



HEALTH AND SUSTAINABILITY IN THE MEGACITY

PATHWAYS FOR A JUST TRANSITION IN JAKARTA'S BUILT ENVIRONMENT

Part of the global project:
*Building for Today and the Future:
Advancing a Just Transition in the
Built Environment*

THE BUILDING FOR TODAY AND THE FUTURE PROJECT

This report is one of eight city research summaries as part of the global IHRB project “Building for Today and the Future: Advancing a Just Transition in the Built Environment”

Buildings and construction contribute 37% of global energy-related carbon emissions. At the same time, cities are often where people experience the impacts of climate change, rising living costs, and socio-economic inequalities.

The project examines green transition processes in the built environment of eight cities globally, aiming to (1) strengthen the understanding of social justice and human rights issues in each context and globally, and (2) open up pathways for local and international action to improve the social sustainability of these processes. The results of this project will help stakeholders make informed decisions in urban and sustainability policies, and take steps towards implementation (in various contexts and at various levels of governance).

The project is structured in four research cycles, each undertaking parallel research in two cities to derive comparative insights. The pairs of cities are: Prague and Lagos, Lisbon and Melbourne, Copenhagen and Jakarta, Athens and Valparaíso.

This report intends to inform policy-makers, investors, and businesses involved in shaping the built environment in Jakarta, as well as civil society actors working to expand the space for socially inclusive climate action.



TERMINOLOGY

Built environment: The tangible urban environment, i.e. buildings, infrastructure and the spaces that connect them.

Built environment decarbonisation: Measures to reduce greenhouse gas emissions from the built environment by improving the energy efficiency of new and existing buildings, switching to renewable energy supplies, and reducing the climate footprint of construction materials.

Built environment resilience: Measures to strengthen the resilience of buildings and infrastructure to the impact of climate-related events such as flooding, extreme heat, and sea level rise.

Just transition: While pioneered by the labour movement and the ILO, the wider concept today involves a series of aligned and coherent climate actions that effectively fulfil both environmental and social purposes:

1. A transition to an ecologically-conscious model that allows societal development within planetary boundaries, and
2. Ensure the benefits of that shift are equitably spread and enjoyed throughout the population, and that its costs are not borne by traditionally excluded or marginalised groups.

The project focuses particularly on four thematic areas of the built environment: the right to housing, construction workers' rights on site and through supply chains, non-discrimination and spatial justice, and meaningful participation.

The project recognises that “just transitions” are context specific, and that the overall concept continues to evolve. The project therefore aims to engage with local language, narrative and perspectives while also building international momentum for positive change. The local research is accompanied by visioning workshops that bring stakeholders together to envision pathways towards a more inclusive, sustainable and just city.

ACKNOWLEDGMENTS AND PARTNERSHIPS

The Building for Today and the Future project benefits from guidance and insights from its thematic partners including ICLEI - Local Governments for Sustainability, Building and Woodworkers International, and the International Union of Tenants.

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BWI
Building and Wood
Workers' International
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SUMMARY

Jakarta city (DKI¹), the capital of Indonesia, is home to 10.5 million people, with a total of 31.7 million in the wider Jakarta Metropolitan Area (JMA).² Like many other megacities, it faces significant challenges in providing equal access to decent and affordable housing, and a clean and healthy environment. Transforming Jakarta into a sustainable and just city that respects human rights will require significant efforts.

This study examines the extent to which current climate policies and actions in Jakarta's built environment recognise the importance of human rights standards and commitments, and whether those with authority take appropriate steps to respect, protect, and fulfil these rights in practice. The report provides an overview of the national and local context, the human rights risks and opportunities found, and the factors that hinder or enable a just transition for workers and impacted communities in Jakarta's built environment. The focus areas studied include the right to a healthy environment, the right to housing, non-discrimination and spatial justice, and meaningful participation in local governance and decision making.

Jakarta, and Indonesia more widely, have ambitious climate change targets, and many current built

environment decarbonisation policies recognise the need to prioritise marginalised communities in engagement and delivery. However, deep social and spatial inequalities present structural barriers to effective action and, while there are some isolated examples of inclusive climate action, residents in Jakarta continue to face significant human rights risks and abuses on a daily basis, regarding the rights to a clean and healthy environment, mental and physical health, participation and non-discrimination, right to decent and affordable housing, workers' rights, and more.

This report offers recommendations to stakeholders across the public, private, and third sectors, highlighting the leverage each actor has to simultaneously address environmental and social issues of direct relevance to the protection of fundamental rights. Recommendations also aim to initiate collective thinking and actions on the path towards a just transition. Recommendations include for example an innovative financial scheme for climate action at the national level, an integrated metropolitan authority at the local level, collaborations between financial institutions, developers, and investors for affordable housing, and local initiatives for decarbonization driven by civil society organisations, among others.



Credit: Afif Ramdhasuma / Unsplash

RESEARCH PROCESS

The research process took place between July and October 2023. Primary and secondary data were collected through a literature review, stakeholder mapping, semi-structured interviews with relevant stakeholders, and an in-person visioning workshop organised by IHRB. The literature review assessed national and local climate, housing, infrastructure, and spatial planning policies. 17 semi-structured interviews were conducted with key stakeholders across national and local government, industry, investors, professional planners and architects, universities, NGOs and civil society organisations.

These provided diverse perspectives on decision-making processes, power relations and interactions in Jakarta, and identified barriers and opportunities for a just transition in the built environment. On 5 September 2023, a [visioning workshop](#)³ provided a platform for over 50 built environment stakeholders to convene, debate and agree over urban and environmental issues in the city. Stakeholders co-created their visions for a just transition in Jakarta's built environment, as well as identifying major challenges and opportunities to achieve their objectives.



Credit: Adrian Pranata / Unsplash

CONTEXT: BETWEEN CLIMATE CHALLENGES AND INEQUALITY

As the capital and epicentre of Indonesian politics, jobs, trade, and cultural activities, Jakarta is a magnet for people. Demographic pressures and challenges in accommodating the influx of new arrivals has led to fast formal and informal growth. Rapid urbanisation started in the New Order Regime in 1967, with the construction of numerous office towers, malls, hotels, and condominiums.⁴ Today the JMA⁵ extends 4,384km² and its population exceeds 30 million.⁶ Formal and informal urbanisation grew in parallel and exponentially, resulting in urban sprawl and acute disparities in housing, transport, and public infrastructure, as well as health and sanitation.

The national government is planning to move the capital from Jakarta to the new planned Indonesian Capital City (IKN) in Nusantara in the East Kalimantan Province, currently under construction.⁷ Moving the political functions away from Jakarta will free up government buildings and offer an opportunity to redevelop these spaces for common use to benefit local communities. However, Jakarta will remain a city of colossal dimensions that, in practice, may suffer from a more distant government.

Jakarta is projected to become “the fastest sinking city in the world” by 2050⁸ due to the government’s inability to provide a proper aqueduct system for the city, among other factors. This has yielded uncontrolled groundwater extraction by people and businesses (3,700 wells near 13 heavily polluted rivers⁹), causing the entire urban basin to sink at a rate of 28 cm per year.¹⁰ The issue of water and sanitation in the city is twofold: not only is clean potable piped water not available to residents, but the city’s groundwater and surfacing rivers and canals are extremely polluted, posing significant health hazards impacting rights to a healthy environment and to physical and mental health.¹¹

Furthermore, only 37% of Jakarta residents have access to adequate housing¹², depriving many of this basic necessity. About half of the peripheral JMA population commutes more than 60 minutes¹³ which reduces quality of life and productivity, and increases GHG emissions. The transportation sector contributes 46%¹⁴ and the built environment contributes 28 % of GHG.¹⁵

With this urban context, Jakarta authorities have committed to achieving net zero emissions by 2030.¹⁶ The city’s climate plans and policies are many, varied, and with good intentions. These include regional and locally-based climate action plans aiming for inclusive and equitable essential services, offering affordable and low-carbon housing for low-income communities, and spatial policies that are non-discriminatory and inclusive. However, there is not a clear and implementable built environment decarbonisation roadmap.

Multiple studies acknowledge the disproportionate impacts of climate change and disaster risk on the urban poor.¹⁷ National and local climate, built-environment, and social welfare policies have been introduced in response (Figure 1) but are thematically disconnected in these three silos, missing the important link between climate actions and the built environment. Furthermore, while extensive policy frameworks exist on paper, the physical reality indicates these plans and documents are not being adequately implemented in practice, nor account for the specific needs of marginalised residents.

Arguably the most important challenge for Jakarta is effective and holistic urban governance. The JMA is a functional area but there is no metropolitan government authority that oversees it. Therefore, governance is fragmented along the administrative boundaries of Jakarta City, and surrounding municipalities Bogor, Depok, Tangerang, and Bekasi, limiting effectiveness in tackling boundary spanning challenges. Presidential Decree No. 60/2020 integrates Spatial Planning for JMA, and provides an opportunity to establish a JMA authority for further integrated governance.

FIGURE 1

Summary of relevant policies

| |  Climate policies |  Built-environment/ development policies |  Social Welfare policies |
|---|--|--|---|
| National policies landscape | <ul style="list-style-type: none"> Indonesia Enhanced Nationally Determined Contribution (NDC) Indonesia Long-Term Strategy for Low Carbon and Climate Resilience 2050 (2021) National Climate Action Plan - Climate Change Adaptation (RAN - API) | <ul style="list-style-type: none"> National Development Plan 2020-2014 (RPJMN) Regulation of the Ministry of Public Works and Housing (MPWH) Concerning Assessment of the Performance of Green Buildings | <ul style="list-style-type: none"> Social Welfare Implementation (PP 39/2012) Housing and Residential Areas Development Implementation (PP 12/2021) Building Safe, Adequate, and Affordable Housing in Indonesia |
| Local policies landscape (valid only in Jakarta) | <ul style="list-style-type: none"> Jakarta Low Carbon Climate Resilient Regional Development Plan (Pergub 90/2021) Climate Crisis Mitigation and Adaptation Task Force (Kegpub 209/2023) Jakarta City Resilience Strategy Jakarta Climate Action Plan 2021-2050 Surrounding cities' climate action plan (Bodetabek) | <ul style="list-style-type: none"> Jakarta Regional Development Plan 2023-2026 Jakarta Spatial Plan 2011-2030 (RTRW) Jakarta Detailed Spatial Plan 2022 (RDTR) Jakarta Green Building Regulation | <ul style="list-style-type: none"> Regulation on Social Welfare (Perda DKI Jakarta 4/2013) Completion of Fulfilment of Infrastructure and Facilities Obligations in Housing and Settlement Areas (Pergub 97/2021) |

SOCIAL ASPECTS OF JAKARTA'S LOCAL CLIMATE POLICIES

- Low Carbon Climate Resilience Regional Development Plan¹⁸**
 Climate change adaptation actions for marginalised people are included in this plan and in the built environment sector, revitalisation programmes are carried out in informal settlement areas e.g. adapting fishing villages to climate change. In addition, the plan provides low-cost apartment buildings for low-income people.
- Climate Action Plan 2021-2050¹⁹**
 Strategic measures to support the health of vulnerable communities, including provision of reliable and clean drinking water for all are discussed in this plan alongside commitments to creating green jobs in the building and transportation sectors. Affordable and inclusive public transport options for all residents are also envisioned, as well as a commitment to all inhabitants receiving a similar level of service regardless of income levels.
- Climate Crisis Mitigation and Adaptation Task Force²⁰**
 Multi-stakeholder and multi-sectoral initiative composed of (sub)task forces per sector: (1) government, (2) NGOs e.g. WRI and ICLEI, (3) financial institutions e.g. World Bank and the International Finance Corporation, (4) private sector, (5) universities e.g. Thamrin School of Climate Change and Sustainability and Trisakti University; and (6) communities e.g. Jakarta Community Empowerment Institute and the Centre for Disability Advocacy. The taskforce strives to inform disaster management policy and to be inclusive and benefit all stakeholders involved, emphasising collaborative participation in disaster management.
- Resilience Strategy²¹**
 Developed collaboratively with hundreds of stakeholders from the government, communities, and private sector, the strategy includes a commitment to encouraging community cooperation in investment and accelerating development. The strategy also aims to improve health and connectivity to increase spatial equity, particularly benefiting low-income communities.

HUMAN RIGHTS RISKS AND OPPORTUNITIES

This section covers the most prominent human rights-related issues that were found in JMA's built environment and related climate actions. The focus is on Economic, Social, and Cultural Rights, specifically the rights to a healthy environment, to adequate and affordable housing, to non-discrimination and spatial justice, and to meaningful participation.

It is challenging to speak of the impacts of climate actions on people living in Jakarta. Built environment decarbonisation activities are in their infancy, and the built and natural environment, and its urban systems are in critical condition, resulting in severe human rights risks for significant portions of the population. This section discusses the underlying human rights challenges and opportunities in Jakarta's built environment, and how these should be considered in any climate action.

THE RIGHT TO A HEALTHY ENVIRONMENT

The human right to a "clean, healthy and sustainable environment" was recognised by UN resolution [A/RES/76/300](#) in July 2022.²² It states that the benefits of a clean and healthy environment should be equitably distributed and enjoyed by all, and that the burdens of environmental pollution-causing health hazards should not be placed disproportionately on marginalised or disadvantaged communities.

The right to a healthy environment is currently not assured for any of Jakarta's citizens, and progressive actions are needed to address this. Air and water pollution do not recognise boundaries and lead to multiple adverse impacts for all. Road transport and construction²³ significantly contribute to dangerous levels of air pollution²⁴, with pollution levels in rivers, groundwater and piped water ranging between 70-80%.^{25,26} The contamination of water occurs citywide. It is a particularly acute issue in low-income areas where clean water and sanitation services are not available²⁷, and even more affluent areas of the city in many cases do not have access to potable piped water.

Jakarta is highly vulnerable to flooding, particularly the northern areas of the city and along river banks. In 2020, floods resulted in 960 billion rupiah in damages²⁸, forced over 30,000 people to temporarily evacuate²⁹ and resulted in a 5% average income loss for low-to-middle income communities.³⁰ Predictions show that flood risk will increase between 211% and 362% by 2030³¹ due to sinking, climate change and rising sea levels.

One of the local government's resilience strategies is Healthy Jakarta, which through the Clean Water Master Plan by the Water Resources Department (DSDA)³² intends to provide reliable and clean drinking water for the city. It includes working on clean water distribution by setting up and improving a water supply network, increasing the water storage capacity and improving water purifying systems. This strategy aims to ensure 100% access to clean water by 2030.

Government measures aimed to control the rate of groundwater extraction through land use control³³ clearly fail to tackle the root of the problem: the lack of a proper aqueduct with clean water in the city. This regulation against water extraction criminalises what people must do for subsistence even if the water they extract is a health hazard, while the government does not provide an alternative solution. Furthermore, this regulation only applies to central and south Jakarta (where there is piped water), while north Jakarta, the most vulnerable and fastest-sinking area, remains without appropriate assistance. This regulation should be enforced through the Water Utilisation Permit (SIPA)³⁴, but it is inefficient and unmonitored.

Jakarta's water strategy should be holistic, to recover the relationship with water as a source of life, and not as a source of illness. It should focus not only on water supply, but also on the decontamination of the entire water system –all existing water surrounding residents (coast, rivers, canals, groundwater, wells and pipes) – which would prevent people from pumping groundwater, not through a prohibition but by eliminating the need to do so. This would address in tandem the sinking and public health issues, and advance protection of the right to a healthy environment.

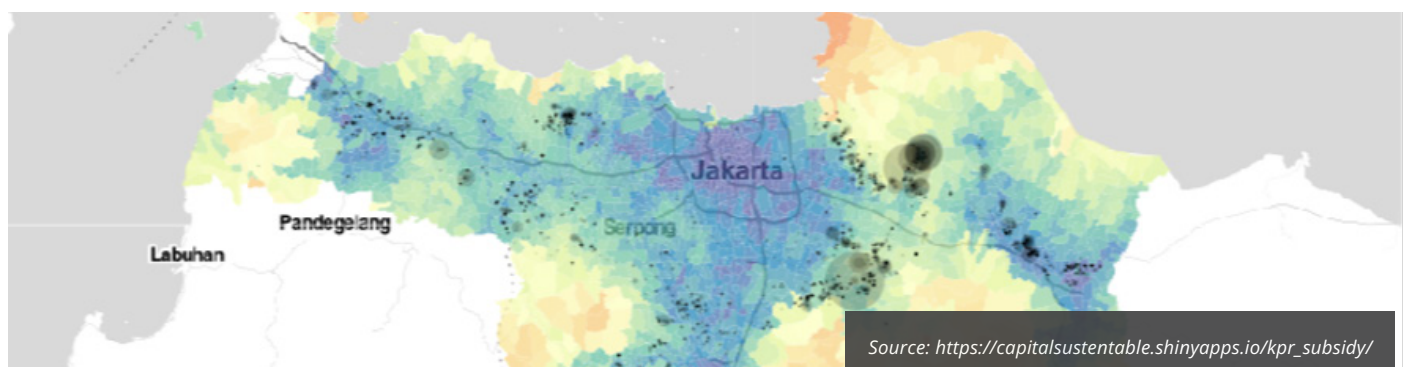
THE RIGHT TO ADEQUATE AND AFFORDABLE HOUSING

The lack of affordable and accessible housing options in central Jakarta for low- and middle-income households results in additional vulnerability in living conditions for large numbers, and to people moving outside the city leading to further urban sprawl. Housing supply has not kept up with housing demand, resulting in only 36% of households in Jakarta having access to adequate housing.³⁵ The main issues are limited availability of land and high property prices, which combine to create a spatial mismatch between where social housing is needed and where it is placed. Figure 2 shows this spatial mismatch between suitable housing locations (purple) and subsidised housing locations (black dots) in the peripheral areas where prices are lower.

Jakarta is aiming to reduce energy and water consumption, and GHG emissions by 30% through the Grand Design of Green Building by 2030.³⁶ The government has made progress by requiring green certification for multi-story commercial and residential buildings that meet certain criteria. The Ministry of Public Works and Public Housing released Regulation No. 21 in 2022 mandating standards and guidelines for green housing, including energy and water efficiency, sustainable material use, and waste management. While it is too early to analyse the social impacts of this initiative, previous IHRB research in European cities found green certified buildings usually located in high-income areas (e.g. green luxury buildings in city centres), benefiting already privileged residents, and much less common or completely missing in more deprived neighbourhoods.³⁷ To prevent this in Jakarta, it is important to ensure benefits of green buildings also reach marginalised communities.

FIGURE 2

Suitability of Housing and Distribution of Subsidised Housing in JMA.



At the national level, the Ministry of Public Works and Housing initiated the Indonesia Green Affordable Housing Program (IGAHP) to provide affordable and sustainable housing for low-income communities. IGAHP is a collaborative climate action initiative that supports housing adaptation and mitigation, energy efficiency through green certification, and green housing finance. The ambitious targets include 1 million Green-NetZero Ready Housing units by 2030, and ultimately 100% NetZero Carbon Housing by 2050.³⁸ Under IGAHP, all new and retrofitted housing should be built green and resilient, allowing for preferential lending and grants for green housing, subsidies for solar panels, tax incentives and asset-backed securities for green housing.^{39,40}

Despite these ambitious policies, developers and contractors appear hesitant to embrace and apply green building practices.⁴¹ Even though the socialisation phase is already underway, it has not successfully provided comprehensive knowledge to critical stakeholders. Furthermore, due to a lack of strict implementation and monitoring of the programme, there are many cases of affordable homes, both for sale and rental, being managed by illegal brokers who raise the prices for personal gain, thus defeating the purpose of this programme.

Overall, initiatives such as IGAHP that combine housing and climate solutions are exemplary in addressing social and environmental issues in tandem. However, given the current critical state of Jakarta's built and natural environment, these programmes need to be accompanied by step-by-step plans (e.g. inclusive slum upgrading, holistic water strategy, sector decarbonisation roadmaps, etc.) to move from the current polluted, unsustainable, and unfair status quo to implementation of green and inclusive housing goals.

THE RIGHT TO NON-DISCRIMINATION AND SPATIAL JUSTICE

The government is responsible for providing all residents with equal access to basic services and infrastructure to ensure fair distribution of resources across the city. This is known as spatial justice and is related to the human rights principle of non-discrimination, in this case applied to a specific location or territory. People's access to water and sanitation, public transport, green spaces, or decent housing should not be determined by where people live. However, in Jakarta access to basic infrastructure and resources do vary significantly depending on residents' location and socio-economic status.

Jakarta has ambitious climate goals and initiatives, which should be implemented with spatial justice in mind. Green initiatives should benefit all residents, and give particular attention to currently disadvantaged areas, thus contributing to social equity in the city. If decarbonisation efforts, and their benefits, only apply to affluent areas, such initiatives will exacerbate, rather than alleviate, current spatial injustices.

Below are Jakarta's identified existing socio-spatial inequalities, which could benefit from being integrated into broader climate policies.

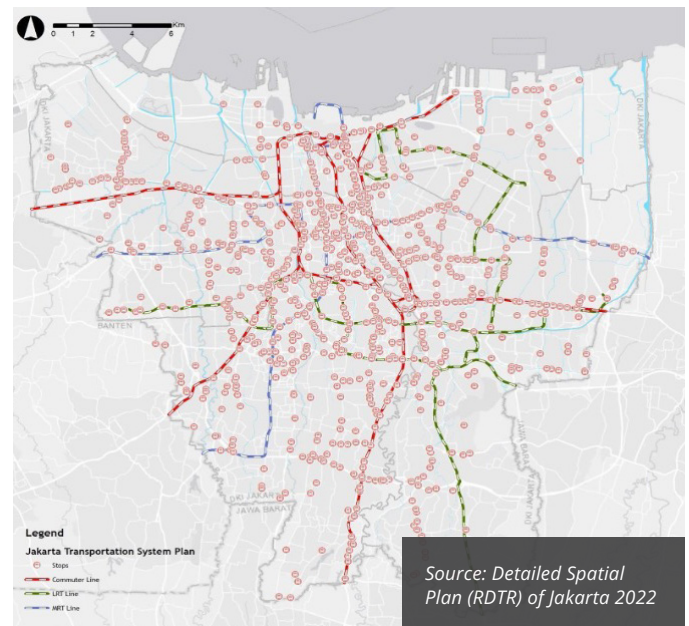
Public Transport

The public transport system currently does not cover the whole city and does not effectively integrate the core with peripheral functional areas. This results in high use of private vehicles (for those who can afford it), and congestion, signifying 46% of greenhouse gas emissions.⁴² Long commutes are uncomfortable and expensive⁴³, waste people's valuable time, and decrease quality of life.

Through the Jakarta Regional Development Plan 2023-2026, the provincial government commits to providing infrastructure and essential urban services that are more inclusive, non-discriminatory, and sustainable.⁴⁴ Electrified public transport plays a key role, but the existing infrastructure is primarily concentrated in the city centre, and does not cover all residents' mobility needs (Figure 3). The government plans to develop more coverage in the Jabodetabek area by adding new MRT and LRT lines.⁴⁵ The Jakarta government has initiated the Jaklingko⁴⁶ system with integrated fares⁴⁷

covering both buses and rail⁴⁸, benefitting residents undertaking longer, multi-modal journeys. However, the public transportation development plans still do not cover the whole city equally, and services remain primarily concentrated in the city centre.

FIGURE 3
Jakarta's Transportation System Plan



Greenery

Green open spaces are particularly scarce in densely populated neighbourhoods and informal settlements. Green spaces are more predominant in wealthier areas of the city, but these are often fenced off from wider access. There are very few spaces that are *both* green and public.

The Jakarta government is aiming to expand green open spaces, mangrove forests and urban agriculture to absorb GHG emissions. During 2018-2021, it acquired 105 hectares for green open spaces, and its Taman Maju Bersama (TMB) programme established 100 new parks⁴⁹ equipped with facilities for all Jakarta Residents.⁵⁰ However, parks are still concentrated in central Jakarta, meaning unequal access to green open spaces for suburbs. Low-income communities living in these areas may find it more challenging to access city centre parks than middle-class residents, due to more limited mobility options.

FIGURE 4

Map of existing green open space distribution in Jakarta

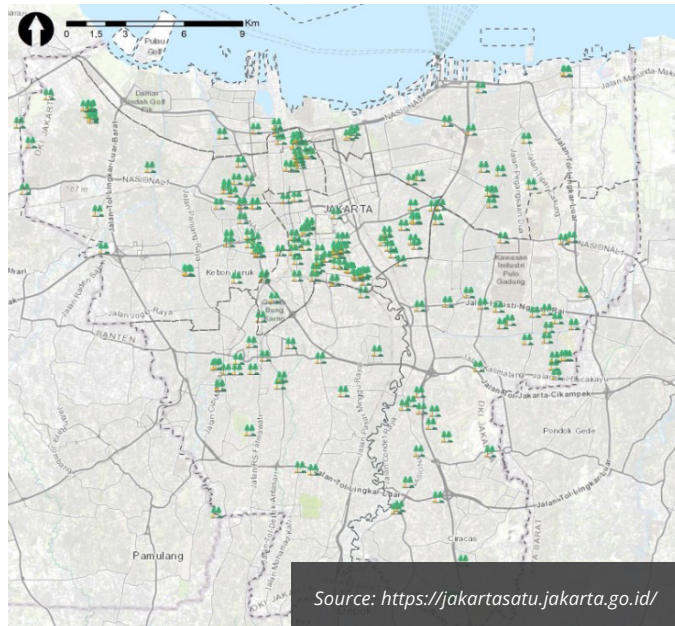
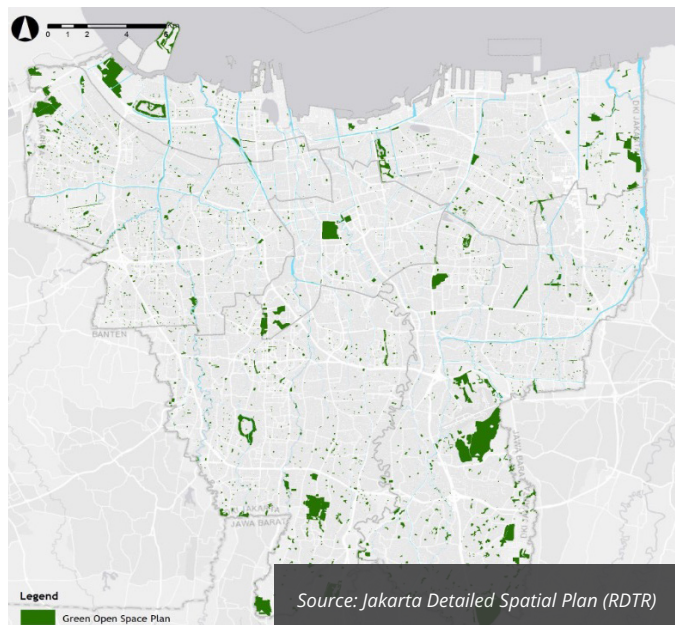


FIGURE 5

Green Open Space Master Plan



Public infrastructure

Community health centres are primarily concentrated in central Jakarta and the eastern regions of west Jakarta.^{51,52} Also, inclusive pedestrian ways such as guiding blocks for visually impaired users and priority lifts were only observed in the affluent Sudirman financial district, but were completely missing in the great majority of the city.

FIGURE 6

Sidewalks are completely missing near Klender Commuter Line Station



FIGURE 7

Decent and spacious sidewalks in the Sudirman financial district



Spatial planning

There is a stark contrast between glittering skyscrapers and the 16% (107 km²) of the city categorised as slums. This disparity is very visible in neighbourhoods such as Penjaringan and Kamal Muara, where high-density settlements surrounded by polluted canals are a far cry from the affluent areas like Menteng, where lush gardens surround luxury homes.⁵³

Jakarta's spatial planning objectives include a sustainable city integrated with its periphery areas, and self-sufficient neighbourhoods.⁵⁴ The city aims to achieve an 80% reduction in greenhouse gas emissions from the 2020 base year and to provide integrated infrastructure and adequate utilities in every neighbourhood.⁵⁵

Relevant policies have a focus on low-income communities, employ participatory principles, and aim to provide basic infrastructure in all areas in Jakarta. These inclusive climate policies are a promising sign for the city to concurrently tackle its carbon emissions and deep-rooted socio-spatial inequalities, if the city is able to go from ambitious plans to effective implementation.

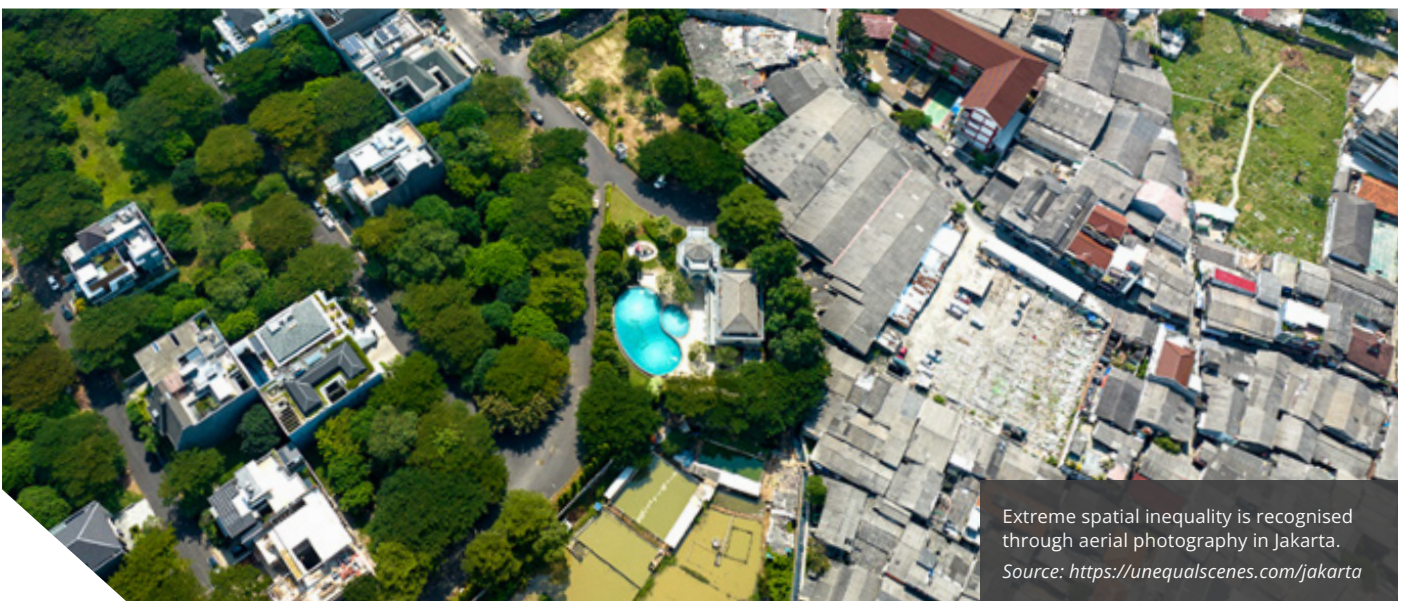
THE RIGHT TO MEANINGFUL PARTICIPATION

DKI Jakarta acknowledges the importance of participative planning and the Governor's Decree⁵⁶ ensures meaningful participation by involving vulnerable groups⁵⁷ in the climate adaptation and mitigation task force. However, this policy does not yet regulate the proportion of each vulnerable community group required in each sub-task force to ensure equality.

Several of Jakarta's climate action programmes are involving communities, for example ProKlim⁵⁸ (Climate Village Program)⁵⁹ a strategic government initiative that aims to support the NDC target of reducing greenhouse gas emissions by 29% by 2030. The approach combines local wisdom, community capabilities, climate impact exposure potentials, and interactive community participation in crafting climate change adaptation plans.⁶⁰ The objective is to increase the sense of belonging and responsibility among stakeholders.⁶¹ As of October 2023, 251 neighbourhood units (RW)⁶² have been established in Jakarta, with that number set to rise to 2,743 RW.⁶³

Between 2019 and 2021, the Jakarta government and ICLEI Indonesia facilitated a public consultation to formulate "Ikhtiar Jakarta" (Towards a Sustainable Jakarta).⁶⁴ The event followed meaningful participation principles to gather recommendations and collective ideas from 470 stakeholders across business, industry and civil society.⁶⁵ The programme included women, youth, children, the elderly, persons with disabilities, fisher folk, religious leaders, business and industry, NGOs, environmental community groups, and academics, with at least 30% female participation. This programme has increased climate awareness through three ongoing pilot projects: community-based waste management, energy ambassador training for students, and climate diplomacy through religious leaders by developing interfaith guidebooks to tackle climate change.⁶⁶ Religious leaders play a crucial role in Indonesia as they uphold religious values, and their approach, such as "eco-preaching," has the potential to reshape people's mindset and raise environmental awareness.

Despite existing citizen participation efforts in decision-making, the implementation of climate initiatives remains slow due to financial constraints, limited awareness and resources.⁶⁷ To overcome these challenges, the government is empowering local stakeholders and forging partnerships with international institutions and organisations to facilitate research, development, and funding while actively engaging the public to foster trust and transparency.⁶⁸



Extreme spatial inequality is recognised through aerial photography in Jakarta.
Source: <https://unequalscenes.com/jakarta>

CONCLUSION

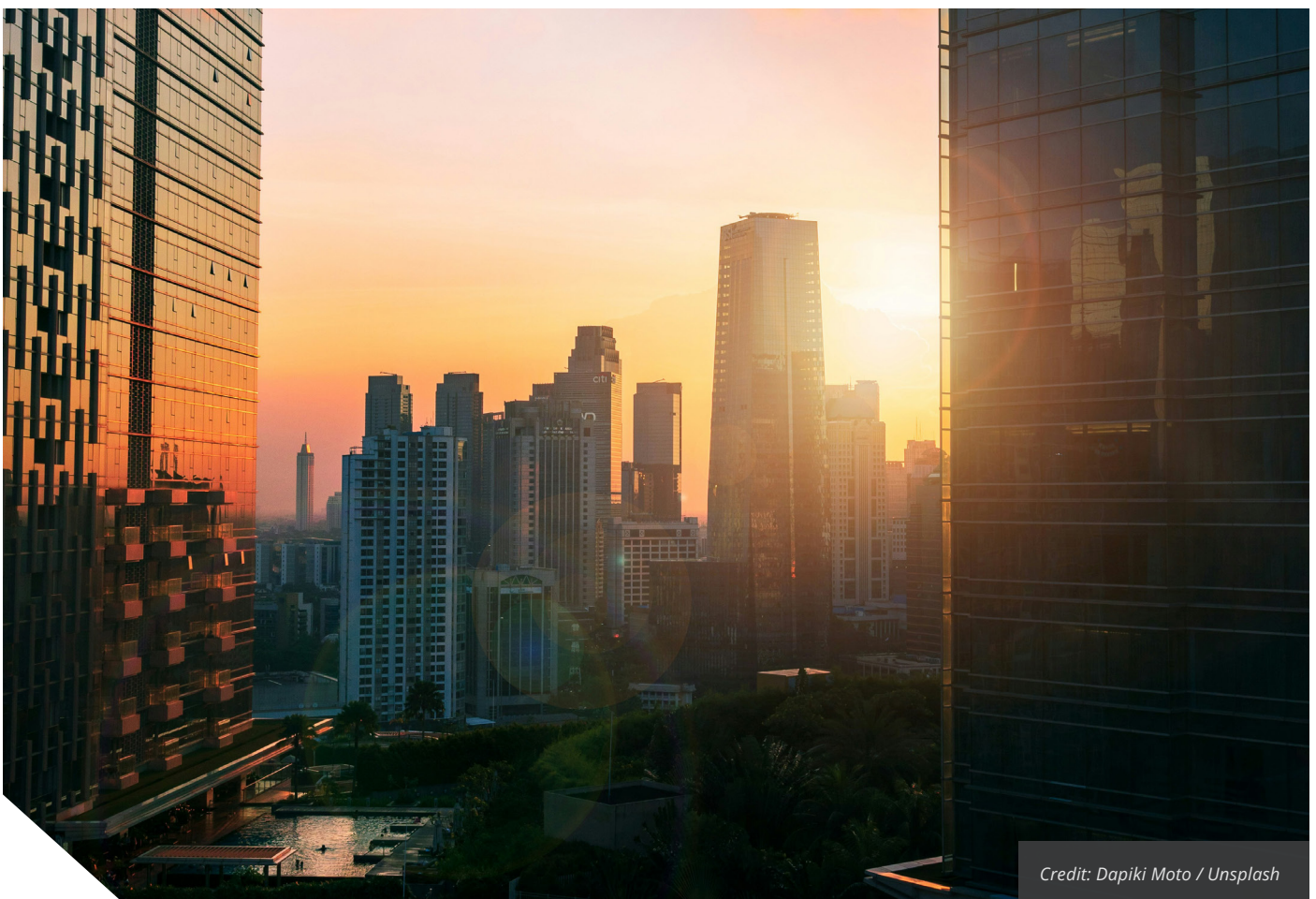
Jakarta is a complex megacity with multiple urban problems, ineffective governance and a contradiction between public national climate discourse and action at the local level. Despite a commitment to achieving net zero emissions by 2030⁶⁹, the critical state of the city's built and natural environments suggests there is currently limited evidence that such an ambitious goal is attainable unless radical changes are made today.

Significant efforts are required to make Jakarta a climate resilient city that respects the human rights of all its inhabitants. The research undertaken for this study identified many challenges in achieving the effective implementation of well-intended climate actions. Roadblocks to progress include a lack of coordination and integration between different government authorities, a lack of alignment between national and local policy-making, limited capacity and resources in local authorities, constraints in monitoring spatial policy enforcement, and perhaps the most important

roadblock to change - the political and cultural normalisation of the current social and environmental problems and their derived human rights violations.

Nonetheless, there are vital opportunities to improve human rights protections in Jakarta's built environment and in climate action programmes. There is a crucial need to strengthen the metropolitan coordinating agency, boost communication and coordination between national and local governments across all sectors⁷⁰, enhance transparency, and revisit policies for the protection of environmental and human rights.

There are already multiple and ambitious climate policies and plans at both national and local levels. What is needed are high-quality leaders and programme managers who have the heart and will to advance these policies, as well as the necessary budgets, capacities, institutions, transparency and accountability mechanisms, and human resources to implement them effectively.



Credit: Dapiki Moto / Unsplash

RECOMMENDATIONS

Jakarta has considerable potential to attain a just transition in the built environment. To make progress, authorities will initially need to address significant urban and environmental issues, including water quality, access to green public spaces, integrated and inclusive transport, and adequate and affordable housing. National and local governance challenges should also be addressed such as: (1) shifting from governance driven by public relations revolving around election cycles, to responsible and careful, evidence-led megacity management, and (2) achieving holistic, long-term planning through a JMA authority.

The following, more specific recommendations, based on stakeholder interviews and research undertaken for this study, are intended for the following specific actors:

NATIONAL GOVERNMENT

- **Craft Robust Policies:** Government authorities should strengthen relevant laws and policies to emphasise rights-respecting climate actions in the built environment, including tangible targets and realistic phases of implementation.
- **Enhance Inter-Ministerial Integration:** The Ministry of National Development Planning should ensure strong communication and integration of strategies among other ministries, notably Environment and Forestry, Public Works and Housing, Energy and Mineral Resources, Transportation, Industry, and Finance to ensure climate and social issues are addressed in tandem.
- **Develop an innovative financial scheme for climate action:** The Ministry of Finance should create an alternative financing scheme for climate action programmes through blended finance mechanisms. This financing scheme

could involve leveraging private sector investments alongside public funds to support climate action initiatives. This blend of public and private resources should aim to maximise social impact while mitigating financial risk.

LOCAL GOVERNMENT

- **An integrated metropolitan authority:** A body of this kind, with the mandate to coordinate and harmonise spatial planning, infrastructure development, and public services across the entire metro region would contribute to a more just transition in the built environment. This authority should prioritise equitable resource allocation and balanced development between core and periphery areas. The JMA authorities, including the Project Management Office of JABODETABEK-PUNJUR, should enhance collaboration with various institutions. The JMA authority's development should be strategic, multifunctional and cross-sectoral, involving various vertical institutions, local departments, and other regional units in its implementation.⁷¹ Development should be strategic, multifunctional, and cross-sectoral. With collaborative authorities, the aim is to avoid overlaps, unsynchronised actions, and operational limitations in executing development efforts.
- **Politics beyond political cycles:** Long-term, strategic planning is required for effective, inclusive climate action. To achieve long-term strategic thinking for the city beyond five-year political cycles, it is necessary to create, support and develop cross-party initiatives on inclusive climate actions, and politically independent institutions that operate autonomously from government influence, maintaining impartiality in decision-making.
- **Long-term, science-based planning:** Scientific collaboration, policies and development plans should be guided by scientific research,

evidence-based decision-making, and citizen engagement. A collaboration of local authorities with the National Research and Innovation Agency, the Ministry of National Development Planning, research institutions, and universities should be tasked with developing rights-respecting vision that is inclusive of all residents of the city. It is also necessary for relevant policies and development plans to have their own long-term visions.⁷² This means gaining support from all parties and ensuring that all stakeholders agree with the vision. The regional Planning and Development Agency (BAPPEDA) of DKI Jakarta is expected to host broad public consultations to create a vision based on consensus of decision-makers.

FINANCIAL INSTITUTIONS, DEVELOPERS, AND INVESTORS

- Collaboration for affordable housing: Private sector actors should collaborate with the public sector to identify suitable locations for affordable housing, aligning efforts in meeting local housing needs. The private sector, particularly developers and investors, should contribute to spatial justice by helping deliver affordable housing in locations where most needed, and explore innovative financing models, such as blended finance.
- Prioritise social and environmental responsibilities: The private sector should integrate community social entrepreneurship initiatives into corporate sustainability strategies, with a specific focus on climate actions in the built environment. Companies can also support capacity-building programs for communities directly impacted by climate change to enhance their skills in sustainable practices, creating opportunities for local economic development and environmental preservation.

CIVIL SOCIETY ORGANISATIONS

- Community engagement and advocacy: Local community organisations should engage in local governance processes, advocating for their needs and rights related to housing, infrastructure, and environmental protection.
- Local initiatives for decarbonization: Self-organised local initiatives for decarbonisation and sustainability, such as urban farming and disaster preparedness are critical to advancing just transitions in the built environment. Such initiatives should collaborate wherever possible with local authorities and wider non-governmental networks and organisations for needed resources and support.
- Replication of successful programmes: Local stakeholders should work with authorities to replicate successful climate action community programmes like Ikhtiar Jakarta & ProKlim, including more diverse and often isolated communities. Key community leaders can champion these initiatives to ensure wide community engagement, self-determination, and exercise of individual and community agency.

APPENDIX: LIST OF INTERVIEWEES

(Names and some titles and organisations have been omitted or generalised to respect the privacy of interviewees as requested by them.)

1. Secretariat of Project Management Office of JABODETABEK-PUNJUR, Ministry of Agrarian Affairs and Spatial Planning, National Land Agency (ATR/BPN)
2. DKI Jakarta Province Building Expert Team and University of Indonesia, Department of Built Environment and Urban Heritage
3. Urban sustainability advisor, global city network
4. Regional Development Planning Agency (BAPPEDA), DKI Jakarta Province
5. Local think tank institution
6. Chairman of the Indonesian Architects Association (IAI) Jakarta
7. Head of Jakarta Investment Centre
8. West Java Province Environmental Service
9. Executive Director, Jakarta Property Institute (JPI)
10. Embassy of a foreign country in Jakarta
11. Department of Human Settlements, Spatial Planning and Land Affairs of DKI Jakarta Province
12. Chairperson Green Building Council Indonesia (GBCI)
13. Institute for Global Environmental Strategies (IGES)
14. Wibowo Muljono, Astra Land
15. National Research and Innovation Agency (BRIN), 2 representatives
16. Association of Apartment Residents of Indonesia (APERSSI)
17. Head of Urban and Regional Planning Study Programme, Trishakti University

ENDNOTES

- 1 Special Capital District (DKI) of Jakarta
- 2 <https://www.citypopulation.de/en/indonesia/admin/>
- 3 <https://www.ihrb.org/focus-areas/built-environment/building-for-today-and-the-future/jakarta-visioning-workshop>
- 4 Rukmana, Deden. (2018). Rapid Urbanization and The Need for Sustainable Transportation Policies in Jakarta. IOP Conf. Ser.: Earth Environ. Sci. 124 012017
- 5 The JMA is also known locally as Jabodetabek (for the initials of Jakarta, and other four satellite cities: Bogor, Depok, Tangerang, and Bekasi).
- 6 World Population Review: Jakarta and JMA. <https://worldpopulationreview.com/world-cities/jakarta-population>
- 7 Law No. 21 of 2023. Ministry of State Secretariat of the Republic of Indonesia. Amendment to Law Number 3/2022 Regarding the Capital City
- 8 BBC News, Jakarta, the fastest-sinking city in the world. <https://www.bbc.com/news/world-asia-44636934>
- 9 <https://ic-sd.org/wp-content/uploads/2020/11/Destinee-Penney.pdf>
- 10 <https://www.nationalgeographic.com/environment/article/indonesias-giant-capital-city-is-sinking-can-the-governments-plan-save-it>
- 11 Spatial Analysis of Groundwater Abstraction and Land Subsidence for Planning the Piped Water Supply in Jakarta, Indonesia, <https://www.mdpi.com/2073-4441/14/20/3197>
- 12 Indonesia Central Agency Statistics, <https://jakarta.bps.go.id/indicator/29/1081/1/persentase-rumah-tangga-yang-memiliki-akses-terhadap-hunian-yang-layak-menurut-kabupaten-kota-di-provinsi-dki-jakarta.html>
- 13 Indonesia Central Agency Statistics, <https://jakarta.bps.go.id/indicator/29/1081/1/persentase-rumah-tangga-yang-memiliki-akses-terhadap-hunian-yang-layak-menurut-kabupaten-kota-di-provinsi-dki-jakarta.html>
- 14 DKI Jakarta Emissions Inventory and GHG Report 2022, https://lingkunganhidup.jakarta.go.id/files/gasrumah/2022_Laporan_Akhir_DKI_Jakarta-final.pdf
- 15 <https://www.climate-transparency.org/wp-content/uploads/2022/10/CT2022-Indonesia-Web.pdf>
- 16 <https://www.thejakartapost.com/culture/2023/01/17/jakarta-aims-to-achieve-net-zero-emissions-by-2050.html>; <https://udlg-aspac.org/jakartas-commitment-to-be-net-zero-emission-by-2050/>
- 17 World Bank (2010). *Jakarta: Urban Challenges in a Changing Climate*. Mayors' Task Force on Climate Change, Disaster Risk and the Urban Poor. <https://documents1.worldbank.org/curated/en/132781468039870805/pdf/650180WP0Box360ange0Jakarta0English.pdf>
- 18 PERGUB (Governatorial regulation) 90/2021. <https://m.beritajakarta.id/en/read/41622/jakarta-issues-regional-low-carbon-development-plan-to-realize-climate-resilient-city>
- 19 <https://rendahemisi.jakarta.go.id/en/report/165/jakarta-climate-action-plan-2021-2050>
- 20 KEPGUB (Governatorial decree) 209/2023. <https://jdih.jakarta.go.id/dokumen/detail/13465>. Full text at: <https://jdih.jakarta.go.id/dokumenPeraturanDirectory/0031/2023KEPGUB0031209.pdf>
- 21 https://resilientcitiesnetwork.org/downloadable_resources/Network/Jakarta-Resilience-Strategy-English.pdf
- 22 <https://www.unep.org/news-and-stories/story/historic-move-un-declares-healthy-environment-human-right>; <https://digitallibrary.un.org/record/3982508?ln=en>
- 23 https://www.vitalstrategies.org/wp-content/uploads/Sumber-Utama-Polusi-Udara-di-DKI-Jakarta_Policy-Brief.pdf
- 24 <https://report.nafas.co.id/air-quality/monthly/2023/03/nafas.202303.LaporanKualitasUdara.pdf>
Air pollution is caused by road transport (57%), industry (14%), construction (13%), and waste burning, due to poor waste management practices. NAFAS research reported the worst PM_{2.5} pollution (54 µg/m³) in JMA occurred in March 2023, which is not only unhealthy but dangerous. Explanatory note: NAFAS is an air quality software that measures and provide reports about air quality in JABODETABEK. PM_{2.5} = Particulate Matter refers to particles found in the air, including dust, soot, dirt, smoke, and liquid droplets. PM_{2.5} particles measure 2.5 microns or less in diameter. PM_{2.5} particles are so small they can only be seen with an electron microscope. Due to its small size, PM_{2.5} can remain suspended in the air for long periods of time and can be absorbed deep into the bloodstream upon inhalation, hence causing major health problems. The threshold set by the World Health Organization (WHO) for PM 2.5 is 15 µg/m³. Source: <https://www.iqair.com/newsroom/pm2-5>
- 25 <https://lingkunganhidup.jakarta.go.id/files/dikplh/DIKPLHDJakarta2022-FULL-REV1.pdf>
- 26 <https://www.adb.org/sites/default/files/institutional-document/183339/ino-water-assessment.pdf>
- 27 <https://ic-sd.org/wp-content/uploads/2020/11/Destinee-Penney.pdf>
- 28 960 billion rupiah is approximately 61,424.00 USD based on 26/02/2024 currency converter (<https://www.xe.com/currencyconverter/convert?Amount=1&From=IDR&To=USD>)

- 29 Bank Indonesia DKI Jakarta, 2020
- 30 <https://lib.ui.ac.id/detail?id=20422802&lokasi=lokal>
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- 33 Governour Regulation No. 93/2021 concerning groundwater-free zones regulation
- 34 SIPA is a water utilisation permit issued by Investment and Integrated One-Stop Services Agency (DPMPTSP)
- 35 <https://jakarta.bps.go.id/indicator/29/1081/1/persentase-rumah-tangga-yang-memiliki-akses-terhadap-hunian-yang-layak-menurut-kabupaten-kota-di-provinsi-dki-jakarta.html>
- 36 Jakarta Climate Resilient City Best Practice Compilation 2021
- 37 IHRB (2021). "Better Building(s)". <https://www.ihrb.org/focus-areas/built-environment/decarbonisation-of-buildings-in-europe> (See section on equality and non-discrimination)
- 38 <https://thedocs.worldbank.org/en/doc/fff83f483c76eef814d7488b25689a10-0430012023/related/3-HerryTZ-DGIF-3rd-session-WB-Group-s-Global-Affordable-Housing-Conference-ed-250523-final.pdf>
- 39 PUPR & World Bank 2023 Building Safe Adequate Affordable Housing Indonesia
- 40 <https://indonesia.go.id/kategori/editorial/7503/hijau-rumahku-biru-langitku?lang=1>
- 41 IGAPP: Encourage Adaptive Home Financing to Climate Change. <https://pembiayaan.pu.go.id/produk>
- 42 DKI Jakarta Emissions Inventory and GHG Report 2022, https://lingkunganhidup.jakarta.go.id/files/gasrumah/2022_Laporan_Akhir_DKI_Jakarta-final.pdf
- 43 <https://www.greenpeace.org/indonesia/cerita/57979/jakarta-dan-tantangan-transformasi-transportasinya/>
- 44 Jakarta Regional Development Plan 2023-2026
- 45 Presidential Regulation No. 55/2018 concerning the Jakarta, Bogor, Depok, Tangerang and Bekasi Transportation Master Plan 2018 - 2029
- 46 Jaklingko: an integrated system that supports policies to increase the use of mass public transportation and restrictions on individual motorised vehicles
- 47 Meaning the cost incurred when passengers use more than one type of public transportation (multimodal) within three hours, including MRT Jakarta, LRT Jakarta, and Transjakarta, with a maximum fare of IDR 10,000.
- 48 Governor Regulation No. 68/2021 concerning the Implementation of Integrated Transportation Systems
- 49 Taman Maju Bersama (TMB): thematic public space provided by the DKI Jakarta government
- 50 <https://jakarta.go.id/taman-maju-bersama#>
- 51 <https://www.geospatialhealth.net/index.php/gh/article/view/982/1009>
- 52 Researcher, 2024
- 53 <https://unequalscenes.com/jakarta>
- 54 Regional Spatial Plan (RTRW) and Detailed Spatial Plan (RDTR) of Jakarta
- 55 Bodetabekpunjur: Bogor, Depok, Tangerang, Bekasi, Puncak, Cianjur
- 56 Governor's Decree No. 209/2023 concerning Task Force for Climate Adaptation and Mitigation. <https://jdih.jakarta.go.id/dokumen/detail/13465>
- 57 The Vulnerable Group includes: people with disabilities, women, and youth
- 58 The Climate Village Program (ProKlim) is a strategic government initiative that aims to achieve the Nationally Determined Contribution (NDC) target of reducing GHG by 29% by 2030
- 59 Semi-Structured Interview with TABG University of Indonesia
- 60 <https://jdih.jakarta.go.id/dokumenPeraturanDirectory/0031/2017INGUB0031127.pdf>
- 61 Stakeholders involved are local government, NGOs in climate and environmental field, citizens, and academics
- 62 RW is a neighbourhood unit consists of 150-500 households
- 63 ProKlim Realisation in Jakarta. <https://www.antaraneews.com/berita/3752511/dki-miliki-251-proklm-sebagai-adaptasi-dampak-perubahan-iklim>

- 64 Ikhtiar Jakarta is a document showcasing the low emission development strategies for Climate Action pledged by different local stakeholders of Jakarta
- 65 <https://acp.iclei.org/resource/ikhtiar-jakarta-english/>
- 66 <https://icleiseas.org/index.php/2021/06/17/indonesian-religious-leaders-unite-to-produce-climate-change-books-for-their-faithful/>
- 67 Semi-structured Interview with Resilience Development Initiative (RDI) an Indonesian think tank initiative that focuses and contributes to the body of knowledge on sustainable development
- 68 Jakarta Visioning Workshop Result. <https://www.ihrb.org/focus-areas/built-environment/building-for-today-and-the-future/jakarta-visioning-workshop/>
- 69 <https://www.thejakartapost.com/culture/2023/01/17/jakarta-aims-to-achieve-net-zero-emissions-by-2050.html>;
<https://uclg-aspac.org/jakartas-commitment-to-be-net-zero-emission-by-2050/>
- 70 <https://www.ihrb.org/focus-areas/built-environment/building-for-today-and-the-future/jakarta-visioning-workshop/>
- 71 <https://www.ihrb.org/focus-areas/built-environment/building-for-today-and-the-future/jakarta-visioning-workshop/>
- 72 Semi-structured Interview with Regional Planning and Development Agency (BAPPEDA)



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