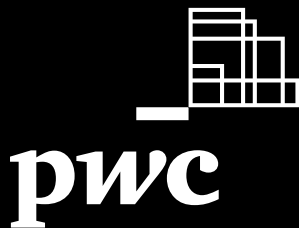


Indonesia Energy Transition Statement of Capabilities

Shaping the future of energy with foresight

www.pwc.com/id/energy-transition



Leader's message

The imperative to transition towards sustainable energy sources has never been more urgent. At PwC, as we navigate this transformative journey, we recognise the profound impact of this transition on businesses and societies worldwide. Our commitment extends beyond mere consultancy; it embodies a steadfast dedication to pioneering sustainable solutions that redefine industry standards and foster environmental stewardship.

Through rigorous analysis, innovative strategies, and unparalleled expertise, we empower organisations to not only adapt but thrive in a rapidly evolving energy landscape. Our holistic approach integrates cutting-edge technology with deep industry insights, ensuring our clients achieve sustainable growth while minimising their ecological footprint.

Together, we can forge a path towards energy resilience, environmental responsibility, and economic prosperity for generations to come.

We look forward to working with you!



Sacha Winzenried
PwC Indonesia
Energy, Utilities & Resources | Energy
Transition



Energy transition imperative

Energy is a crucial input to all economic activity, and a secure and affordable energy supply has been a key enabling factor for global economic growth that has lifted millions out of poverty. However, with continued and overwhelming reliance on fossil fuel sources for primary energy supply, the production, supply and consumption of energy is responsible for approximately three quarters of global greenhouse gas emissions that drives global warming and climate change. The scientific evidence indicates that climate and weather extremes and their adverse impacts on people and nature will continue to increase with every additional increment of rising temperatures.

Transitioning energy production, supply and consumption away from fossil fuels and towards sustainable energy sources, without derailing economic growth and progressing steadily on the unfinished development agenda in developing countries is the greatest challenge of our times.

Achieving this will be an extremely complex endeavour due to the increasingly narrow window of opportunity, and expected disruption to well established governance frameworks, political economy considerations, technology, financial and product markets, supply chains and business models. Such a monumental change in status quo will impact all stakeholders, and present opportunities and threats.

Balancing the world energy trilemma

The energy trilemma is a constant challenge involving the balance of energy security, accessibility & affordability, and sustainability. In our Energy Transition strategies and implementation, we strive to ensure an optimal balance of all three components.

Reflects a nation's capacity to meet current and future energy demand reliably, withstand and bounce back swiftly from system shocks with minimal disruption to supplies.

Energy Security



Assesses a country's ability to provide universal access to affordable, fairly priced and abundant energy for domestic and commercial use.



Energy Equity



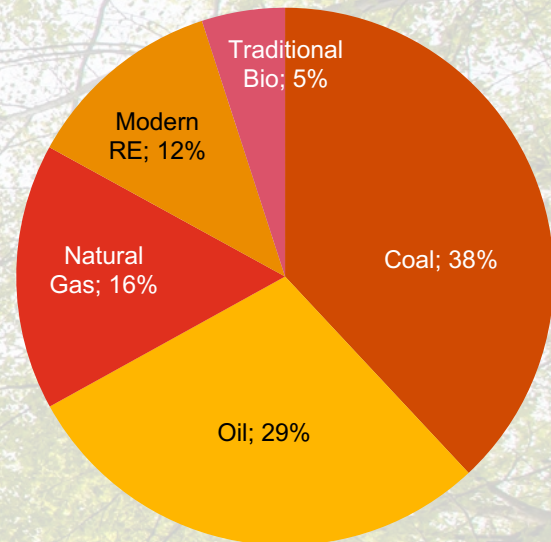
Environmental Sustainability

Represents the transitions of a country's energy system towards mitigating and avoiding potential environmental harm and climate change impacts.

Energy Transition in Indonesia

Indonesia has succeeded in meeting its growing energy demand, largely driven by exponential economic growth. However, this achievement is coupled with a largely unsustainable energy supply mix that relies on coal, oil, and other fossil fuels, worsening the global carbon footprint. In Indonesia, **87%** of electricity generation comes from fossil fuel resources, highlighting the urgent need for a transition to low-carbon energy sources. There is an urgent need to shift the emphasis from the exploitation of national resources for economic growth to a more sustainable energy strategy.

Primary Energy Supply Mix

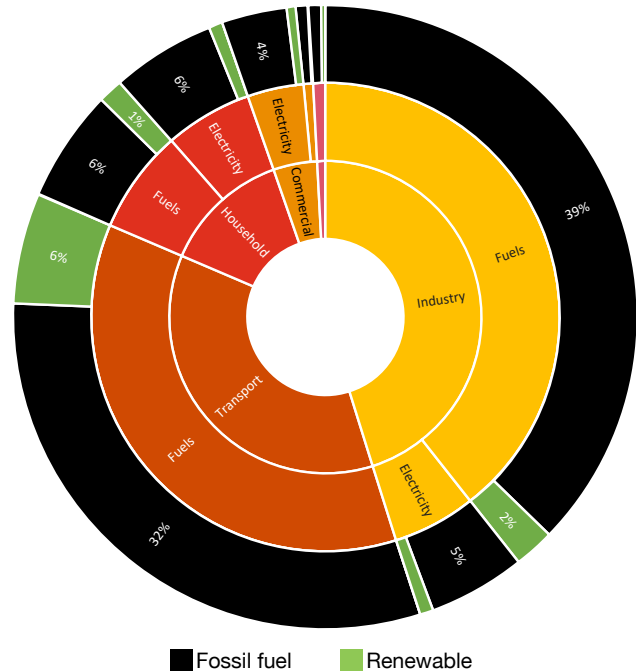


Source: <https://www.esdm.go.id/assets/media/content/content-handbook-of-energy-and-economic-statistics-of-indonesia-2023.pdf>, May 2024





Sectoral fossil fuel dependence (2023)



Source: <https://www.esdm.go.id/assets/media/content/content-handbook-of-energy-and-economic-statistics-of-indonesia-2023.pdf>, May 2024



The industrial and transport sectors together account for approximately **70%** of final energy consumption from fossil fuels, indicating the required sectoral focus for a successful energy transition. Consequently, firms operating in these two sectors, along with the energy production and supply sector, have a significant role to play in achieving a successful energy transition.

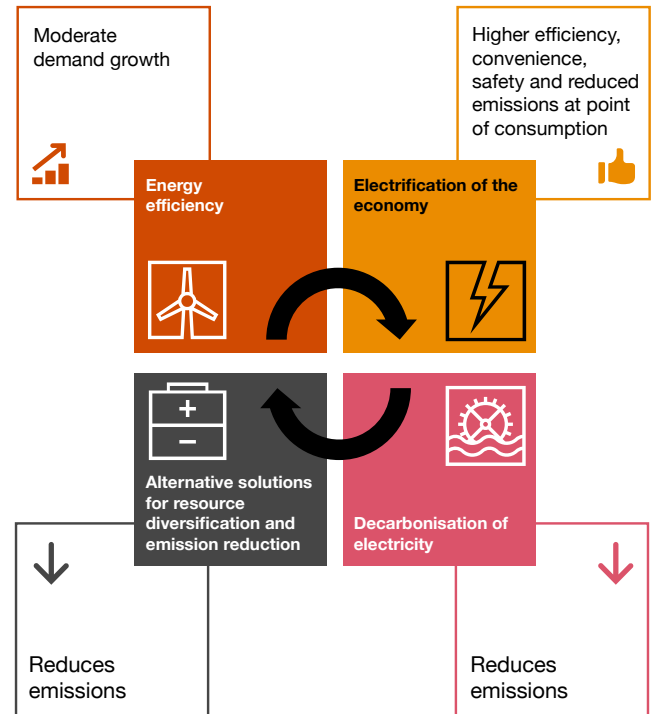
Due to low electrification of the economy and overwhelming reliance on fossil fuels for electricity generation, fossil fuel dependence in the final consumption basket remains very high as well. Therefore, we believe that Indonesia requires focused, programmatic action on the supply and demand side.

PwC perspectives

There are four major levers for decarbonising the economy. These levers must be applied simultaneously but to varying degrees, tailored to the specific realities of each country, economy, sector, and competitive position. This approach aims to accelerate the energy transition without compromising energy security and affordability.

Planning, executing, monitoring, and course-correcting the transition will require a comprehensive, whole-of-economy perspective.

We believe in the crucial role of the public sector in setting the stage and addressing market failures, and the ability of the private sector to innovate, protect, create, and sustain value within the frameworks established by the public sector.



To achieve accelerated and sustained energy transition across the economy, we believe that a programmatic approach covering governance frameworks, market structures, technology solutions, business models, financing, energy & carbon pricing, and enhanced private sector participation is essential.

We support the public sector in setting the stage considering the greatest good for the broadest set of stakeholders, and preparing to address market failures if they do occur. We work with the private sector in protecting, creating and sustaining value in a socially responsible way, within the field of play set by the public sector.

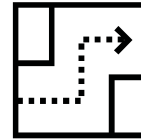
What makes us different



End-to-end ESG and Energy Transition Solutions

Our Energy Transition team is made up of industry, sector, and service experts whose diverse backgrounds and shared values are unified around a common goal: to help clients anticipate practical challenges and develop feasible, actionable solutions across the entire project life cycle.

We focus on value creation and preservation, partnering with clients to support an equitable transition that addresses their specific decarbonisation and renewable energy imperatives, as well as the complex ESG issues that arise from their transition pathways. Our priority is to help clients preserve value at risk from changes brought by the energy transition and pursue growth opportunities that are appropriate and integrated with their existing business processes.



Strategy & transformation

We combine deep insight with human-led technology to build coherent strategic models that map risk variances and market shifts, revealing environmental and social impact potential and corresponding commercial opportunity.



Energy Transition & ESG strategic narrative

- Developing narrative around your ambition to move from current to future state, identifying the shifts across your energy value chain
- Assisting with storytelling and change management for sharing your vision with internal and external stakeholders



Energy Transition & ESG Roadmap

- Building a detailed roadmap with actions across multiple horizons to connect near and longer-term transition activities
- Developing plans across workstreams* including climate change action, new operating models and infrastructure, economic development and workforce change, resource extraction and recovery

*Note that any of the supporting work streams can also be developed as standalone strategic roadmaps



Financing and Deals

Delivering sustained financial outcomes built on a deep understanding of market needs and expectations, we design, test and deploy investment solutions that align economic growth potential with environmental and social value.



Renewable energy project development support

Supporting commercial feasibility, financing and execution of renewable energy projects including legal and tax advice



Creating value from ESG in deals

Identifying and activating the ESG levers that make companies more attractive to investors



Clean energy financing

Identifying and securing clean energy finance including understanding expectations of financial institutions and investors

1. Green financing

Five key investments are required to accelerate the energy transition in Indonesia:

- the development of transmission and distribution networks
- the early retirement and phase-down of coal-fired power plants in line with government plans

- dispatchable renewable energy acceleration
- variable renewable energy acceleration
- the development of renewable energy supply chains.

2. Blended finance

- Involving the systematic and strategic use of development finance and philanthropic funds to mobilise and engage private capital at scale through concessional financing and risk coverage.
- Aiming to deliver measurable social, environmental and economic impact.
- Delivering market-based, risk-adjusted returns for private investors that meet business goals. This is often achieved through the allocation of some risks in part or full to the development finance tranches on non-commercial terms.
- Involving the allocation of certain risks to public or private parties depending on who is best placed to manage and mitigate them.
- Complementing or supplementing the existing potential financing sources and correcting market failures, rather than seeking to compete with the private sector.



Regulatory and tax

Highlighting and providing legal solutions, tax optimisation and risk perspectives to address the complexities of energy transition.

Regulatory and legal support

Our deep and wide-ranging knowledge of the sophisticated legal frameworks across industries, and our capability and experience in providing advice to multinational and local investors, are among our key strengths when highlighting and providing legal solutions to address the complexities of energy transition. Energy companies are competing to become part of Indonesia's energy transition initiatives and to combat climate change. Diversification of energy, energy efficiency and energy security are a few of the main topics around energy transition, and activities executing those initiatives may have legal issues or consequences (both regulatory and contractual). Legal compliance and governance play roles of the utmost importance in realising the nationwide objectives of a just energy transition.

- Analysis on legal and regulatory frameworks governing energy transition, encompassing mandatory and voluntary reporting obligations, decarbonisation strategies, renewable energy incentives, potential legal actions pertaining to environmental compliance within the Indonesian jurisdiction, and comprehensive legal challenges that may potentially hamper energy transition.
- Tailored legal solutions to navigate complex regulatory landscapes, which includes guidance on regulatory compliance, risk management, and enhancing competitiveness within evolving legal frameworks.
- Specialised expertise across various domains, including the transition to renewable energy sources. This includes reviewing contractual arrangements that are already in place and identifying potential legal issues and/or challenges that may arise from energy transition initiatives (such as early termination, rights of ownership, concessions, etc.).
- Reviewing the sustainable investment structures and financing options, such as green bonds and carbon credits trading, and sustainability-linked loans from a legal perspective. This enables businesses to align their financial endeavours with their sustainability objectives, while ensuring compliance with relevant legal requirements.





Tax support

With the Energy Transition as one pivotal ecosystem for a nation's net-zero commitment/target, the Government of Indonesia has applied and will introduce more fiscal/taxation incentives and disincentives. New investment for decarbonisation as part of the Energy Transition is also typically a new frontier, and lacks both tax guidance and precedent. With our in-depth understanding of tax rules and our global network, we are able to help you navigate Energy Transition pathways, particularly from tax optimisation and risk perspectives.

- Tax Advisory on Energy Transition initiatives. This may include renewable energy investment, phasing out/down of coal-fired power plants, carbon storage investment, development of smart grids, etc., either locally or involving cross-border transactions.
- Tax Advisory on the possible integral parts of the Energy Transition, such as decarbonisation monetisation in the form of carbon market trading.
- Exploring potential tax incentives/facilities which can optimise the tax efficiency of investment related to Energy Transition, or activities and assistance in obtaining tax incentives/facilities.



Reporting and governance

Leveraging firm-wide capability in audit, advisory and governance, we build robust risk reporting and governance frameworks that isolate potential threats and elevate opportunity.

ESG strategic review and advisory support

- Assessment of materially significant risks and opportunities related to energy transition and broader sustainability scopes
- Advisory support on reporting and governance frameworks as to what is fit-for-purpose and aligns with the organisation's strategy

ESG training

- Training support for Boards and Executive teams on the growing expectations around ESG reporting and action plans

Global Energy Transition Centre of Excellence

Global ambition to reduce emissions aggressively calls for fast-paced energy transition which will need to be based on faster deployment of green energy, rapid electrification, investments in new technologies & critical minerals and most importantly international co-operation.

And here is where **PwC's Community of Solvers** are playing a pivotal role to **make Energy Transition a reality** by taking a human-led and tech-powered approach on Energy Transition that will see us collaborate, innovate and share knowledge to pave the way for a sustainable future.

PwC's Global Energy Transition Centre of Excellence brings together our collective expertise in Energy Transition to assist our clients in generating value in conjunction with our local PwC teams across the globe.

Focus areas:



Decarbonisation



Decentralisation



Digitalisation

Technologies:



Renewable energy



Energy efficiency



Electrification products



Greener fuels/molecules



CCU/S



Nuclear technology



Advanced methods



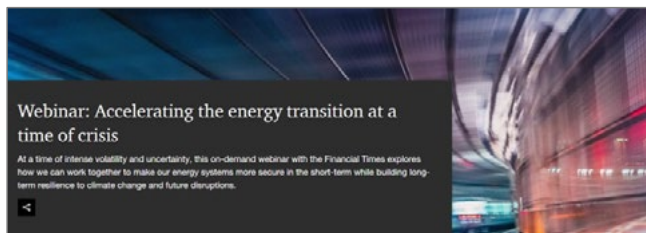
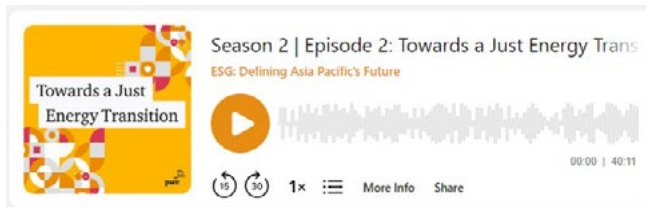
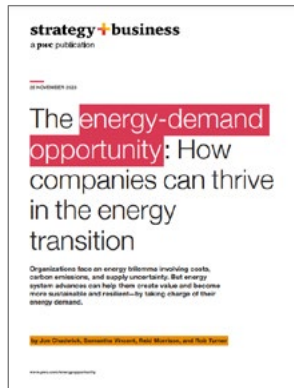
Energy-related AI/IOT



Insights and studies

www.pwc.com/id/energy-transition

We lead the market in sharing our knowledge and view points on energy transition.





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