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Research Article

Energy Justice and GEDSI: Bridging policy and equitable energy access in residential areas for inclusive electric vehicles development in Indonesia

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Abstract: Indonesia's rapid electric vehicle (EV) expansion, driven by national targets and growing private adoption, has intensified the urgency for equitable and inclusive charging infrastructure in residential areas. While Home Charging Service (HCS) installations have increased substantially, access remains uneven, particularly for residents of multi-unit dwellings (MUDs) who face structural, regulatory, and financial barriers to installing private chargers. Current regulations—spanning electricity, transportation, spatial planning, and building codes—operate in silos, resulting in fragmented implementation and limited guidance for residential charging provision. This paper examines these challenges through regulatory analysis, stakeholder interviews, and focus group discussions with key actors across government, PLN, developers, and civil society. Findings reveal four persistent barriers: regulatory misalignment, management and operational constraints at the property level, limited infrastructure readiness, and electrical-system constraints, all of which disproportionately affect low-income households, women, the elderly, persons with disabilities, and other vulnerable groups. Drawing from global best practices, particularly California's equity-centered Communities in Charge program, the study presents a framework for harmonizing multisectoral regulations and embedding GEDSI principles in the planning and deployment of residential charging. The paper recommends defining private installation standards, improving data integration, mandating EV-ready building codes, designing equitable financing mechanisms, and establishing a clear roadmap for residential charging. Ensuring equitable access to home and residential EV charging is essential not only for accelerating Indonesia's EV ecosystem but also for advancing energy justice and creating a socially inclusive clean-mobility transition.

Keywords: equitable energy access; EV charging; GEDSI; energy justice; electric mobility; policy.

1. Introduction

The transition to electric vehicles (EVs) in Indonesia continues to accelerate, with national targets aiming for 2 million electric four-wheelers (E4Ws) and 8 million electric two-wheelers (E2Ws) by 2030 [1]. The rapid growth of the EV population demands equally rapid development of infrastructure and supporting policies. However, the current EV ecosystem remains a fragmented marketplace with no integrated national roadmap, hindering the decarbonization of the transportation sector [2]. Existing regulations primarily focus on expanding public charging

infrastructure for E4Ws, while providing only limited guidance on the development of other charging vehicle types, thereby creating inequitable energy access and indirectly disadvantaging certain social groups, particularly residents of multi-unit dwellings (MUDs) who dominate urban areas. As of April 2025, more than 31,000 Home Charging Services (HCS) have been installed. This indicates that 32% of the total 97,000 battery electric four-wheelers (BEV 4Ws) are already integrated with HCS. Year-on-year comparison between Q1 2024 and Q1 2025 also shows a 70% increase in HCS users [3].

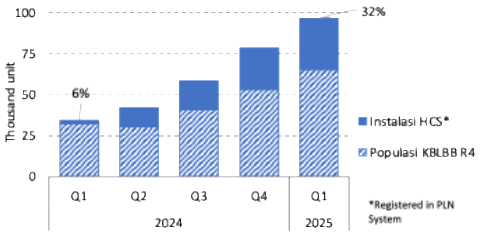

Figure 1. The number of installed HCS and EV population

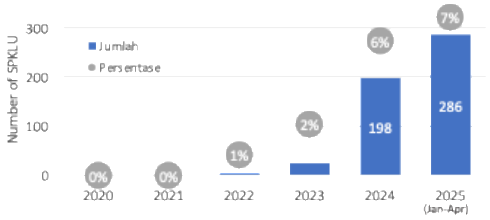

Figure 2. Accumulated Number of SPKLU in Residential Area

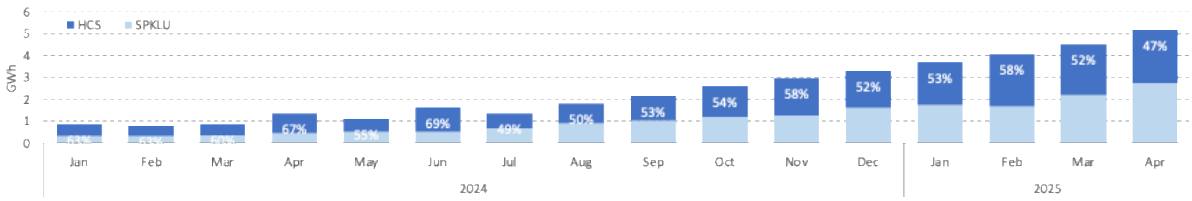

Figure 3. Electricity consumption of HCS and Public Charging Station for BEVs

Additionally, when comparing electricity consumption between HCS and public charging stations (SPKLU), 47% of total BEV charging electricity is now sourced from HCS **Figure 3** [3]. These figures demonstrate a clear shift in consumer behavior: while BEV users initially relied heavily on SPKLU for charging, they are increasingly transitioning toward greater dependence on HCS. This underscores the need for policies that address not only public charging networks but also equitable and inclusive access to private charging, particularly in residential areas. Demand for developing residential-based public charging stations (SPKLU) has increased significantly over the past five years. By Q1 2025, 286 SPKLU units had been installed in residential areas and multi-unit dwellings (MUDs), accounting for 7% of all SPKLU installations in Indonesia **Figure 2** This trend reflects that as the EV population continues to grow, demand for private charging and residential charging solutions will also intensify in the coming years. From a regulatory standpoint, Presidential Regulation No. 55/2019 as amended by No. 79/2023, as well as Ministerial Regulation of Energy and Mineral Resources (MEMR) No. 1/2023, define private electricity installations as those located within residential areas whose electricity use is intended for personal consumption and is not allowed to be sold [4], [5], [6]. However, regulatory limitations remain in Indonesia's EV ecosystem. The government continues to prioritize the expansion of SPKLU for electric E4Ws as stipulated in the Decree of the Minister of Energy and Mineral Resources of the Republic of Indonesia No. 24.K/TL.01/MEM.L/2025, while guidance for residential or private charging provision remains minimal [7].

Regulation	Article	Description
Presidential Regulation 55/2019 jo. 79/2023 on the Acceleration of the Battery Electric Vehicle (BEV) Program for Road Transportation	17(i)	Incentives are provided to: Companies that operate **Public Electric Vehicle Charging Station (SPKLU), Battery Swapping Station (SPBKLU), and/or institutions or residential buildings** that use private electrical installations to charge Battery Electric Vehicles;
	26(4)b	Private electrical installations are located in: a. Central and regional government offices; and **b. Residential buildings or housing complexes**
Ministerial Regulation MEMR 1/2023 on the Provision of Electric Charging Infrastructure for Battery Electric Vehicles	9(2)	Private electrical installations may also be located in places other than those referred to in paragraph (1), provided that they are used for charging Battery Electric Vehicles for personal use and not for commercial sale.

Figure 4. Current Relevant Regulation on EV Charging in Indonesia

As a result, most early adopters of EVs live in single-family homes with garages, existing electrical outlets, or sufficient electrical capacity, making it easy to install a private charger or Home Charging Service (HCS) to conveniently charge overnight at a significantly lower cost than public charging alternatives. Meanwhile, a large portion of Indonesian households reside in multifamily homes such as apartments, where access to private charging is significantly more limited. Despite this growing number of EV users, property owners, and MUDs continue to face impediments in pursuing HCS or private charging options, with implications for equity in EV adoption and charging access. As the EV market transitions beyond early adopters toward a broader consumer base, ensuring equitable access to affordable private charging in residential areas becomes essential so that no segment of society is excluded or disadvantaged in experiencing EV technology. This paper highlights the need for more inclusive charging provision in MUDs and residential areas to address inequitable energy access and GEDSI issues. Informed by our focus group discussion, literature reviews, and stakeholder interviews, the paper proceeds as follows: Section 2 provides the materials and methods; Section 3 presents the findings; Section 4 discusses the findings; and the paper concludes with conclusions and recommendations.

2. Materials and methods

This section outlines the procedures, data resources, and analytical methods used in this study. All methods are described to ensure clarity and reproducibility, with references to established protocols where applicable. Details of the study methods are shown in Fig. 5.

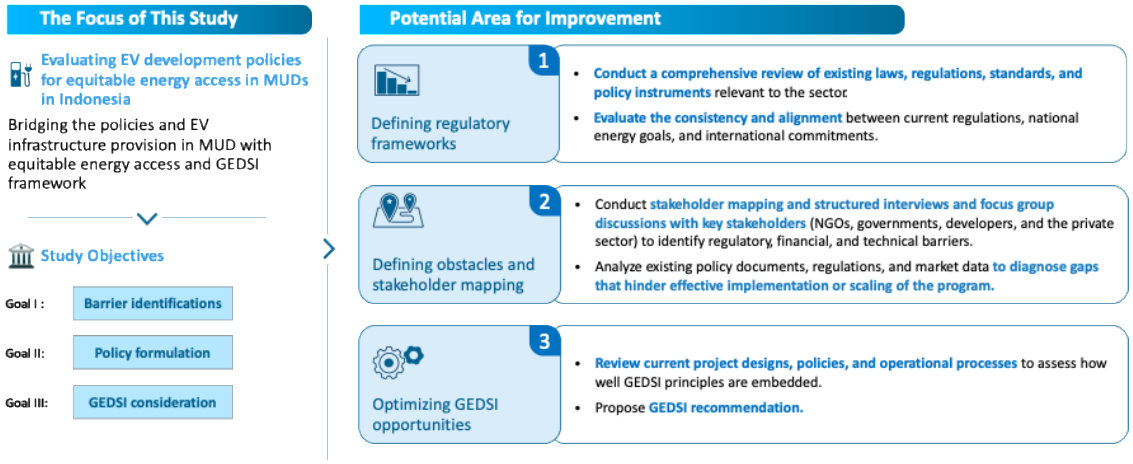

Figure 5. Overview of the Research Methodology

2.1. Defining the Scope of Private Installation Development in Residential Areas

The classification of EV charging installations in residential settings depends on the exclusivity of access and ownership of the charging equipment. When the charging location is not exclusively accessible to residents, the facility is categorized as a public charging station (SPKLU or SPBKLU) [4], [6]. If access is exclusive to residents, the next distinction lies in whether the charging device is owned by an individual living in a single-family home. In such cases, the installation is categorized as a private, single-household installation, which may participate in PLN's HCS 2.0 program. Under this scheme, users pay for electricity according to PLN's regular tariffs, and the charging equipment is owned and operated by the EV owner. Conversely, if the charging equipment is not individually owned, typically in multi-unit or cluster housing, the installation is classified as a private, area-based residential installation. Currently, there is no specific PLN program for this category, and the pricing mechanisms vary, ranging from free access, PLN-equivalent tariffs, differentiated per-kWh rates, or subscription models. The equipment in this arrangement may be owned by the EV user, the housing developers or managers, or a third party. According to the International Code Council, there are three categories of electric vehicle charging installation integration: EV-ready, EV-capable, and EV-installed.

	Goals	Location	Charger Type	Target Users
Public Facilities ares provided by the Business Entity for EV owners	Developing the industry through commercial Public EV Charger schemes	• Commercial buildings within residential areas. • Shared parking areas within mega-complexes (integrating residential and commercial zones). • Residential areas located within central business and commercial districts.	Medium and fast charger	High-income and upper-middle-income households
Private Only private use and not for commercial	Reducing the TCO for EV users Avoiding an increase in peak load	• Areas with insufficient capacity to bear the costs. • Priority area (e.g., subsidized housing and apartments, government housing).	Slow charger	• Low-to middle income households. • Priority groups (elderly people, women, and persons with disabilities).

Figure 6. Types of Charging Provision Mechanisms in Residential Areas.

EV–ready displays a location with installed electrical panels and wiring pathways that support future EV charger installations, with a minimum circuit capacity of 208/240 volts and 4 amperes. EV-capable parking areas are equipped with a minimum 208/240-volt, 40-ampere circuit, wiring, outlets, and circuit protection devices. EV-installed showing charging facilities for electric vehicles are fully provided, including electrical panels, parking areas equipped with charging installations, and other supporting equipment. These types represent three progressive levels of charging-infrastructure integration in buildings. EV-capable refers to sites where the basic electrical capacity and conduit pathways are prepared, allowing future chargers to be installed without major construction. EV-ready expands this by ensuring that wiring, panels, circuits, and outlets are fully in place so chargers can be connected immediately when needed. EV-installed is the most advanced level, where functional chargers are already operational and available for residents' use [8]. Together, these categories provide a scalable approach that reduces retrofit costs, supports flexible planning, and accelerates equitable access to home charging in residential areas.

2.2. Benefits of Developing EV Charging Infrastructure in Residential Areas

The development of electric charging installations for BEVs in residential housing offers benefits for residents and the broader transition towards clean transportation. Integrating charging infrastructure, whether fully installed or prepared through EV-ready or EV-capable provisions, enhances the long-term value of residential properties, reduces future retrofit costs, and ensures that households can adopt EVs more easily and affordably [9]. Importantly, the planning and deployment of this infrastructure can be tailored to the financial capacity of housing developers. Instead of requiring immediate installation of full charging equipment, early-stage provisions such as dedicated electrical circuits, panel capacity upgrades, and conduit pathways can be incorporated during construction at a significantly lower cost. This phased approach allows developers to manage expenses more effectively while still supporting national EV goals and ensuring that residents are not disadvantaged in accessing home charging in the future. The development of electric charging infrastructure for battery-electric vehicles in residential housing offers a range of benefits and can be planned to align with housing developers' financial capacity.

Table 1. The benefits of developing EV charging infrastructure in residential areas

Benefit	Benefit for the Government	Benefit for the Housing Management
Investment optimization	It can enable prioritizing public charging investments in critical locations that are less commercially attractive and are specified in the 2025-2030 public charging roadmap. Housing-based investments offer broader reach and potentially greater efficiency than single-household investments.	Added value for residents and an attractive feature for prospective residents who use electric vehicles and prioritize low-pollution environments, modern facilities, and sustainable housing.
Targeted assistance	Target beneficiaries, as the assistance is based on residential-area locations (for example, low-income housing and areas with limited access to conventional fuels)	
Cost savings	Mitigating the costs of expanding the electricity network to accommodate increased peak load resulting from reliance on high-capacity public charging stations.	Saving on installations in new construction or ongoing renovation projects, compared with the higher costs of retrofitting that require demolition work.

From the government viewpoint, accelerating the development of EV infrastructure brings some benefits, ranging from fuel import savings, carbon credit potentials, and green job creation. In a particular study, investing Rp 1 in the E2W business for battery-swapping gives Rp 100 back to the government, resulting from potential fuel import savings, reduced greenhouse gas emissions, and the emergence of new jobs in the battery manufacturing sector [2]. Developing private charging installations for residential housing, when properly regulated, can deliver significant benefits for both the government and housing managers, primarily through optimized investment and long-term cost savings. For example, integrating EV-ready infrastructure into multifamily or residential buildings allows property developers to tap into the growing demand for EV charging, research shows that providing EV chargers in apartments can increase property value and attract eco-conscious tenants [9]. Providing incentives targeted at subsidized housing ensures support reaches low-income households, helping to avoid inequitable access as EV adoption increases. This approach ensures that benefits are inclusive and aligned with social equity goals [10]. Moreover, staging the deployment of charging infrastructure to match the financial capacity of housing managers, for instance, by classifying buildings as “EV-Ready” or “EV-Capable” and postponing full charger installation, can prevent the burden of high upfront costs now while avoiding expensive retrofits later. Smart building

codes and energy-management standards show that early planning for EV infrastructure significantly reduces retrofitting costs over time [11].

3. Results and discussion

This section presents the study objectives and examines their implications for regulatory coherence, defining challenges and key players, the global best practice, and the policy recommendations for the government. The discussion interprets the equitable energy access frameworks and the GEDSI perspective.

3.1. Harmonizing Multisectoral Regulatory

The transition toward widespread electric vehicle adoption and equitable clean energy access requires a coherent regulatory foundation that spans multiple sectors. At present, policies governing transportation, electricity provision, building standards, spatial planning, and regional governance often evolve independently, creating gaps and inconsistencies that hinder effective infrastructure rollout. Harmonizing these multisectoral regulations is therefore essential to ensure clarity of responsibilities, reduce administrative barriers, and enable coordinated investment. A unified regulatory approach not only accelerates the deployment of charging infrastructure but also strengthens consumer protection, supports industry readiness, and aligns national, provincial, and local frameworks toward a more inclusive and sustainable energy system.

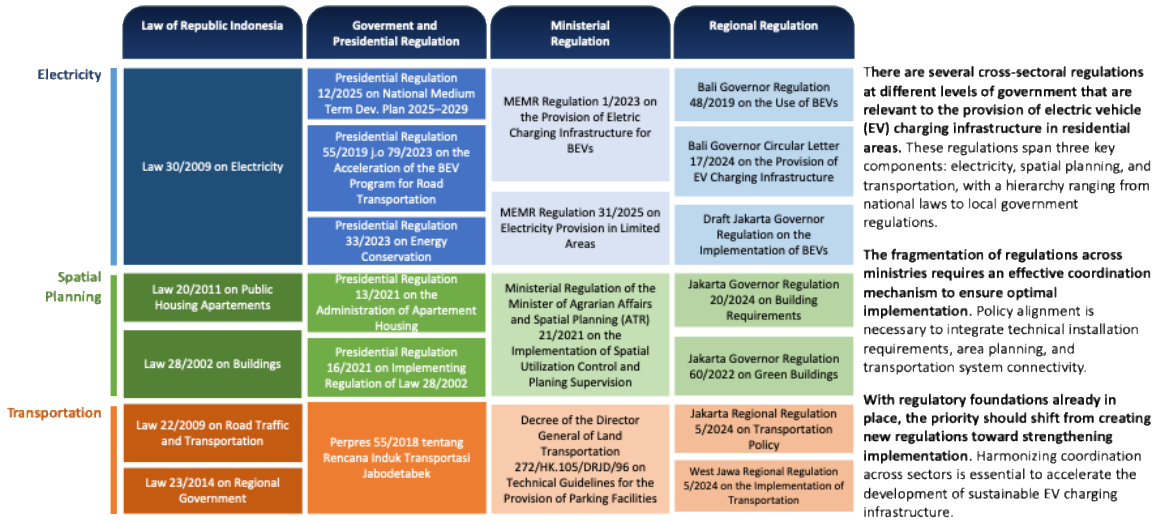

Figure 7. Regulatory framework to develop charging infrastructure in residential areas

These regulations collectively form Indonesia's legal and institutional framework for deploying EVs, expanding charging infrastructure, and integrating clean-energy technologies into buildings, transportation systems, and urban development. National laws such as Law 30/2009, Law 22/2009, and Law 28/2002 define the baseline for electricity provision, road-transport governance, and building standards—each of which is directly linked to EV charging availability, technical readiness, and safety requirements [12], [13], [14]. Meanwhile, Law 20/2011 and related housing/building regulations shape how residential areas can incorporate EV-ready or EV-capable provisions [15]. Presidential Regulation 55/2019 jo. 79/2023 operationalizes the national EV program, while Ministerial Regulation of MEMR 1/2023 details the technical, business, and tariff rules for charging infrastructure [4], [5], [6]. Regional regulations, such as Bali Governor Regulation

48/2019, Jakarta Governor Regulation 20/2024, and West Java Regional Regulation 5/2024, reinforce national directives, but they vary significantly, reflecting differing regional priorities and administrative capacities [16], [17], [18], [19]. This fragmentation often leads to regulatory overlaps, inconsistent permitting processes, and slow infrastructure rollout. To move forward, Indonesia needs harmonization across sectors, alignment of national–regional mandates, standardized EV-ready building requirements, integrated spatial planning for charging deployment, and clearer division of responsibilities among ministries and regional governments. A coordinated, multisectoral framework will enable faster, more inclusive development of the EV ecosystem.

3.2. Barrier Identification

This section outlines the key barriers hindering the acceleration of electric mobility and charging infrastructure deployment, derived from a series of Focus Group Discussions (FGDs) with major stakeholders alongside comprehensive internal alignment within PLN. Insights were gathered from policymakers, industry players, technology providers, and community representatives to capture challenges across regulatory, technical, financial, and social dimensions. The synthesis of these discussions reveals persistent gaps that impede coherent implementation, including fragmented mandates, limited incentives, uneven infrastructure readiness, and varying stakeholder priorities. These findings form the foundation for developing synchronized, multisectoral strategies to strengthen Indonesia's EV ecosystem. Four challenges are faced in the provision of private charging stations in residential areas, encompassing regulation, management and operations, facility-related, and electrical-related.

Table 2. The challenges of EV charging provision in residential areas

Challenge	*Grid to Property*	*Property to Charger*	*Charger to Vehicle*
Regulation	• Regional policies that are not yet aligned with national regulations • Limitations in public facility standards as well as procedures for obtaining the Certificate of Proper Function (SLF) required to support electric charging installations.		• Fragmented regulatory oversight (evidenced by several operators or charging equipment providers operating without proper licenses).
Management and operations		• Business model requirements from property owners that are unfavorable to operators (e.g., high land rental fees). • Communication challenges related to installations, especially in buildings managed by condominium or apartment owner associations.	• Limitations in safety protocols and operational safety education, as well as fire incident response, raise safety concerns. • Challenges in operator access to charging equipment due to complicated parking-area entry, inadequate wayfinding, and limited internet connectivity for locating chargers via applications.
Facility-related	• Limited transparency and high costs associated with meeting non-functional attribute requirements (such as aesthetics).	• Lack of accessible standards or guidelines for indoor and outdoor installation. • Limited parking space with adequate ventilation.	
Electrical-related	• The waiting time for network capacity upgrades (15 days to 3 months) affects customer satisfaction. • Concerns over the adequacy of capacity and the reliability of regional grids amid growing peak loads.	• Limitations in the electricity tariff protocol imposed by building management on operators and/or residents create a tendency for higher costs.	• Limitations in users billing model protocols.

From the FGD, the challenges in providing private chargers in residential areas can be grouped into three categories: grid to property, property to charger, and charger to vehicle. Regulatory challenges in the grid-to-property segment include regional policies that are not aligned with national regulations and limitations in public facility standards. Meanwhile, in the charger-to-vehicle segment, insufficient oversight of charging equipment creates safety risks for both residential areas and EV users. Challenges in management and operations at the property level include the absence of a residential business model that can accommodate SPKLU operations. This results in high land-lease prices, which disadvantage private-sector charging operators. In addition, there are no guidelines or policies requiring apartments or residential complexes to provide EV chargers within their premises. Facility-related challenges include inconsistent rules for constructing electrical installation networks needed for chargers in residential areas and high construction costs for customers driven by aesthetic requirements. The most impactful challenge in the electrical-related category is the waiting time for network upgrades (15–30 days) and limitations in the electricity tariff protocol, which prevent EV users from fully benefiting from EV technology.

3.3. Best Practice: California Energy Commission

This section presents key best practices from the California Energy Commission (CEC) that can inform Indonesia's efforts to accelerate private EV charging infrastructure in residential and multi-unit dwellings. California's regulatory frameworks, phased implementation strategy, and comprehensive technical standards provide valuable insights for harmonizing policies, reducing installation barriers, and enhancing equity. By examining these approaches, we identify actionable lessons that can strengthen Indonesia's regulatory coherence, planning practices, and GEDSI-oriented charging provisions.

Table 3. Overview of the Wave 4 program in the California Energy Commission (CEC)

Aspect	What Wave 4 Does / Requires	Implication for Residential / MUDs Charging (Why It Matters)
Target Sites	Wave 4 funding is exclusively for multi-family housing and multi-family–related sites (apartments, condos, shared residential complexes).	Makes MUDs formally eligible, closing the "single-family homes only" gap and enabling apartment/condo EV-charging infrastructure.
Equipment & Infrastructure Types	Supports installation of Level 2 (and from October 2025, also Level 1) EVSE — i.e. standard slow/overnight chargers appropriate for residential use.	Provides practical charging solutions suitable for overnight charging in residential parking lots / garages — realistic for apartment residents.
Financial Incentives	Grants of US $8,500 per eligible Level-2 connector; extra bonus for tribal or disadvantaged communities; max 40 ports per site.	Reduces upfront capital cost barriers for property owners / developers — helps make charger installation financially viable for MUDs.
Equity & Community Focus	At least 50% of funding is reserved for disadvantaged, low-income, tribal, or underserved communities; scoring rubric prioritizes "Community Connections."	Encourages inclusion — ensures charging access is not limited to affluent buildings, promotes social equity in EV infrastructure deployment.
Readiness-based Support	Wave 4 offers technical assistance, outreach, and support for applicants with varying levels of project readiness. Priority funding goes to "shovel-ready" sites with permits/designs in place.	Helps lower the planning/administrative barrier for housing managers — especially useful for MUDs which may lack prior experience with EV infrastructure.
Regulatory & Implementation Support	Funded under CEC's Clean Transportation Program; aims to scale EV charging infrastructure across residential & community sites.	Demonstrates a state-level, coordinated approach — a model of regulatory and financial support that can be instructive for other jurisdictions considering EV charging rollout for MUDs.

Wave 4 of the Communities in Charge program allocates US $56.5 million exclusively for Level-2 EV charger installation in multi-family housing and related residential sites. This program is funded through California's Clean Transportation program, using revenue from the state cap-and-trade system under California Climate Investments. The program prioritizes disadvantaged and low-income communities, mandates minimum readiness standards, and offers generous per-port rebates [10]. This equity-focused, demand-side subsidy substantially lowers upfront costs and addresses a core barrier to residential EV charging in dense housing. For Indonesia, adopting a similar targeted subsidy or grant scheme could accelerate private/residential EV-charging uptake, especially in

apartments and multi-unit dwellings where upfront cost and access barriers hinder adoption. Coupling incentives with regulations that require "EV-ready" or "EV-capable" wiring in new or renovated residential buildings can preempt retrofit costs and broaden EV access across income groups. Government Support for Equitable Energy Access & GEDSI perspective.

3.4. Recommendation: Equity and GEDSI Consideration

Ensuring that residential EV-charging infrastructure development advances equity and GEDSI principles is essential for creating an inclusive and socially responsive transition to clean mobility. While technical and regulatory improvements can accelerate deployment, attention to who benefits—and who may be left behind—remains critical. Embedding equitable energy access, affordability, and safety for women, low-income households, the elderly, persons with disabilities, and other vulnerable groups ensures that the shift toward electric vehicles strengthens, rather than widens, social disparities. This section presents key recommendations to integrate equity and GEDSI considerations into policy, planning, and implementation.

Table 4. Recommendation for the Government

Aspect	Recommendation	Existing Relevant Regulation
Definition	Further explanation of the definition of a private installation is infrastructure used solely for one's own needs, not for commercial purposes. Explanation "for the first time, the provision of EV infrastructure is carried out through a government assignment to PT PLN (Persero)."	Article 9(2) of Ministerial Regulation of MEMR 1/2023 concerns Private Electrical Installations in Residential Areas, while Article 24 regulates the government assignment to PLN.
Data Management	Mandating the integration of data on new and used EV purchases with relevant sectoral ministries and PLN to accelerate coordination for provisioning and monitoring of charging facilities.	Regulation of the Indonesian National Police 7/2021 on Motor Vehicle Registration and Identification
Facility Related	Including electric vehicle (EV) charging as a required component of basic infrastructure in residential housing and settlement areas.	Ministerial Regulation of Ministry of Agrarian Affairs and Spatial Planning (ATR) 21/2021 on the Implementation of Spatial Utilization and Spatial Planning Supervision.
Parking Facility	Incorporating technical design requirements for parking areas equipped with electric vehicle charging facilities.	Decree of the Director General of Land Transportation No. 272/HK.105/DRJD/96 on Technical Guidelines for the Implementation of Parking Facilities.
Financing and Tariffs	Regulate the financing structure, the implementation of incentives and assistance, and the maximum service fees for private installations in residential areas to encourage provision and maintain installation quality and operational performance.	Article 17(i) of Presidential Regulation 55/2019 as amended by 79/2023 concerning housing-related incentives; Ministerial Decree of Energi and Mineral Resources No. 182/2023 on Service Fees to accomodate residential installations; and Ministerial Regulation 31/2015 on the provision of electricity in residential areas to facilitate private electrical installations.
Target	Initiating a roadmap for private residential installations that outlines quantitative and qualitative targets and is integrated with the existing public charging roadmap.	Article 25 of Ministerial Regulation of Energi and Mineral Resources 1/2023 concerning the mandate assigned to PLN to prepare a roadmap.

Another key short-term priority for PLN is to connect relevant actors and provide sector-specific guidance to accelerate the deployment of private charging installations. This is essential because residential EV-charging infrastructure spans at least three distinct domains: energy, which covers grid connection and the charging-installation ecosystem; spatial planning and buildings, which governs public-facility requirements and building provisions; and transport, which regulates parking and technical aspects of charging as transport-supporting infrastructure. Incorporating equitable energy access and GEDSI principles is equally critical in the short term, as it ensures that the benefits of EV adoption extend to low-income households, vulnerable groups, and residents in areas with limited access to clean mobility options. For 2025, PLN's short-term focus is the initiation of installations in existing properties. To enable this, PLN can introduce practical instruments such as technical guidelines for procurement components in existing properties, a directory of partners to facilitate matchmaking, and collaboration-program guidance, while embedding equity considerations to ensure that charging infrastructure development is inclusive, accessible, and socially responsive.

4. Conclusion

This study demonstrates that Indonesia's EV transition will remain uneven without deliberate efforts to expand equitable charging access in residential areas, particularly for MUD residents and vulnerable groups. Regulatory fragmentation, operational limitations, infrastructure readiness gaps, and electrical-system constraints are the main barriers hindering inclusive deployment. Lessons from international best practice highlight the importance of harmonized regulations, EV-ready building requirements, targeted financial incentives, and data-integrated planning frameworks. Embedding equity and GEDSI considerations—in affordability, safety, accessibility, and benefit distribution—is essential to prevent widening social disparities as EV adoption grows. Strengthening coordination across sectors and establishing a clear roadmap for residential charging will enable Indonesia to accelerate EV development while ensuring that clean-mobility benefits are shared broadly and fairly across society.

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