

August 2023

Summary of the National Energy Transition Roadmap Phase 1

Solidifying energy aspirations





Capitalising on high-value green economy

On 27 July 2023, the government launched the National Energy Transition Roadmap (NETR) Phase 1 to accelerate Malaysia's energy transition. NETR is critical in supporting:

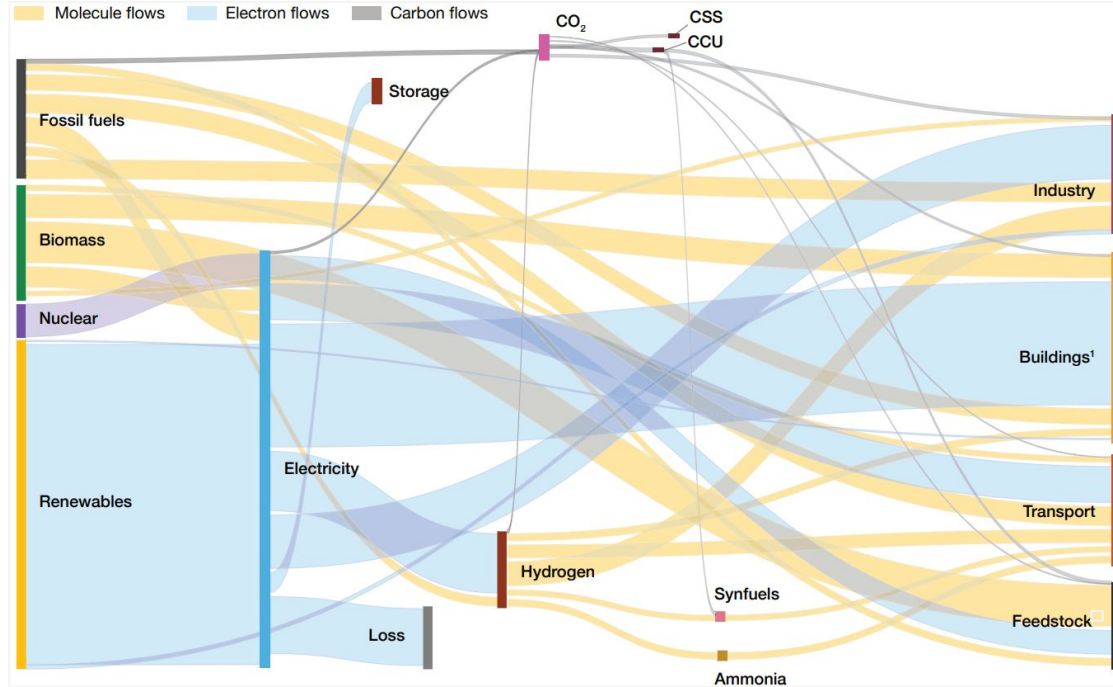
- 1) the Twelfth Malaysia Plan 2021-2025 which outlines aspirations for the nation to achieve net zero emissions by 2050
- 2) the recently launched National Energy Policy (DTN) in September 2022 with aspirations to become a low carbon nation in 2040

The roadmap is also crucial in navigating the complexity of energy transition on a large scale, especially the shift from a traditional fossil fuel-based economy to a high-value green economy.

This summary document is mainly sourced from the NETR, supplemented by further research on other relevant publications and PwC analysis.

Forecasted energy flows in 2050 shows that dependency on fossil fuels will reduce while RE grows

PwC Strategy& illustration of energy source and target (2050)



Source: PwC's *Inventing Tomorrow's Energy System* (2021)

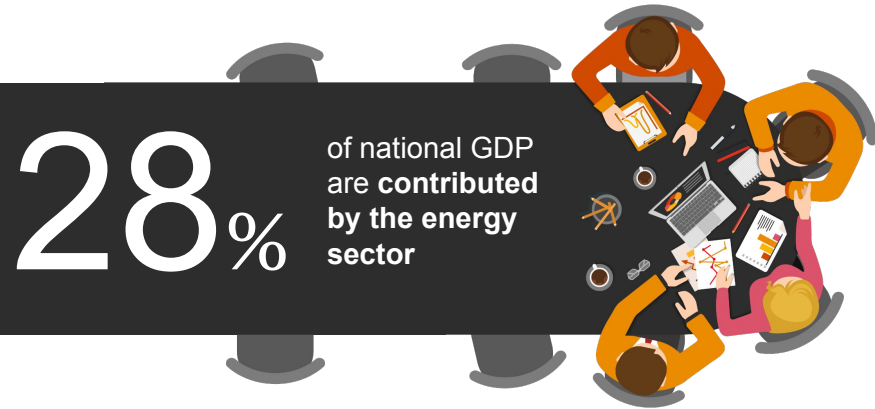
By 2050,

low-carbon sources will account for more than 90% of energy, and fossil fuels will account for less than 10%.

Renewable energy sources will be the main feedstock for the economy, while fossil fuels will be required for hard-to-decarbonise sectors.

NETR recognises the current state and addresses challenges moving forward (1/2)

Malaysia State of Energy Affairs

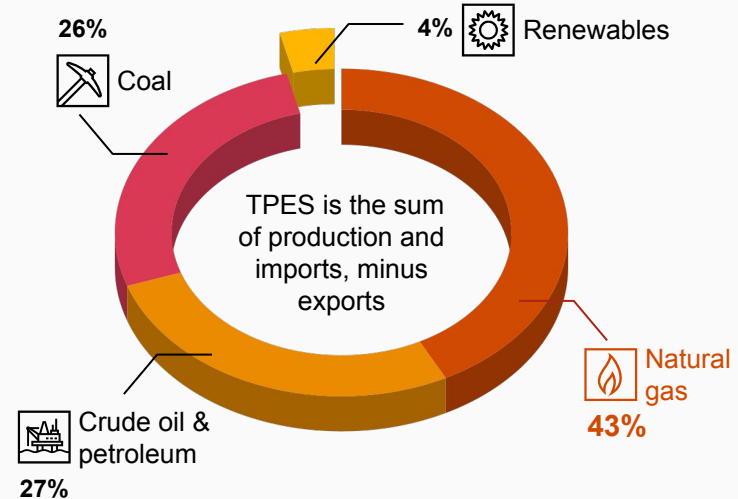


As such, **the transition** from a fossil fuel dependent economy to a high-value green economy **must be done meticulously**, to amplify positive impacts and reduce any ramifications to near zero, especially to the *Rakyat*.

1 out of 4
of total workforce in
Malaysia is employed by
the energy sector

Source: NETR (2023), Suruhanjaya Tenaga website (2023)

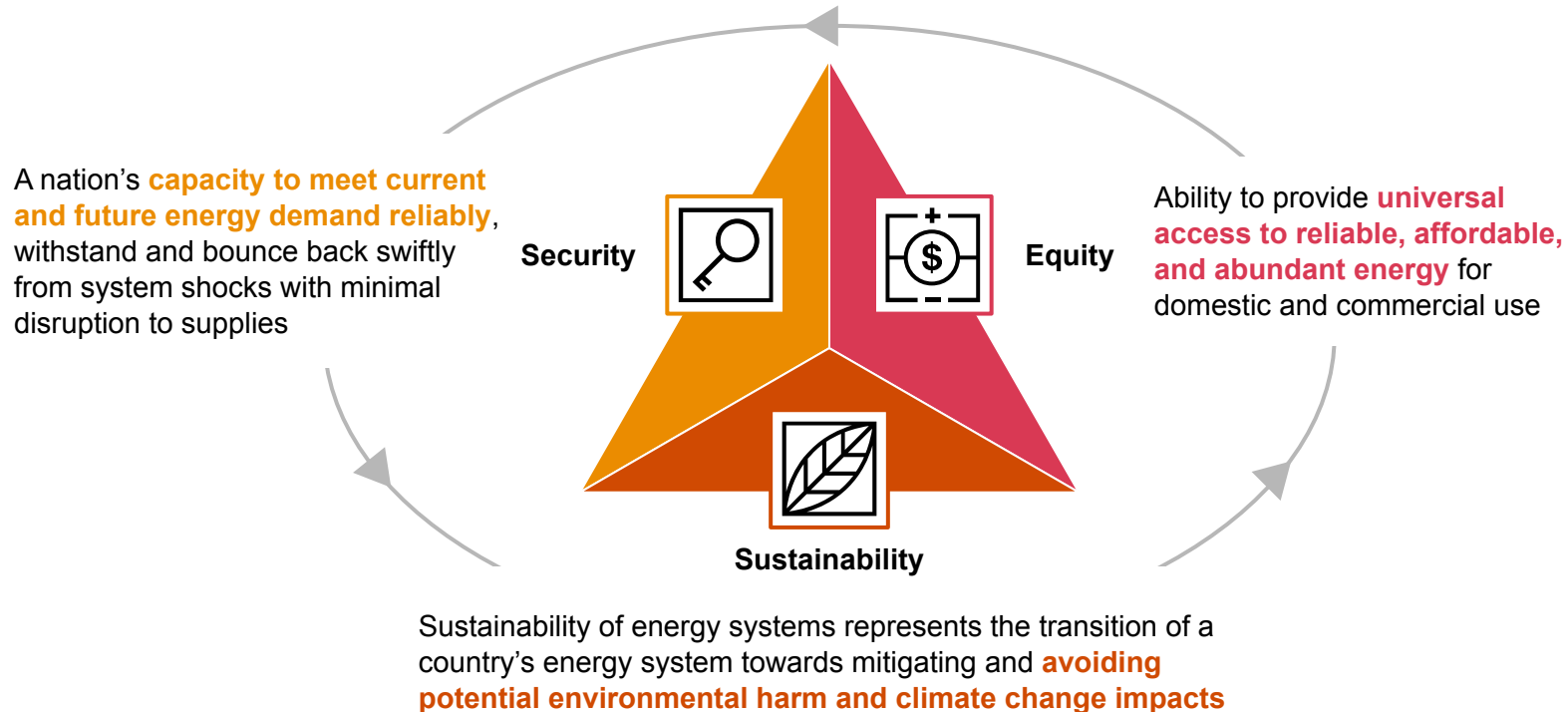
Total Primary Energy Supply (2020)



NETR highlights **natural gas as a vital transitional fuel** in ensuring energy security and affordability remains intact.

NETR recognises the current state and addresses challenges moving forward (2/2)

Key challenges are always centered around the Energy Trilemma



NETR doubles down on reducing GHG intensity against GDP by 45% by 2030 compared to 2005 baseline



Several risks were identified which hastens the energy transition progress

01

Malaysia's energy sector produced almost 80% of GHG emissions which is approximately 259 Mt a year (2019)

02

Climate change poses a threat to the global economy, trade and financial system, with potential losses amounting to nearly 10% of GDP by 2050

03

The EU introduced the Carbon Border Adjustment Mechanism (CBAM), which could affect up to 57% of exports to the EU by 2026 comprising key industries such as iron, steel, aluminium and consumer appliances

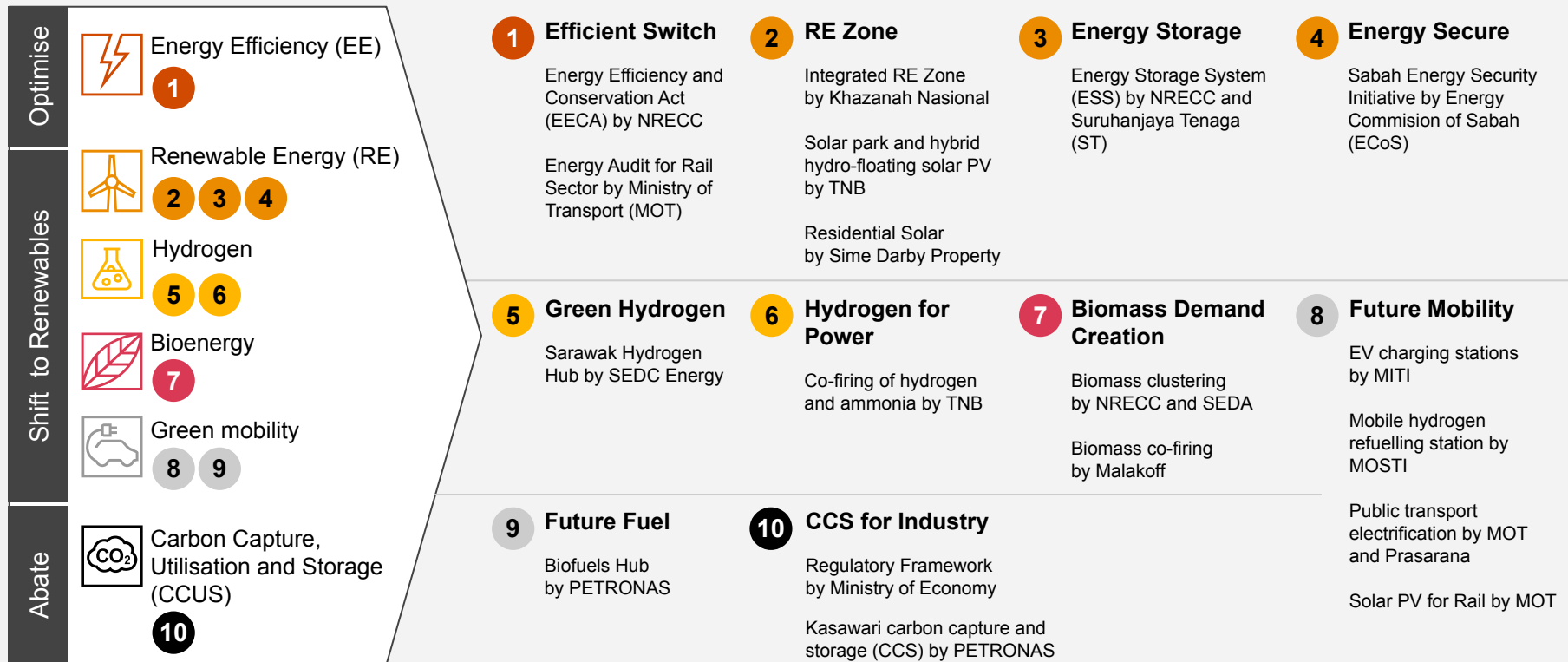
04

The US introduced the Inflation Reduction Act (IRA), which prioritises the production and demand for domestically produced clean energy goods and services over imported ones

Source: NETR (2023), Swiss Re Press Release (2021)

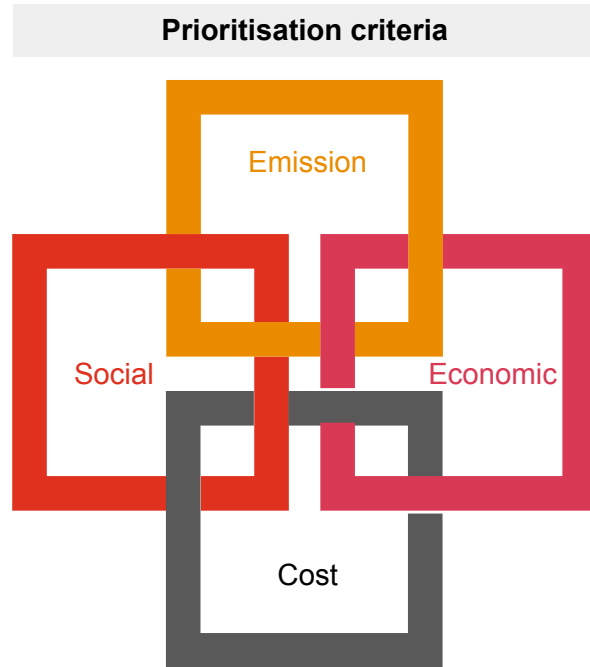


NETR identified 6 levers comprising 10 flagship catalyst projects reducing GHG by at least 10 Mt per year



NETR has outlined the prioritisation criteria for Energy Transition initiatives

Understanding the 4 prioritisation criteria will allow players to evaluate projects that are impactful and aligned with national aspirations

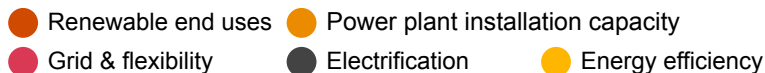
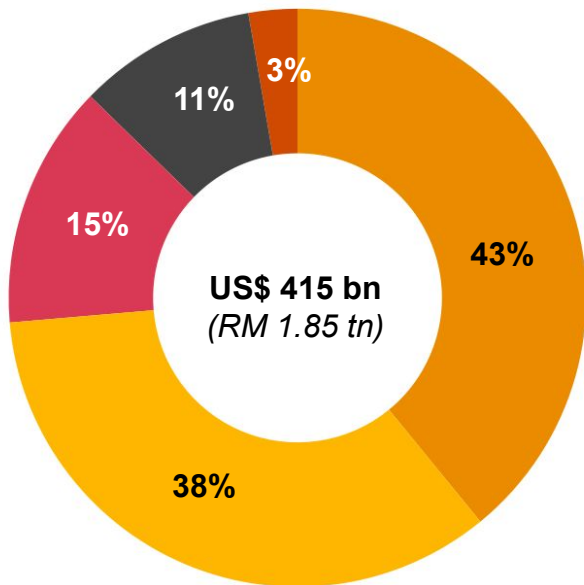


- ☐ **Emission reduction potential**
Projects must have a measurable benefit in reducing greenhouse gas (GHG) emissions to be considered as impactful
- ☐ **Economic opportunities**
Projects shall be able to propel high impact industries including MSMEs, attract investments and generate job opportunities
- ☐ **Cost effectiveness**
High upfront investments must be backed by reasonable long term yield, especially on nascent technology, to ensure they are feasible
- ☐ **Social inclusiveness**
Initiatives shall take into account job security, wellbeing and its benefit to the communities and future generations

Energy Transition initiatives are estimated to require up to RM1.85 tn in financing



Malaysia Energy Transition Outlook (METO) estimates US\$415 bn cumulative investments are required for the 1.5 Celsius with 100% RE generation scenario



Key takeaways

- To achieve the target of 70% RE capacity by 2050, **approximately RM637 bn** in investments is required
- The 10 flagship projects listed in the NETR would generate **almost RM25 bn** in investments
- Opportunities worth **up to RM1 tn** are up for grabs beyond the transition to renewable energy such as smart grid, energy efficiency initiatives and energy storage solutions

Takeaways for businesses



1

Authenticity and the courage to be bold

Sustainability vision and goals have to stem from **authenticity** and be **seamlessly integrated** into an organisation's business strategy, practices and culture rather than an add on. Energy transition should be at the core in building a strategy to ensure long term sustainability. Investments that **move the needle** are needed to create the momentum required.

2

Strategic trade-offs may be required

Leaders need to make important decisions that may require **trade-offs**. These trade-offs depend on your sustainability vision, mission and goals and anticipated developments in the macro environment and your respective industries, balanced with commercial perspectives.

3

Getting the timing right

Mass-market adoption of most new technologies require an average of 30-40 years. The technologies required to enable energy transition may be reaching **inflection point soon** and different technologies are becoming available and commercially viable at different stages. A comprehensive strategic framework such as a **capabilities-driven strategy** or a **fit for growth strategy based plan** is critical to better prepare a company to remain competitive and be ahead of the curve.

4

Cross-functional team is required to implement sustainability in any organisation

Implementing sustainability in any organisation requires an effective cross-functional team as sustainability initiatives cut across various aspects of the organisation, impacting multiple departments and functions. This is essential for successful transition and implementation. As transition can be complex and multi-layered, it helps to facilitate change management, alignment with business goals and strategies, data sharing and reporting, resource optimisation and to work towards one vision.

Supporting you in exploring opportunities from the onset

Our experience and expertise:



Strategy

Sustainability strategy and roadmap

We provide support with **planning and delivery** of a strategy and roadmap which includes conducting **due diligence** for any acquisition, deals, **M&A strategy** and sourcing that will further strengthen sustainability goals.

Materiality assessment and sustainability framework

Our assessment tool evaluates a company's current challenges that are **most material or impactful** to the company's long term success. The team will then develop-a **framework that aligns** with the prioritised material issues and strategy. This includes setting goals, defining key performance indicators (KPIs), and establishing monitoring and reporting mechanisms.

Feasibility study on new opportunities

Evaluates the **practicality and viability** of a particular project or investment in renewable energy, energy efficiency, or other sustainable practices which includes market, financial, risk assessment and stakeholder impact analysis.



Transformation

Energy transition integration

We leverage PwC proprietary tools to develop an **actionable strategy** which evaluates the company's core capabilities, ways to play and products and services as part of the integration with the energy transition strategy. **Initiatives** to support this strategy will be identified and prioritised for the company's next steps.

Infrastructure planning

We assist companies to develop roadmaps to **decarbonise infrastructure assets**, operations, and to plan, procure and execute successful capital projects to meet time, cost and quality metrics.

Just transition

We help to ensure that the shift towards sustainability is not only environmentally responsible but also socially **equitable and respectful of human rights**. This is done by conducting social impact, labour rights and protections assessment and stakeholder engagement.



Reporting & Assurance

Data collection, integration and analysis

We establish a data collection process for each indicator and develop data collection templates to ensure consistency and standardisation. With the collected data, analytical tools such as data visualisation platforms, statistical analysis tools or dedicated ESG data management platforms can assist to **capture impact**.

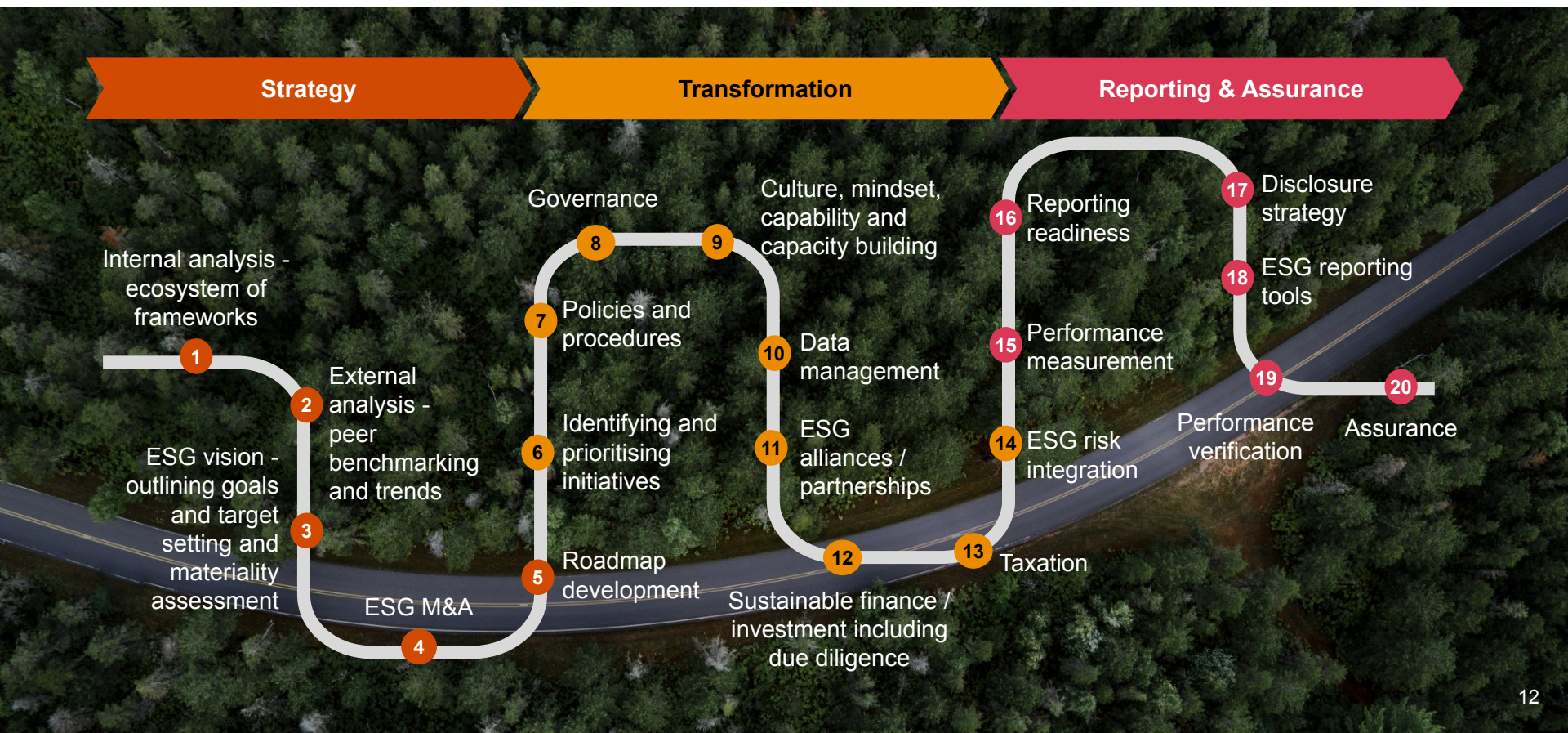
Climate reporting

Assess **compliance** with reporting disclosures (such as Task Force on Climate-related Financial Disclosures (TCFD) and Sustainable Finance Disclosure regulation and provide monitoring and reporting systems.

Assurance and performance verification

We help build confidence among stakeholders to ensure that the company's sustainability claims are **accurate and reliable** by conducting sustainability reporting assurance, energy efficiency performance verification, compliance audits and more.

Navigating your energy transition journey with PwC



Let's have a chat



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