

# ONE UN STRATEGY ON SUSTAINABLE ENERGY



UNITED NATIONS  
INDONESIA



*With the participation of:*



## A message by the United Nations Resident Coordinator in Indonesia

I am pleased to present the One UN Strategy on Sustainable Energy for Indonesia, developed jointly by UN agencies in Indonesia.

This strategy comes at a pivotal moment, as Indonesia ramps up its efforts to transition to a sustainable energy future while ensuring no one is left behind.

Energy lies at the heart of development, impacting all aspects of economy, society and environment. An inclusive, just and people-centered approach is therefore essential for a successful transition.

The UN system is uniquely positioned to support member states on inclusive and sustainable development. Through the UN development system reform, we continue to enhance our effectiveness, cohesion, and accountability as a source of expertise and partnership.

The One UN strategy brings together the specialized mandates and expertise of UN entities in Indonesia to provide integrated policy advice, capacity building, technical assistance, and advocacy targeting the nexus of energy, poverty, gender equality, and climate action.

It focuses on improving energy access, especially for marginalized groups; supporting renewable energy and energy efficiency; ensuring a just transition that protects livelihoods and promotes green jobs; and building resilience against climate impacts.



The UN will continue working hand-in-hand with the government, civil society, youth, academia and the private sector to ensure Indonesia's energy goals align with the Paris Agreement and the 2030 Agenda for Sustainable Development.

This strategy is the launchpad for enhanced UN cooperation on sustainable energy in Indonesia and its successful implementation over the next three years will require continued collaboration within the UN and with external partners.

I look forward to an even stronger partnership with the Government of Indonesia and other stakeholders as we work collectively to achieve SDG7 and a just, equitable and inclusive energy transition that leaves no one behind.

**United Nations Resident Coordinator  
in Indonesia**

*Valerie Julliard*



In our pursuit of a sustainable future, energy plays a pivotal role. In many corners of the world including Indonesia, we are facing the emergence of a new global energy map amid the global energy crisis, on top of a global climate crisis, food crisis, and lingering pandemic. These combined crises result in an exponentially higher sense of urgency to achieving all the Sustainable Development Goals, including SDG7.

The United Nations Sustainable Development Cooperation Framework (UNSDCF) for Indonesia (2021-2025) outlines the UN system's collective support for the country's development priorities. Access to affordable, reliable, sustainable and modern energy is critical for achieving many of the Sustainable Development Goals (SDGs) and enabling Indonesia's transition to a prosperous low-carbon economy. In 2022 alone, the combined value of UN projects in support of SDG7, reached US\$ 42 million – demonstrating the importance of this area in the UN's systems efforts to support Indonesia.

To help accelerate progress on SDG7 and support a just, equitable and inclusive energy transition in Indonesia, the UN Country Team (UNCT) has jointly developed this One UN Strategy on Sustainable Energy. Through extensive consultations and coordination among UN agencies, this strategy identifies priority areas where the UN is in a unique position to provide high-impact support to the government and people of Indonesia.

The strategy is built on four key thematic areas - improving energy access, increasing sustainability of energy production and systems, strengthening just transition approaches, and promoting the deployment of renewable energy and energy efficiency technologies and measures. It encompasses a diverse range of interventions, from policy advice and capacity building to access to finance. This One UN Strategy on Sustainable Energy for Indonesia, is rooted in the belief that sustainable energy development is interconnected with various dimensions of human development, including poverty eradication, industrialization and employment, gender equality, health, children's education, and the impact on their future, and environmental conservation. By aligning our efforts across these sectors, we can unlock synergies, maximize impact, and ensure that no one is left behind in the energy transition of the country.

The strategy demonstrates the UN system working together in an integrated and coordinated way to provide impactful support to member states like Indonesia.

Indonesia, which is projected to be the world's fourth largest economy by 2045, will need to undergo a fundamental transformation to achieve its ambitious net-zero target by 2050 for the electricity sector and 2060 for the entire economy.

The country is on track to achieve its SDG7 targets on universal electrification (SDG7.1.1) and access to clean cooking by 2030 (SDG7.1.2). Indonesia has a goal to increase the share of renewables to 23% of the national energy mix by 2025 – but the country is currently not on track to meet this target (SDG7.2.1). Nearly 65 percent of Indonesia's electricity supply comes from coal while renewable energy sources accounted for only around 14 percent of the country's energy mix in 2020. With respect to the energy efficiency target (SDG7.3.1), Indonesia's current trend of energy intensity reduction indicates that it will need to revise its targeted annual one percent reduction of final energy intensity to 1.53 percent to achieve its goal of 2.39 MJ/US\$ by 2030, a drop from 2.87 MJ/US\$ in 2018. The emission and cost reduction benefits that can be attained from improved energy efficiency measures in lighting, cooling, appliances and equipment alone are enormous: a reduction of electricity sector CO2 emissions by 65 million tons through energy efficiency measures alone, resulting in a total savings of USD 8.6 billion for the country.

The UNSCDF, developed in cooperation with the government, outlines four priority areas of action around which the UN in Indonesia has committed to mobilize expertise to support Indonesia in raising and achieving its ambitions. The third strategic priority under the UNSCDF focuses on "Climate and Disaster Resilience" with the following intended outcome –

"Institutions, communities and people actively apply and implement low carbon development, sustainable natural resources management, and disaster resilience approaches that are all gender sensitive."

In line with this outcome, the UN envisages supporting Indonesia's rapid transition towards low carbon development in line with the Paris Agreement on Climate Change, the ASEAN Agreement on Disaster Management and Emergency Response and UN Convention on Biological Diversity. The UN in Indonesia is implementing several projects (~12 in 2022; ~7 or 8 in 2023) in partnership with or to support the Government of Indonesia's priorities on SDG7 and energy transition.

To increase coordination and facilitate joint programming, where possible, and increased collaboration between the various agencies, several thematic working groups have been set up on specific topics which are co-chaired by relevant UN agencies.

The Cooperation Framework including the activities on energy, are implemented through joint working groups to advance the 2030 Agenda. Oversight is provided by the BAPPENAS-UN Forum through strategic annual dialogues with the Government.

The outcome of the Climate and Disaster Resilience pillar under the UNSCDF is coordinated under the intra-agency working group on energy ("Sustainable Energy Group") - currently co-chaired by the UN Resident Coordinator's Office (UNRCO) and UNDP. Besides facilitating knowledge sharing and promoting coordination among UN agencies on energy, the Sustainable Energy Group took a leading role to develop this One UN Strategy on Sustainable Energy that

identifies common priority action areas of UNCT on sustainable energy and related topics.

## Sources:

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## Approach

Indonesia faces a significant challenge in meeting growing energy demand while also transitioning to a more sustainable energy system. At the same time, it would have to ensure that the energy transition is people-centered and ensures fair distribution of clean energy benefits such that it protects and empowers the most vulnerable populations. As per the Global Commission on People-Centered Energy Transitions, “A people-centered clean energy transitions require a focus on skills, decent jobs and worker protection; social and economic development; equity, social inclusion and fairness; and engaging people as active participants.” This will require concerted action from all stakeholders, both public and private across a variety of sectors such as power, industry, transportation, agriculture and even services such as healthcare, water and sanitation and education.

## Opportunities that can be realized by the One UN strategy

### *Value proposition*

The UN has been supporting Indonesia's energy transition efforts by providing technical expertise, promoting sustainable energy policies and practices, and advocating for renewable energy and energy efficiency. The UN's support has among others, included working with the Indonesian government and other partners to develop renewable energy policies and regulations, develop pilot projects on renewable energy and energy efficiency, provide technical assistance to renewable energy and energy efficiency projects, and promote awareness and advocate about the benefits of a clean energy transition.

# INTRODUCING A ONE UN STRATEGY ON SUSTAINABLE ENERGY IN INDONESIA

The UN's comparative advantages in global experience, partnership and coordination, technical expertise, and capacity building, enabling market development, and advocacy and awareness make it a valuable partner in supporting Indonesia's energy transition.

### *Measures to effectively deliver on the value proposition*

Upon reviewing reports submitted by UN agencies and conducting interviews with multiple stakeholders working within the UN agencies in Indonesia on sustainable energy topics, these are a few measures that could be enabled by the adoption of a One UN Strategy on Sustainable Energy: Firstly, real-time data and more details on activities currently being carried out would be exchanged through a common platform such as UNINFO, to enhance coordination and information sharing among the UN agencies in Indonesia. This will enable the UN agencies to identify potential areas of collaboration and coordinate their efforts to support the energy transition in Indonesia.

**Secondly**, a more coordinated and integrated approach would be developed to support the energy transition in Indonesia, including advocating for and building capacity of the most vulnerable groups\*. while keeping in line with established human rights practices and promoting diversity and inclusion to ensure a Just Transition. The UN's working group, called the Sustainable Energy Group, could serve as a key platform to facilitate and coordinate the activities of the UN in Indonesia, providing an opportunity to enhance collaboration and impact where a joint UN approach is required such as for supporting the work of the Just Energy Transition Partnership (JETP) working groups.

**Thirdly**, there is potential for the UN in Indonesia to leverage the full strength of its member agencies by implementing more joint projects including supporting government programmes and joint advocacy. This can help increase the impact of UN initiatives and promote greater collaboration among stakeholders.

**Lastly**, increasing engagement with other multi-stakeholder platforms such as the JETP secretariat, and ETM Country Platform can enhance the UN's role in coordinating and supporting Indonesia's energy transition. This can include promoting greater collaboration among stakeholders and facilitating the sharing of best practices and lessons learned. By taking these steps, the UN can play a critical role in supporting a just and equitable energy transition in Indonesia.

\* UN Indonesia study on LNOB has identified several vulnerable groups in Indonesia that includes women and girls, children, youth, persons with disabilities, migrants, refugees & asylum seekers, people living in rural, disadvantaged regions and coastal areas.

### **Sources:**

- IEA (2021), Recommendations of the Global Commission on People-Centred Clean Energy Transitions, <https://www.iea.org/reports/recommendations-of-the-global-commission-on-people-centred-clean-energy-transitions>



# DEVELOPMENT OF THE ONE UN STRATEGY ON SUSTAINABLE ENERGY

This One UN Strategy on Sustainable Energy has been developed under the leadership of the UN Resident Coordinator and is the result of a joint effort of the UN agencies that are members of the Sustainable Energy Group co-chaired by the UNRC's Office and UNDP.

The strategy utilizes the foresight methodology and identified the following challenges, trends and opportunities in relation to Indonesia's SDG7 and energy transition landscape. (For detailed explanation see Annex I).

## Challenges and opportunities: Energy transition in Indonesia

### *Challenges and sectoral gaps*

The UN agencies have identified several challenges that require to be addressed in order for Indonesia's ambitious energy transition goals to be met. These include:

### **Integration of renewables and supply side challenges**

- The intermittency of variable renewable energy sources remains a challenge due to limited technical capacity and not yet fully developed local value chains in Indonesia.
- Existing grid infrastructure is not yet suitable for accommodating electricity produced from variable renewable energy sources, and the current system has limited power wheeling capabilities.
- A plan for the existing grid to enable the integration of Variable Renewable Energy (VRE) has yet to be developed.
- Electricity oversupply in JAMALI (Java-Madura-Bali) power grid may discourage PLN, the national utility, to accept new electricity supply, including renewables.

## Energy efficiency and demand side measures

- Existing energy efficiency and conservation incentives could be further strengthened, and the awareness and understanding of the importance of energy conservation among consumers increased. This is especially important as rapid urbanization, population growth, and rising incomes are driving up energy demand, particularly in transportation and buildings sectors. These measures have a huge potential for reducing greenhouse gas emissions without major investment.
- Financing mechanisms to encourage and de-risk investment in energy efficiency technologies and renewable energy deployment have yet to be developed.
- There is not yet a labelling and Minimum Energy Performance Standard (MEPS) implementation for low-efficiency electric appliances that hinder potential energy savings.

## Enabling policies and regulations

- Policies to encourage independent power producers of renewable energy are yet to be clarified, especially on procurement timelines and Power Purchase Agreements.
- Across six key policy documents on renewable energy in Indonesia only two make limited mention of gender, with limited implementation in practice. In order for the energy-transition to be inclusive and appropriate for all, it would need to consider existing inequalities in women's and men's energy needs and use, their access to energy and appropriate technologies, and their participation in decision-making processes

- Awareness raising and adequate policy measures to mitigate the socio-economic impacts of the energy transition have yet to be considered.
- Ambitious minimum energy performance standards have yet to be developed for many end-use electrical products that are growing in demand, such as air conditioners, refrigerators, and electric motors.
- Measures to ensure a smooth transition of workers from affected sectors of the economy to green and decent jobs, and access to social protection for workers, have yet to be designed.
- Current policies also need to strengthen linkages between energy and agrifood systems. Investing in renewable energy solutions and adopting new, holistic approaches can directly advance energy and food security. These holistic approaches include integrated food-energy systems and the water-energy-food-land nexus.

## Last mile energy access

- Access to clean and affordable energy remains limited in remote and underserved areas of Indonesia, hindering the country's efforts to achieve its energy transition goals. Particularly, nearly 20% of households in Indonesia still rely on traditional biomass fuels for cooking, leading to indoor air pollution and negative health impacts.
- A lack of access to energy disproportionately affects women, children and the most vulnerable. Access to reliable and renewable energy has multiplier effect across other SDGs, such as reducing burden of unpaid care and domestic work in the household that could lead women and girls to stay in school or

- improving the quality of public services and infrastructure from transport (well-lit road reduces case of sexual violence and increase women's mobility) to health care (improving sexual and reproductive health of women and girls).
- This lack of energy access also impedes access to other social services that are dependent on energy supply such as access to water for drinking, and irrigation; access to electrified primary healthcare facilities; and access to cold chains for storage of food and critical medicines and vaccines.
- sector is required to ensure they are equipped to handle the transition to clean energy. This requires investment in training and education programmes, especially for reskilling/upskilling those working in the fossil fuel industry, including women and marginalized communities
- Gender inequalities in the energy sector: Global data indicates that while we are far from gender parity in the energy sector, a larger proportion of the renewable energy workforce is female (32%) compared to the traditional energy sector (22%). The gap is even more prevalent in the decision making/leadership positions in energy sector, as the World Economic Forum's Global Gender Gap Report in 2023 articulates that only one in five leadership roles in the energy sector are held by women. Only a small proportion of women occupy leadership positions in Indonesia's energy sector. The gender gap will halt the opportunities for innovation in energy sector, as studies show that equality and diversity spur innovation.

### Market barriers impacting the ability to scale renewable energy production

- Fossil fuel subsidies distort market prices and encourage the use of fossil fuels, making clean energy sources such as rooftop PV less competitive, hindering their growth and therefore slowing down the energy transition.
- Domestic Market Obligation (DMO) dictates coal producers to sell 25% of their production nationally at lower prices, which disincentivizes the transition from coal power plants to renewable alternatives.
- Local Content Requirement (LCR) could impede the development of renewable energy, as national industries cannot yet produce the quality and quantity to make renewable energy projects more competitive than their counterparts from abroad.
- A clear supply chain and roadmap for renewable energy technology and its enabler, such as batteries, have yet to be developed.

### Human and social lens to energy transition

- Skill Development: Building and enhancement of the skills of workers and professionals in the clean energy

- Social protection: Coverage of employment social protection in Indonesia is relatively small, and the country is reforming its overall social protection system. This requires application of active labour market policy measures in reforming the different schemes, in particular the unemployment, old-age income security, and maternity protection.
- Awareness and understanding among the public about climate change and the importance of transitioning to cleaner energy sources needs to be increased. Providing education and outreach programmes on climate change and its impacts is crucial to building public support for the energy transition.

- **Ensuring No One is Left Behind:** It is essential to ensure that the energy transition does not leave anyone behind, especially those in low-income communities or remote areas who may not have access to clean energy solutions. This requires targeted gender-responsive policies and initiatives to ensure that everyone has access to affordable and clean energy, such as through the promotion of decentralized renewable energy systems.
- **Institutional Capacity Building:** The energy transition requires building the institutional capacity of relevant agencies, organizations, and stakeholders to effectively implement policies and programs related to clean energy. This requires investment in institutional infrastructure, including human resources, technical expertise, and financial resources.
- **Implementation of a mandatory carbon trade mechanism** in the power sector
- **Development of Minimum Energy Performance Standards (MEPS)** for buildings and appliances
- **Government leadership and ambition** to accelerate adoption of low carbon technologies and develop alternatives to fossil fuels such as bio energy and green hydrogen technologies to name a few.
- **Climate plans for increased coverage** of climate, energy, and sustainability topics in school curriculum.

### **Opportunities : Emerging and gaining traction to be strengthened/explored**

- **Promoting education** on the impact of clean energy technologies and the energy transition from an early age is important to increase understanding amongst children and adolescents – the ones who will be most impacted by the decisions taken today. In this regard, UN agencies such as UNICEF can support evidence-based awareness raising, child participation and action by young people, climate education and social and behaviour change, building on networks and online/offline platforms for children and young people.
- **Incorporating participation** of adolescents and youth in energy transition strategies and decision-making processes is crucial for cultivating a sustainable and inclusive future. In this regard, the Government of Indonesia and UN agencies could establish youth quotas or appoint youth representatives in the energy transition related decision-making bodies and facilitate and monitor the youth representation in relevant committees, advisory groups, and discussion panels.

### **Signals: Recent trends initiatives or developments**

The following initiatives and developments, in recent month, were identified by the UN agencies as having demonstrated a positive trend in the changing energy transition landscape of Indonesia:

- **Mitigation-adaption co-benefits driven approach** to energy transition promoted by Indonesia in the G20 17 Phase-down of on-grid coal-fired electricity generation and the implementation of concrete actions achieving a just energy transition for workers and communities, particularly those most affected by an energy transition away from coal.
- **Green finance commitments** in the form of multiple initiatives such as JETP, ADB's Energy Transition Mechanism (ETM), Climate Investment Fund's Accelerating Coal Transition platform among others.

- Drawing inspiration from successful examples in other countries, alternative approaches such as public consultations, or empowering existing youth and civil society organization networks may also be explored.
- South-South cooperation offers an opportunity for mutual learning and knowledge sharing in energy transition, as exemplified by the past energy cooperation between Indonesia and Timor-Leste. UN agencies can play a critical role as facilitators and brokers, providing a supportive framework and fostering connections between countries, and enabling the exchange of innovative technologies, best practices, and lessons learned.

### Sources:

- The UNRCO has benefited from the secondment of a specialist staff member from Sustainable Energy for ALL.
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- ESDM (2022), Roadmap For An Energy Efficient, Low-Carbon Buildings And Construction Sector In Indonesia, <https://drive.esdm.go.id/wl/?id=dVx0SofRGh60H9niaQFHAFnwx9kFGKzp&mode=list&download=1>

## Mission Statement

*“The mission of the United Nations (UN) in Indonesia on energy is to collaborate with the Indonesian government and national, regional, and local stakeholders towards achieving a just, sovereign, and equitable energy transition that is clean, efficient, and environmentally sustainable and limiting climate breakdown and in line with the Paris Agreement on Climate Change. This effort will also support universal access to affordable and sustainable energy security while ensuring inclusive and gender-responsive approaches by 2030 that leaves no one behind especially the most vulnerable.”*

The following guiding principles underlie the above mission statement:



### Just Transition

A Just Transition means greening the economy in a way that is as fair and inclusive as possible to everyone concerned, creating decent work opportunities, and leaving no one behind. A Just Transition involves maximizing the social and economic opportunities of climate action, while minimizing and carefully managing any challenges – including through effective social dialogue among all groups impacted, and respect for fundamental labour principles and rights.



### Equitable

A Just Transition means greening the economy in a way that is as fair and inclusive as possible to everyone concerned, creating decent work opportunities, and leaving no one behind. A Just Transition involves maximizing the social and economic opportunities of climate action, while minimizing and carefully managing any challenges – including through effective social dialogue among all groups impacted, and respect for fundamental labour principles and rights.

# STRATEGIC FRAMEWORK OF ACTIVITIES ON SUSTAINABLE ENERGY



## Environmentally sustainable

Development that meets the needs of the present without compromising the ability of future generations to meet their own needs, particularly with respect to natural resources and ecosystems.



## Limiting climate breakdown

by using renewable energy and energy efficiency to reduce industrial greenhouse gas emissions.



## Universal

Refers to the principle that all people should have equal access to opportunities, resources, and services.



## Affordable

Refers to the principle that energy services should be priced reasonably, considering local contexts and the ability of people to pay.



## Inclusive

Refers to the principle of ensuring that all people, regardless of their background, have equal opportunities to participate in decision-making processes and access services.



## Gender-responsive

Considers gender norms, roles, and relations for women, men, and marginalized groups, and how they affect access to and control over resources; and considers and addresses specific needs of women, men and marginalized groups.



## Vulnerable Groups

The UNSDCF profiles several groups are at greater risk in this regard and includes people living in remote areas, women, youth and children, old people, migrant workers, refugees and asylum seekers, people living with disabilities, indigenous people and those marginalized through stigma and discrimination.

### Sources:

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## Identified List of Activities

Based on the challenges, opportunities and trends identified and taking into consideration the mission statement identified by the participating UN agencies of this strategy, the following list of intervention points and thematic areas have been identified.

The following table outlines a list of activities which the UN in Indonesia through several of its agencies are already implementing, or plan to develop and implement, over the period 2023-25 in support of Indonesia's energy transition goals.

### Thematic Focus Areas:

- Improve quality of energy access and promote use of renewable energy incl. for productive use;
- Resolve sustainability issues such as waste management, water efficiency, waste-water treatment and reuse circularity, resource efficiency and land acquisition;
- Strengthen just transition approach including human and institutional capacity for energy transition;
- Support the integration of grid-based renewables and promote and elevate energy efficiency as the first fuel.

### Intervention Types:

- Policy, advisory and advocacy support;
- Coordination, awareness raising, capacity building and knowledge sharing;
- Increase access to finance and investment opportunities;
- Promote technology and Innovation to support market development.

# IDENTIFIED LIST OF ACTIVITIES





| Key Thematic Focus  | Intervention Areas  |  |   |  |
|---|---|--|---|--|
|   | Policy, advisory and advocacy   | Coordination, awareness raising, capacity building and knowledge sharing   | Increase access to finance and investment opportunities   | Promote technology and Innovation to support market development  |
| <p><b>Improve quality of energy access and promote use of renewable energy incl. for productive use</b></p> | <p>Policy advocacy on promoting an integrated climate and energy approach through a people-Centered lens (child, gender, youth, and local community sensitive) at national, sub-national, and local levels - <b>UNICEF</b> and <b>UN WOMEN</b></p> <p>Roadmaps for adoption of alternative fuels such as Green Hydrogen - <b>UNIDO</b></p> <p>Strengthening agriculture and forestry policies as to better integrate the use of renewable energy technologies in the agrifood systems and promote sustainable production of modern biofuels. <b>FAO</b></p> | <p>Local and community level actions on awareness raising among families, youth, social services on energy transition topics (EE, RE) and its social impact – <b>UNICEF</b></p> <p>Baseline assessment of affordability of energy services; Capacity building for stakeholders to identify and address the gender dimensions in renewable energy policies - <b>UN WOMEN</b></p> <p>Promotion of the renewable energy use along the agrifood value chains through capacity building trainings targeting key stakeholders along the value chains; Capacity building aiming to improve the understanding of Water-Energy-Food nexus as a baseline for integration of energy-smart agriculture practices. - <b>FAO</b></p> | <p>Developing carbon pricing mechanisms, blended financing schemes, green sukuk/bond, impact fund – <b>UNDP</b></p> | <p>Promoting new business models and decentralized RE and EE technologies for productive use to electrify remote areas - <b>UNDP</b></p> |

|   |  |   |  |  |
|---|--|---|--|--|
| <p><b>Resolve sustainability issues such as waste management, water efficiency, waste-water treatment and reuse circularity, resource efficiency and land acquisition</b></p> | <p>Develop EV battery waste standards, circular economy roadmap - <b>UNDP</b></p> <p>Understanding the extent of energy use/ mix in the WASH sector and Support Policy Note on the potential for greenhouse gas reduction in the WASH Sector - <b>UNICEF</b></p> <p>Support development of National Cooling Action Plan - <b>UNEP &amp; UNESCAP</b></p>  | <p>Support on sustainability aspects of energy infrastructure covering decarbonization, energy and resource efficiency, circular economy, waste management with a focus on industries - <b>UNIDO</b></p> <p>Support on sustainability aspects related to the links between energy and agrifood systems - <b>FAO</b></p>   |  |  |
| <p><b>Strengthen just transition approach including human and institutional capacity for energy transition</b></p>  | <p>Streamlining policy coherence in achieving NZE targets - <b>UNOPS ETP</b></p> <p>Strengthening resilience and response capacity of schools and communities for climate change and its impacts, and documenting experiences for advocacy. - <b>UNICEF</b></p> <p>Support integration of climate, environment and energy learning in education curricula, action learning for children and extra-curricular skills building - <b>UNICEF</b></p> | <p>Child and youth-led advocacy on just energy transition and action - <b>UNICEF</b></p> <p>Stakeholders discussion on NZE pathways in energy sector - <b>UNDP</b></p> <p>Capacity building for women and women led businesses on renewable energy and entrepreneurship - <b>UN Women</b></p> <p>Awareness raising on Just Energy Transition - <b>ILO</b></p> <p>Capacity building on the linkages between energy and agrifood systems - <b>FAO</b></p> |  |  |

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| <p><b>Strengthen just transition approach including human and institutional capacity for energy transition</b></p> | <p>Policy planning support to bridge and strengthen energy transition processes with development planning (including enhancing technical skills, leveraging job creation opportunities, enhancing local content requirements and local industrial engagement with energy transition) - <b>UNEP-CCC</b></p> <p>Support integration of climate, environment and energy learning in education curricula, action learning for children and extra-curricular skills building - <b>UNICEF</b></p> <p>Establishing the roadmap for human resource development in renewable energy and energy efficiency sector - <b>UNOPS</b></p> <p>Establishing a Just Energy Transition Committee among tripartite constituents of ILO: Govt.+ Employers + Workers + Youth Supporting</p> | <p>Capacity building for practical tools to incorporate just considerations into development planning, and to enhance technical skills and capacities - <b>UNEP-CCC</b></p> |  |  |
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| <p><b>Strengthen just transition approach including human and institutional capacity for energy transition</b></p>         | <p>transformational measures in coal regions in Indonesia - <b>ILO</b></p> <p>Assessment on policy readiness on just energy transition - <b>ILO</b></p> <p>Labour market impact assessment on just energy transition - <b>ILO</b></p> <p>Providing input and analysis for the Comprehensive Investment and Policy Plan under JETP - <b>ILO, UNDP</b></p> <p>Policy advocacy on reforming existing employment social protection schemes, including but not limited to unemployment, old-age income, and maternity benefits. - <b>ILO</b></p> |   |   |  |
| <p><b>Support the integration of grid-based renewables and promote and elevate energy efficiency as the first fuel</b></p> | <p>Policy advocacy on emission cap, roadmap for coal sectors and on RE/EE implementation - <b>UNDP</b></p> <p>RE roadmap and policy pathways - <b>UNOPS</b></p> <p>Policy advocacy on evaluating existing regulation that impede the development of renewable energy projects such as LCR and equipment DMO - <b>UNOPS ETP</b></p>  | <p>Promote and advocate for innovation on emerging RE technologies i.e., green hydrogen, refuse-derived fuels; and energy efficiency technologies and measures - <b>UNDP (for RE) and UNEP (for EE)</b></p> <p>Promote and advocate capacity building for utilization of international best</p> | <p>Supporting Govt. in assessing and finding appropriate financial instruments for the energy transition - <b>UNOPS ETP</b></p> | <p>Technical assistance to industries on EE through pilot projects Support industrial efficiency and RE adoption in industries (Industry 4.0) - <b>UNIDO</b></p> |

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| <p><b>Support the integration of grid-based renewables and promote and elevate energy efficiency as the first fuel</b></p> | <p>Energy efficiency regulations for appliances such as air conditioners, refrigerators electric motors - <b>UNEP</b></p> | <p>practise technologies to the industry (PLN) - <b>UNOPS ETP</b></p> <p>Raise awareness and build technical capacity on Energy Efficiency through Mission Efficiency Programme - <b>SEforALL</b></p> <p>Study on the electrification of public transport in Jakarta - <b>UNESCAP</b></p> | <p>Support in development of carbon trading mechanism and energy transition mechanism - <b>UNDP</b></p> <p>Promote innovative financing scheme and advising on Energy Efficiency - <b>UNOPS ETP</b></p> <p>Assess and develop the roadmap of supply chain for renewable energy related technology to support RE deployment -- <b>UNOPS ETP</b></p> <p>Developing investment roadmap for solar PV and wind power projects - <b>UNOPS ETP</b></p> | <p>Technical assistance on adoption of EV vehicles<br/>Technical assistance for RE and EE project development - <b>UNDP</b></p> <p>Support PLN on integrating variable RE into grid – PLN command centre.<br/>Advice on grid-connectivity, smart grid roadmap - <b>UNOPS ETP</b></p> <p>Technical assistance to PLN on procurement specifications and total cost of ownership for energy efficient distribution transformers – <b>UNEP</b></p> <p>Initiative to promote renewable energy manufacturing capabilities in Indonesia - <b>SEforALL</b></p> |
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## Explanatory note on Foresight Methodology

To develop the strategy, a joint UNCT workshop was held on 13 March 2023. The workshop brought together representatives from 9 UN agencies to collectively discuss and formulate the outlines of a coordinated and strategic approach to issues related to energy transition and sustainable energy access in Indonesia. The participants jointly identified and agreed on the main pillars of engagement and intervention areas on sustainable energy to be carried out by UN agencies in Indonesia. The workshop programme was jointly organized by UNDP and UNRCO and utilized the foresight methodology as a means to identify and develop the strategy.

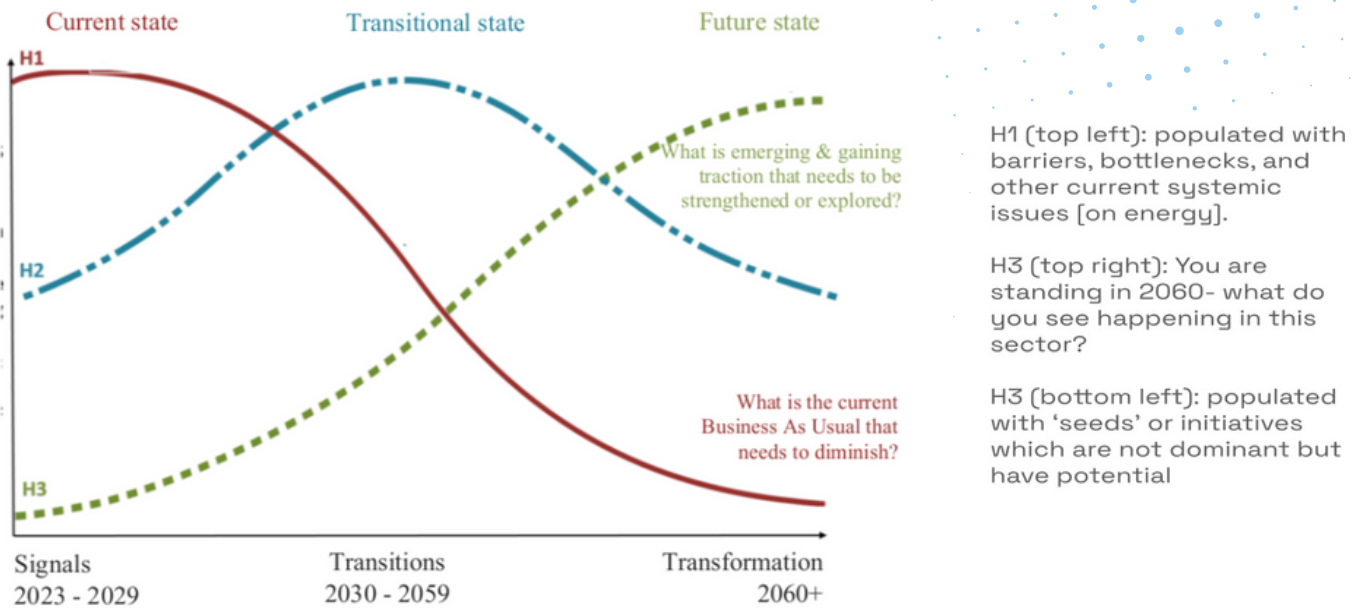
### *Foresight method: Identification of Missing Narrative and Three horizon mapping*

The foresight method is a process that aims to help individuals and organizations identify and analyse emerging trends and potential future developments in various fields. This approach involves examining the forces and drivers that shape the future and developing scenarios that explore alternative futures. Foresight typically involves a range of activities such as horizon scanning, trend analysis, and scenario building. It can be used to anticipate potential changes, identify opportunities and challenges, and inform strategic decision-making. The foresight method is increasingly being used by governments, businesses, and other organizations to help them prepare for the future and stay ahead of the curve.

Horizon mapping is a specific approach to foresight that involves mapping out the future in terms of time horizons. This approach involves identifying different time periods, typically ranging from the short-term (e.g., the next 1-2 years) to the long-term (e.g., 20+ years), and then examining the trends, drivers, and scenarios that are most relevant to each time horizon. The goal of horizon mapping is to provide a comprehensive and structured way of thinking about the future that can help organizations develop more effective strategies and plans.

# ANNEX I





This horizon mapping approach was used as a key tool at the workshop of UNCT representative, to support the development of a One UN Strategy on Sustainable Energy. The participants used the horizon mapping approach to explore different time horizons, ranging from the short-term to the long-term, and to identify the trends, drivers, and scenarios that were most relevant to each period. The timeline selected for the exercise was those relevant to the targets for energy transition, namely 2030 (SDG 7) and 2060 (Indonesia's Net Zero Emissions Target).

This exercise allowed the participants to identify the key challenges and opportunities related to energy in Indonesia and to develop a shared understanding of the complex and interconnected issues involved. Using the insights gained through horizon mapping, the workshop participants were able to develop a set of concrete actions and recommendations for a One UN Strategy on Sustainable Energy in Indonesia. The workshop demonstrated the power of horizon mapping as a tool for foresight and strategic planning, particularly in complex and multi-stakeholder environments such as the UN system.