources) was the most frequently discussed topic with the support of multi-domain actors. These were from the national government (MSOE and the Coordinating Ministry of Economics [CMoE]), NGOs (Greenpeace), private sector (Panasonic), PLN, and local governments. Meanwhile, topics related to the involvement of other actors besides PLN and MEMR (S1) dominated the contestation in T2. However, various actors expressed disagreement, including the Indonesian president himself. On the other side, the call to promote clean energy (S4) is still on the periphery despite the overwhelming support for T1. Interestingly, in T2, when the global agenda on sustainability is massively promoted and deployed, the frequency of S4 diminishes. S4 lost significant support from MEMR and academia while obtaining support from the private sector and international NGOs.

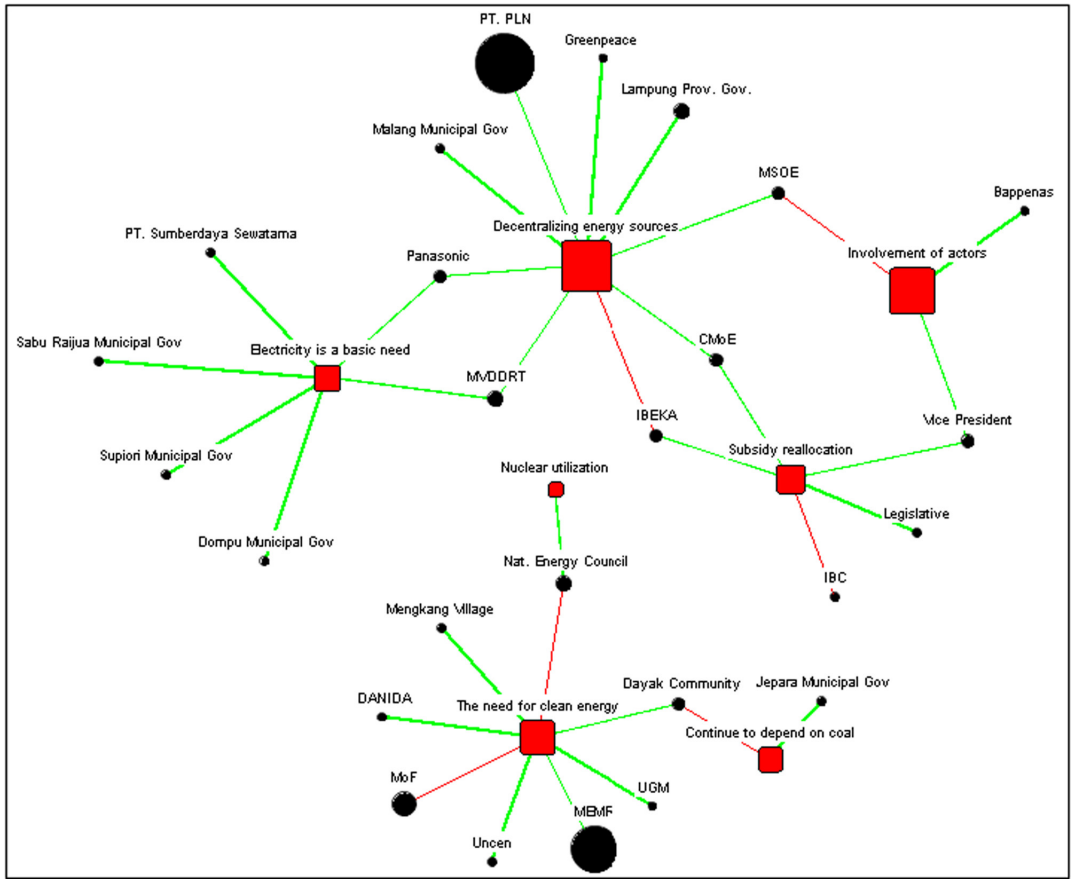

FIGURE 2 The alliance graphs of political actors in the Indonesia rural electrification subsystem in T1.

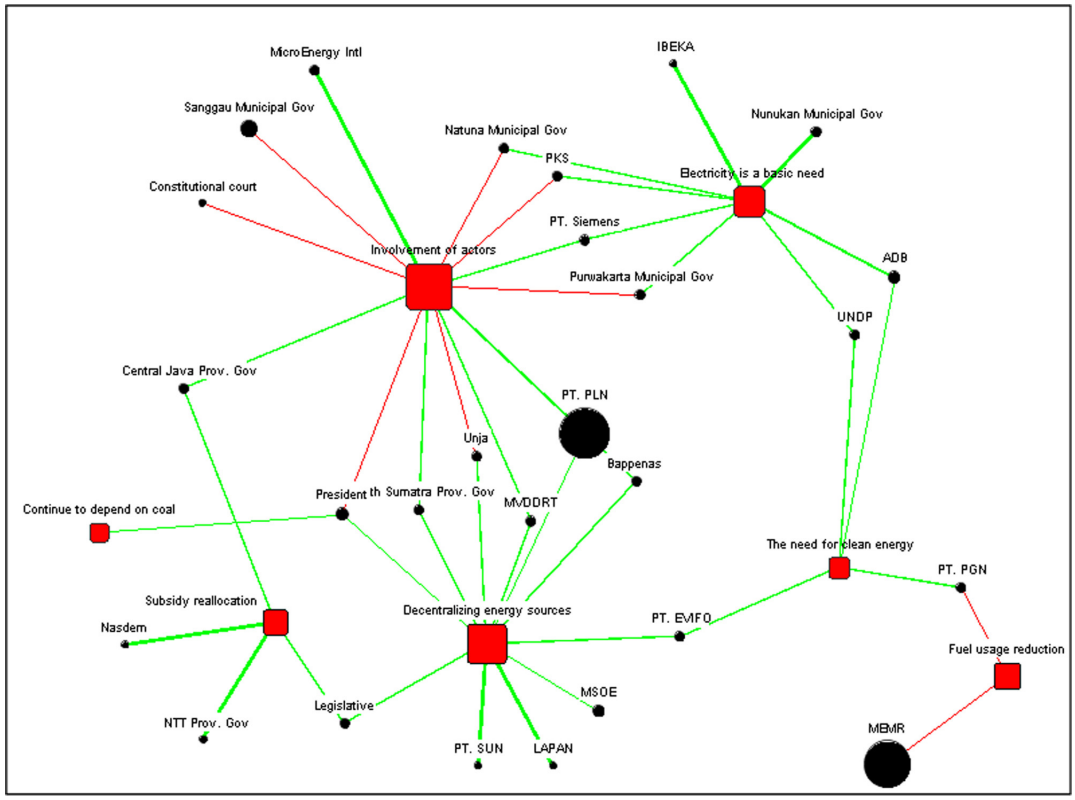

FIGURE 3 The alliance graphs of political actors in the Indonesia rural electrification subsystem in T2.

In T2, there was a shift in the main topic of debate in the policy subsystem. The idea of involving more actors in electrifying remote areas (S1) often manifested itself. The difficulties experienced by PLN in ensuring reliable electricity supply in rural areas due to the large investments needed and unprofitable business prospects make political actors call for others' participation. The pro-energy access actors, including PLN, the Ministry of Village, Development of Disadvantaged Regions and Transmigration (MVDDRT), and the private sector (PT. Siemens and MicroEnergy Intl),support this argument. On the other side, pro-sovereignty actors challenged S1 by advocating that actors' involvement will reduce the state's role and control in delivering community rights.

Moreover, the debates over clean energy (S4), was on the periphery in two time periods. In T1, the discussion addressing the environmental issue of fossil-based energy and the urgency of clean energy was relatively more frequent than in T2. On the other side, the coalition against S4 argues that the use of renewable energy would not fulfil Indonesia's electricity demand despite abundant natural resources. The national energy council is one of the actors that bring this narration to the fore, while at the same time they advocate the use of nuclear.

Structurally, in T1, the discussion over clean energy separated from other mainstream storylines. The two distinct network graphs indicate it in T1, in which S4 is the primary debate and another graph that connects the contestation over S1 (involvement of actors), S2 (decentralizing energy sources), S3 (electricity is a basic need), and S9 (subsidy reallocation). In T2, the frequency of S4 in the Indonesian rural electrification contest was relatively less prominent. However, unlike the previous period, in T2, the S4 storyline was connected to the main discussion about rural electricity. The international organizations, i.e., the Asian Development Bank (ADB) and the United Nations Development Programme (UNDP), have an essential role in combining energy access and climate change mitigation discourses in rural electrification. It is shown by their position, which is between the two storylines.

4.3 | The shift of coalition structure

This section mainly discusses the coalition behind the storylines above to explore the dynamics of how political actors determine policy problems. Although there is no significant tension within the policy subsystem, the political actors involved with Indonesia's rural electrification can be clustered based on their comprehension of the most highlighted policy issue underlying their affiliated storylines. Figures 4 and 5 show the hierarchical cluster analysis of political actors in T1 and T2. Although these clusters are not mutually exclusive, the division of actors based on their "policy core policy preference" is illustrated in Figures 4 and 5.

Four and three coalitions are identified in T1 (2010–2014) and T2 (2015–2020), respectively. In T1, the existing coalitions are associated with S4 (coalition 1), S3 (coalition 2), S2 (coalition 3), and S8, S9 (coalition 4). In contrast, in

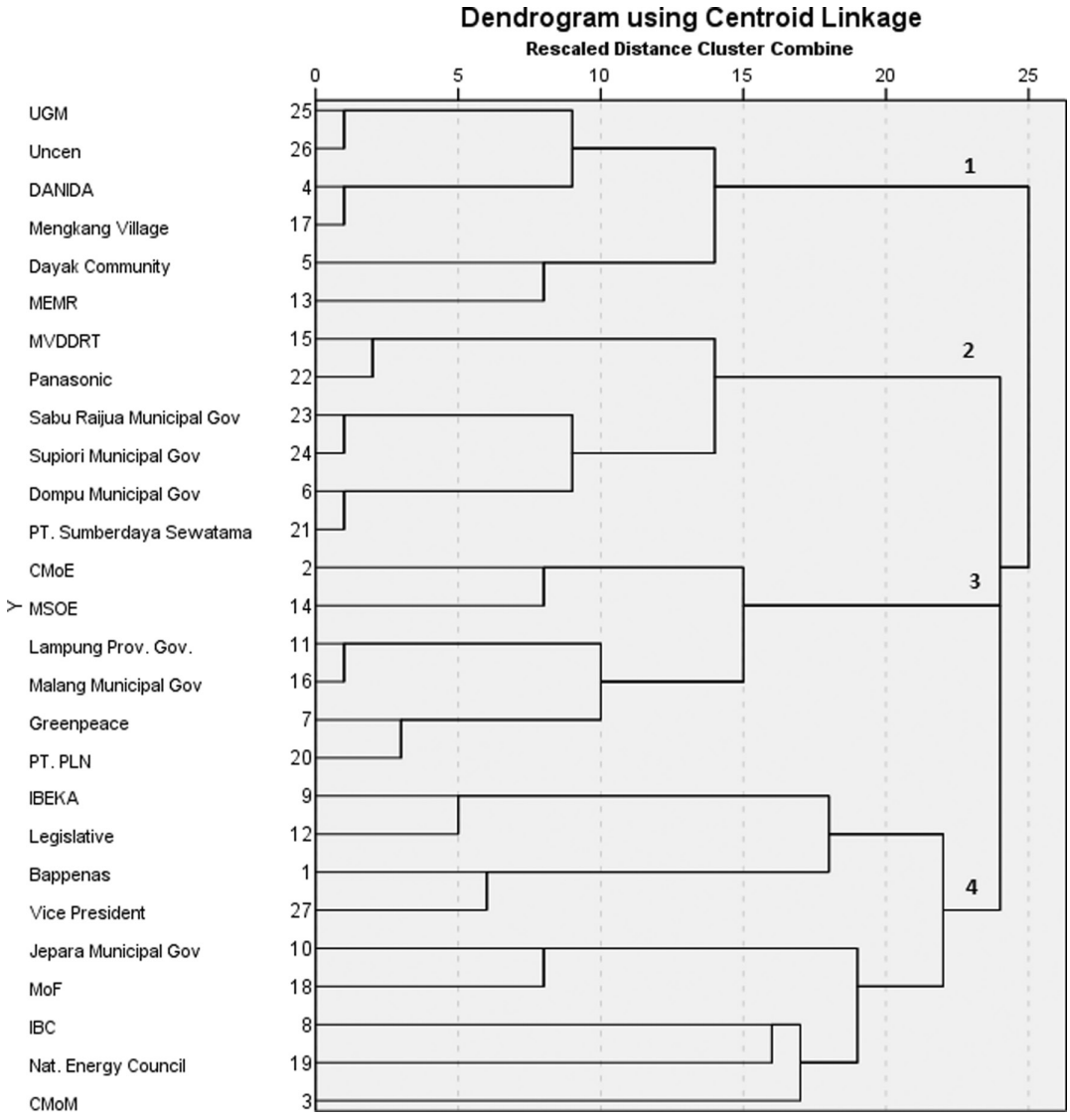

FIGURE 4 A dendrogram of hierarchical cluster analysis on actor coalition in T1.

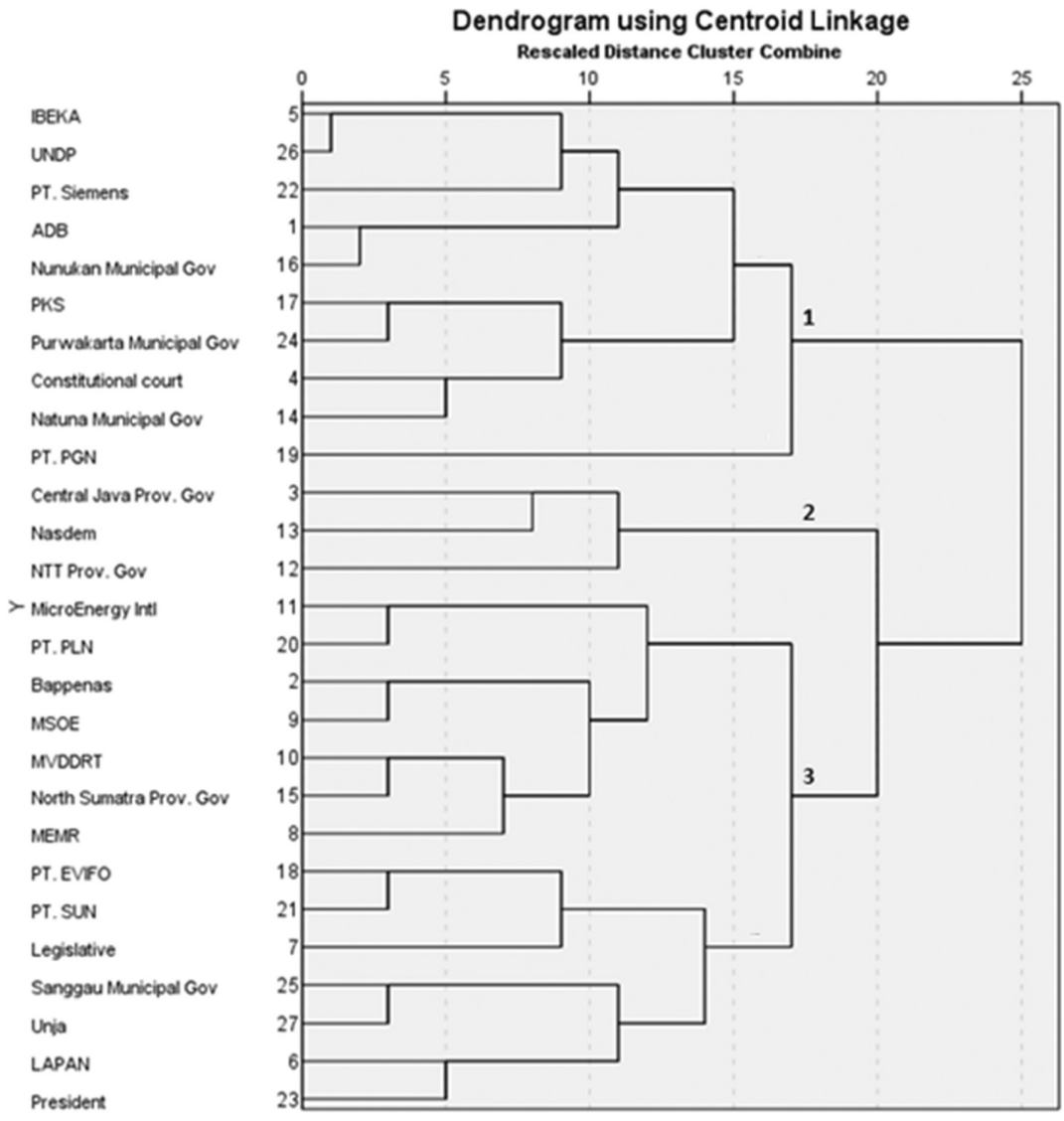

FIGURE 5 A dendrogram of hierarchical cluster analysis on actor coalition in T2.

T2, the first coalition is associated with S4 and S3, while the second is advocating S2 and S9, and the third has an affiliation with S1 and S2. At the farthest distance, the coalition structure in T1 shows how the supporters of S4 (the need for clean energy) were not significantly involved in the primary debates about rural electrification. The hegemony coalition shares a consensus that ensuring electricity access to rural communities is the essential goal. Although the coalition participants had separate arguments on how they perceived the most urgent issues and advocated three different solutions (coalition 2, 3, and 4), the goal was to increase the electrification rates. Moreover, there is a shift in coalition structure in T2. In this period, there is no particular coalition emphasizing S4. Instead, advocators of environmental issues are incorporated in coalition 1, where S3 (electricity is a basic need) is also promoted. Figure 5 also depicts the coalition 3 advocating S1 (involvement of actors) as the largest coalition in T2. Several national government bodies, such as the MSOE, MVDDRT, MEMR, the PLN and the provincial governments (NTT Prov. Gov, Central Java Prov. Gov, North Sumatra Prov. Gov), participate in this coalition.

5 | DISCUSSION: THE INFLUENCE OF EXTERNAL AND INTERNAL INSTITUTIONAL DYNAMICS

Our results found that what Gunningham (2013) referred to as an "energy trilemma" still persists. Our analysis provides evidence that the mainstream discourse behind Indonesia's rural electrification subsystem is generally associated with the concern to increase energy access. Despite different details, the statements coded during the analysis show that most solutions advocated by the political actors lead to one goal: providing access to electricity for all Indonesian people. Meanwhile, discussions related to climate change, emissions, and other environmental issues are still at the periphery. This section discusses the dynamics of these discourses from the institutional perspective, particularly by highlighting the influence of external and internal institutional change.

Our findings reveal that the widespread deployment of sustainability through global agendas, such as the SDGs and NDCs, has limited influence on the discursive contestation of Indonesia's rural electricity. Although Indonesia has a long history of acknowledging the need for clean energy (Maulidia et al., 2019), we argue that the clean energy storyline has been struggling to dominate the contestation due to the focus on the electrification rates of the majority of political actors. This conclusion is supported by the fact that, in T2, numerous areas of rural Indonesia still have no 24-hour electricity access, and even no electricity at all in 433 Villages (IESR, 2019; MVDRT, 2020). Therefore, the fight against energy poverty and ensuring reliable electricity connection in rural areas regardless of the source is overwhelming the clean energy storyline.

The SEHEN project is one of the instances of how environmental considerations were not necessarily underlying the use of renewable sources. In 2011, many solar home systems were distributed to remote villages with more than 110,000 beneficiaries at the beginning of 2013 (Sambodo, 2015). Despite enormous use of renewable energy, the SEHEN programme was designed mainly to boost electrification rates, as expressed by the PLN's representative in PLN Tambah 500 Pengguna Lampu 'Super Ekstra Hemat' (2011): "So, what can be achieved [by the grid system] within 65 years, with SEHEN, we can achieve 61% of electrification rates in just one year".

The domination of the energy access discourse within the SEHEN project is supported by the electrification rates being the project's most frequently mentioned impact assessment rather than environment-related indicators. When community rights were not fulfilled, services became the essential short-term policy orientation (IESR, 2019). Hence, despite the unreliability of the power supply (JRI Research, 2013), and unsustainable business model (DAGI Consulting, 2018), the project was believed to be a breakthrough in accelerating electrification rates (Sambodo, 2015). Furthermore, our informant also admitted that the SEHEN project's electricity was considered a pre-electrification step rather than electrification per se. The project was considered as a temporary solution while transmission of fossil energy generation prepared to reach remote rural communities. As an employee of the MEMR stated in a 2021 interview, "Maybe some people think that (SEHEN) is actually not electrification, but pre-electrification. But at that time, we decided, yes, that includes electrification too, even though still pre-."

This finding also reveals that, although the S4 (the need for clean energy) storyline has been institutionalized, domination of S4 in the contestation is not guaranteed. Most actors consciously prioritized other issues, S2 (decentralizing energy sources) in T1 (2010–2014) and S1 (involvement of actors) in T2 (2015–2020), over environmental considerations, despite various policies and instructions from the government. This phenomenon shows actors' "foreground discursive abilities" (Schmidt, 2010, p. 15) so that actors have the ability to think beyond their institutional settings; hence the institutionalized sustainability discourse only has a limited influence on their policy preferences. Some government bodies even significantly advocated other storylines apart from promoting clean energy. The MEMR, for example, despite in T1 being involved in advocating S4, in T2 they were expressing a disagreement with S5. This can also be interpreted as a form of segmented narrative between Indonesia's political desires so that actors have to choose one over another. In this case, the electrification rates ambition over the climate change commitment.

In addition, we also observed that global sustainability agendas opened more opportunities for international actors to participate in debates about Indonesia's rural electrification. Figure 3 shows that the presence of UNDP and

ADB were essential to bridge the narration of clean energy to basic human needs. They incorporate the importance of reducing emissions while simultaneously addressing energy access and extended other key issues such as governance. The narration is often found in projects implemented or funded by international organizations, as stated by the ADB representative when promoting their Sustainable Energy for All programme:

> The initiative is helping to create the conditions that will enable a massive scale-up of private investment in energy access and clean energy, and it tracks progress toward its objectives in a transparent, accountable manner. (ADB, 2016, p. xx)

The position of UNDP and ADB as discursive intermediaries is essential in the deployment of S4 as they are bringing global discourse to a local context (Guerreiro & Botetzagias, 2018). This adjustment of narration can help actors update their beliefs and fit into contemporary global issues so that actors can formulate adaptation strategies through context alteration (Sabatier & Weible, 2007; Smith, 2007). In terms of Indonesia's rural electrification policy, the narration that can bridge over two (or more) storylines can be beneficial to provide showcases in which a project can address more than one issue simultaneously. For example, stimulating actors to broaden their perspective of rural electricity problems and encouraging knowledge transfer among actors, as done by the city planners in the planning and implementation phases of Norwegian energy projects (Lindkvist et al., 2019).

In terms of coalition shifts, we found that some statements indicate the influence of both internal and institutional dynamics. The more bottom-up approach of village development institutional arrangements caused political actors to become early adopters. The shift of authority and resource distribution triggered actors to shift their focus. Although it is too early to conclude that the hegemonic coalition of electricity access in T1 faded away as the goal is still the same, we argue that the new institutional arrangement in T2 opened a window of opportunity that brought together actors to seize the chance.

The MVDDRT is one example. The shifts of their policy advocation is observed by comparing their statements from both time periods. In May 2012, Detik News cited the statement of the Minister of Disadvantaged Regions as follows:

> "We hope that in the future this technology (solar PV) can economically help villagers" ("Menteri PDT Berikan", 2012)

Whereas in 2019, they emphasized the empowerment of village community as stated by the MVDDRT advisor in Detik News:

> "So, it's time to empower the community as energy producers and become experts in developing village-scale electricity for remote areas" ("Desa Didorong untuk Ciptakan Sumber Listrik Alternatif", 2019)

These statements indicate that the MVDDRT was keen to capture the opportunity obtained by the enactment of the Village Law. In T1, they were involved in advocating the importance of equal access to electricity due to its authority to ensure village development. The statement in 2012 shows that they positioned villagers as needing help. However, after the village authority was allocated resources following the enactment of Village Law, the MVDDRT actively encouraged villages to be self-sustaining in terms of electricity by establishing and managing their supply and distribution. The political position of the MVDDRT as a village authority co-ordinator provides them with the authority to encourage, and drive the village governments, hence their statement in T2 is aimed to facilitate village independencies in terms of service provision, which is in line with the general ideas of the Village Law (Vel et al., 2017). A similar story is also given by academics from the University of Jambi (UNJA) in post-Village Law periods as cited in Detik News in September 2019:

> "So far, villages rely heavily on PLN network, whereas around 65 villages in Jambi Province have not yet been connected to the PLN. it is time for villages to be encouraged to utilise alternative energy sources around them" ("Desa Didorong untuk Ciptakan Sumber Listrik Alternatif", 2019)

Early adopters are often characterized by a shift in coalition structure in which actors switch from one coalition to another (Leifeld, 2013). It usually occurs when actors adopt the beliefs of the former competitor due to their exposure to diverse sources of information and participation in discursive practices (Leifeld, 2013; Loos et al., 2021; Seebauer, 2015). This phenomenon is an early sign of the shift of system equilibria and changes the trajectory of the policy subsystem. A similar phenomenon happened when most German pension policy subsystem actors shifted their preference to support privatization and a new institutional arrangement on the German pension was established (Leifeld, 2013). In terms of Indonesia's rural electrification, further research is necessary as a belief-transition process can last for more than a decade (Grin et al., 2010; Sabatier & Weible, 2007). Therefore, despite this research providing empirical evidence on discursive contestation within the Indonesian rural electricity subsystem, examining how the early adopters and the dynamics of coalition structure can affect the national policy direction needs a longer timeframe.

6 | CONCLUSION AND POLICY IMPLICATION

Our findings show how political actors shared a common understanding regarding the policy problem and advocated a shared storyline as portrayed in the news websites. Simultaneously, our analysis also presents empirical evidence of the energy trilemma. The contestation between energy access, energy security, and climate change mitigation is observed in the ideas that emerged within the existing storylines. Our findings reveal that, in the policy pressure to electrify the rural areas, several perspectives arose and were advocated by their supporters, who believe that these ideas could be a solution or tackle the most urgent problems. Bringing together statements from diverse parties enabled us to bring the actors' narration to the surface so that the storylines of energy transition can be balanced and not dominated by certain parties (Suroso et al., 2021).

Further, despite rural electrification projects being considered essential in implementing renewable energy to meet the ambition of SDG7, most political actors stick to the idea of overcoming energy poverty by whatever means seems most expedient to them. Indonesia's political ambition to achieve 100% electrification has triggered the advocacy of several solutions, including financial, institutional, and technical interventions, while the narration of clean energy was still lacking. However, the promotion of the clean energy storyline has benefitted from the massive deployment of sustainability discourse by the existence of discourse intermediaries. Our analysis found that after the enactment of global sustainability agendas, the opportunity for international actors to participate in the contestation was more open. The role of these actors is essential; despite not dominating the debates, they bring a narrative that can bridge the clean energy storyline to the main discussion. Similarly, some changes in Indonesia's institutional dynamics also shifted some actors' orientation, as we found in the case of the Village Law. Enactment of the law provided the opportunity for village authorities to be independent in terms of generating electricity; hence the related parties call for more actor participation.

The main findings of this analysis have led us to two policy implications associated with mainstreaming the narration of sustainability in Indonesia's rural electrification subsystem. First, promoting renewable energy in Indonesia's rural areas is not only a matter of achieving the NDCs or SDGs. Instead, the main feature of renewable energy is to establish an electricity connection for remote rural communities where the main grid has been absent. Therefore, the narrative has to emphasize the benefits as regards the energy poverty problem while incorporating messages about environmental profit. Second, as observed in both timeframes, decentralization has always been a frequent and interconnected issue, both in terms of the source used and governance. It indicates that these two areas are jointly considered the most relevant solutions when it comes to electrifying rural areas. While formulating the most appropriate institutional arrangement is beyond the scope of this research, we consider that these frequently heard and commented storylines need more attention from policy-makers.

ACKNOWLEDGMENTS

The authors are grateful to all the interviewees for providing valuable information to enrich the findings of this research. Specifically, we would like to thank Sandra Winarsa and her team from Hivos Southeast Asia for assistance during the primary data collection. Lastly, appreciation is also addressed to Prof. Kang Li and Dr. Martin Zebracki from the University of Leeds as the supervisor of the first author.

FUNDING

This research received funding from the Ministry of Education and Research of the Republic of Indonesia through the Beasiswa Pendidikan Pascasarjana Luar Negeri (BPPLN) scholarship scheme as well as from the Creating Resilient Sustainable Microgrids through Hybrid Renewable Energy Systems (EP/ R030243/1) project funded by the UK's Engineering and Physical Sciences Research Council.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on the news websites used by this article. These data were derived from the following resources available in the public domain: (1) https://www.detik.com/ (2) https://www.tribunnews.com/ (3) https://www.kompas.com/

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How to cite this article: Wibisono, H., Lovett, J. C., & Anindito, D. B. (2023). The contestation of ideas behind Indonesia's rural electrification policies: The influence of global and national institutional dynamics. *Development Policy Review*, *41*, e12650. https://doi.org/10.1111/dpr.12650

APPENDIX 1

The regulations mentioned:

1. **Law number 30, 2009 (30/2009) regarding electricity**
   This law regulates the general aspects of electricity provision in Indonesia. Some of the contents include the general definition of electricity-related terms, the division of business areas, the application of regional tariffs, the use of electricity in telecommunications and for multimedia purposes.
2. **The 1945 constitution**
   This is the fundamental law that binds and regulates all stakeholders, including government and NGOs. It contains the basic values and norms that have to be obeyed by all Indonesians and controls all laws at the lower levels.
3. **Law number 23, 2014 (23/2014) regarding Local Government**
   This law regulates all the hierarchy and authority of the local government. It includes the provincial and municipal (city and regency) institutional levels.
4. **Law number 6, 2014 (6/2014) regarding Villages**
   This law regulates the necessary aspects of village development. It recognizes the existence of traditional rights of the village community. The law also allocates fiscal capacity to the village authorities, later termed "village funds."
5. **Law number 16, 2016 (16/2016) regarding the Ratification of the Paris Agreement UNFCCC**
   This law is the expression of Indonesia's Government towards the Paris Agreement. It mandates more technical regulations for achieving Indonesia's NDC.
6. **Presidential Decree number 5, 2006 (5/2006) regarding the National Energy Policy (KEN)**
   The KEN regulates the national energy trajectories. It includes setting priorities, the use of energy sources and renewable energy targets. This decree is no longer valid since the enactment of Presidential decree number 79 in 2014.
7. **Presidential Decree number 79, 2014 (79/2014) regarding the National Energy Policy (KEN)**

   The updated version of KEN. Since the enactment of this regulation, superseded Presidential Decree number 5 of 2006 valid.