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The Critical Role of Electric Vehicles in Malaysia's New Industrial Master Plan (NIMP 2030)

*Tham Siew Yean**



Prime Minister Anwar Ibrahim launching the New Industrial Master Plan 2030 on 1 September 2023. Source: Ministry of Investment, Trade and Industry (MITI), Malaysia. Source: <https://www.facebook.com/MITIMalaysia>.

** Tham Siew Yean is a Visiting Senior Fellow at ISEAS – Yusof Ishak Institute and Professor Emeritus, Universiti Kebangsaan Malaysia. The views expressed in this Perspective are the author's personal views. The usual disclaimer applies.*

EXECUTIVE SUMMARY

- The NIMP launched this year has shifted industrial policy from a sectoral to a mission approach. Essentially, four cross-cutting challenges are to be overcome, namely advancing economic complexity, using tech-up for a digitally vibrant nation, pushing for net zero and safeguarding economic security and inclusivity.
- Electric Vehicle (EV) development is one of four new growth areas adopted for the plan due to its numerous linkages with other sectors and its potential spillovers onto these.
- The NIMP complements existing initiatives for EV development as encapsulated in the National Automotive Policy (NAP), and budget incentives given in 2022 and 2023 to drive up demand as well as the charging infrastructure.
- The NIMP focuses on supply-side development in the EV value chain, including the development of affordable EVs.
- Although the sector's development is parked under the mission towards net zero, the different segments of the EV value chain also provide opportunities for this sector to engage with other missions as well.
- Outstanding challenges for the EV sector, if EV is to be a means to shift towards net zero carbon emissions (or net zero), includes the need to repurpose fuel subsidies for green vehicle transition and to increase renewable sources for the electricity grid of the country.

INTRODUCTION

In the Ekonomi Madani Framework, strengthening the national economy and elevating the quality of life are medium-term goals in the country's economic transformation journey. For this to happen, revitalizing manufacturing development is necessary; it has been shown that for middle-income countries, it is manufacturing that pulls in services, accelerates technological accumulation, and enhances the utilization of human capital and economic institutions.¹

The ambition to reindustrialize has been driven by concerns over the decline in the share of manufacturing to Gross Domestic Product (GDP), which peaked at 31% in 2000. Manufacturing's share fell to about 23% in 2010, and hovered around 23%-21% until the Covid years of 2020-21 when it showed a slight increase. This is attributed to a greater contraction in services value added over 2019-2020 due to the lockdown and to its slower recovery in comparison to manufacturing. In 2022, manufacturing contributed 24% to GDP, indicating a small rebound and possibly a new trend that the government is keen to take further with appropriate policy actions.

The recently launched NIMP 2030 (New Industrial Development Master Plan 2023-2030) represents the policy measures that are being proposed to reinvigorate manufacturing using a whole-of-nation approach. This Perspective outlines the state of electric vehicle (EV) development in Malaysia, salient features of the NIMP 2030, and how the plan uses electric vehicle (EV) development as a new catalyst for growth.

The EV sector in Malaysia

It is understandable that the EV sector has been chosen as a key growth driver. After all, Malaysia has the third-largest automotive industry in Southeast Asia, after Indonesia and Thailand; the automotive sector contributed around 4% to the country's GDP in 2021.² Input-output analyses have found that the multiplier effects of this sector on both domestic and inter-sectoral linkages are approximately three for G7 countries.³ In other words, a USD1 increase in the value added delivered by the automobile industry would increase output three-fold, to USD3. This multiplier effect level is at or close to the top of what is observable in other industries, and certainly stronger than the average across industry. Along the same lines, the NIMP highlights several sectors that can gain from the development of EVs, namely petroleum industry for plastic components, metal industry for steel and aluminium, E&E industry for silicon wafer, textile industry for upholstery, rubber industry for tyres and chemical industry for batteries.

Existing Initiatives before NIMP 2030

Prior to the NIMP, several initiatives had been launched to foster the development of EVs. Notably, the National Automotive Policy (NAP) 2014 aimed to develop Malaysia as a regional hub for Energy Efficient Vehicles (EEVs); these are defined as vehicles that meet a set of specifications in terms of carbon emission and fuel consumption.⁴ EEVs can be internal combustion engines (ICEs), hybrid vehicles, EVs, as well as fuel cell vehicles. Incentives were provided to attract investments for the manufacture and assembly of EEVs, including EVs. These include income tax exemption of 70% to 100% for 5-10 years for investors

manufacturing/assembling EVs and critical components based on pioneer status, and income tax allowance of 60% to 100% for a period of 5-10 years. Customised incentives of up to 100% import and excise duty exemptions for EVs and up to 85% for Plug-in hybrid EV (PHEVs) are also provided. The subsequent NAP 2020 launched in 2020 retained the same goal and definition of EEV.

However, this overly broad definition did not attract investments in EVs and instead encouraged existing ICE manufacturers such as Proton, Perodua and the Japanese automakers to upgrade their ICE models in production to the standards defined for EEVs so as to qualify for the incentives rather than to invest in brand new manufacturing production lines or facilities for EVs.⁵

The demand for EVs has been limited by concerns over the travel range of battery electric vehicles (BEVs) based on a single charge; this is exacerbated by the fact that the charging infrastructure in Malaysia remains underdeveloped. Hence, budget 2022 and 2023 introduced specific incentives to stimulate the demand for EVs as well as the development of charging infrastructure. Companies contributing to building EV infrastructure in Malaysia will benefit from government incentives, such as tax breaks (Table 1). Furthermore, the government also plans to install 10,000 charging stations by 2025 under the Low Carbon Mobility Blueprint.⁶

Table 1. Incentive packages for EVs, in Budget 2022, 2023

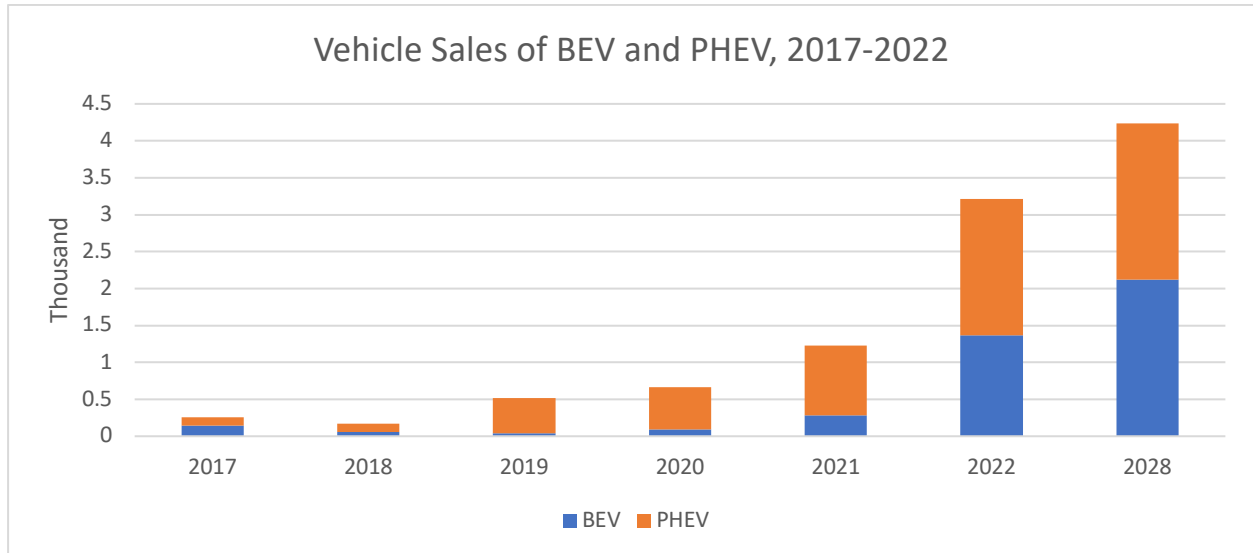
Incentives	Budget 2022 End-date	Budget 2023 End date
Full exemption of import duty and excise duty for imported Completely-Built-Up (CBU) EVs	2023	Extended to 2025
100% Road tax exemption of EVs	2025	2025
Full exemption of import duty and excise duty and sales tax on locally assembled EVs or Completely Knocked-Down (CKD)	2025	Extended to 2027
Tax exemption for the import of EV components	2025	2027
100% road tax exemption	2022	
Full tax exemption for EV-charging equipment manufacturers as well as a complete Investment Tax Allowance for them	None	2023-2032; Five years
Individual income tax relief of up to RM2,500 for the installation, rental, and purchase costs of EV-charging facilities	For year of assessment (YA) 2022-2023	For year of assessment (YA) 2023
Companies are provided a tax deduction for rented EVs with a maximum qualifying amount limited to no more than RM300,000.	None	2023-2025

Source: Compiled by author

These incentives stirred the interest of manufacturers to bring their EV models to Malaysia, thereby creating more choices for customers, especially in terms of pricing. For example, Sime Darby brought in BYD EVs into Malaysia in 2022.⁷ BYD is China's largest EV manufacturer.

As shown in Chart 1, sales of BEVs increased between 2021 and 2022, albeit from a low base and it is projected to increase further to 2028, given planned increases in charging stations.

Chart 1. Vehicle Sales of BEV and PHEV, 2017-2022



Note: BEV: battery EVs; PHEV: Plug in hybrid EV

Source: Statista (<https://www.statista.com/outlook/mmo/electric-vehicles/malaysia#unit-sales>)

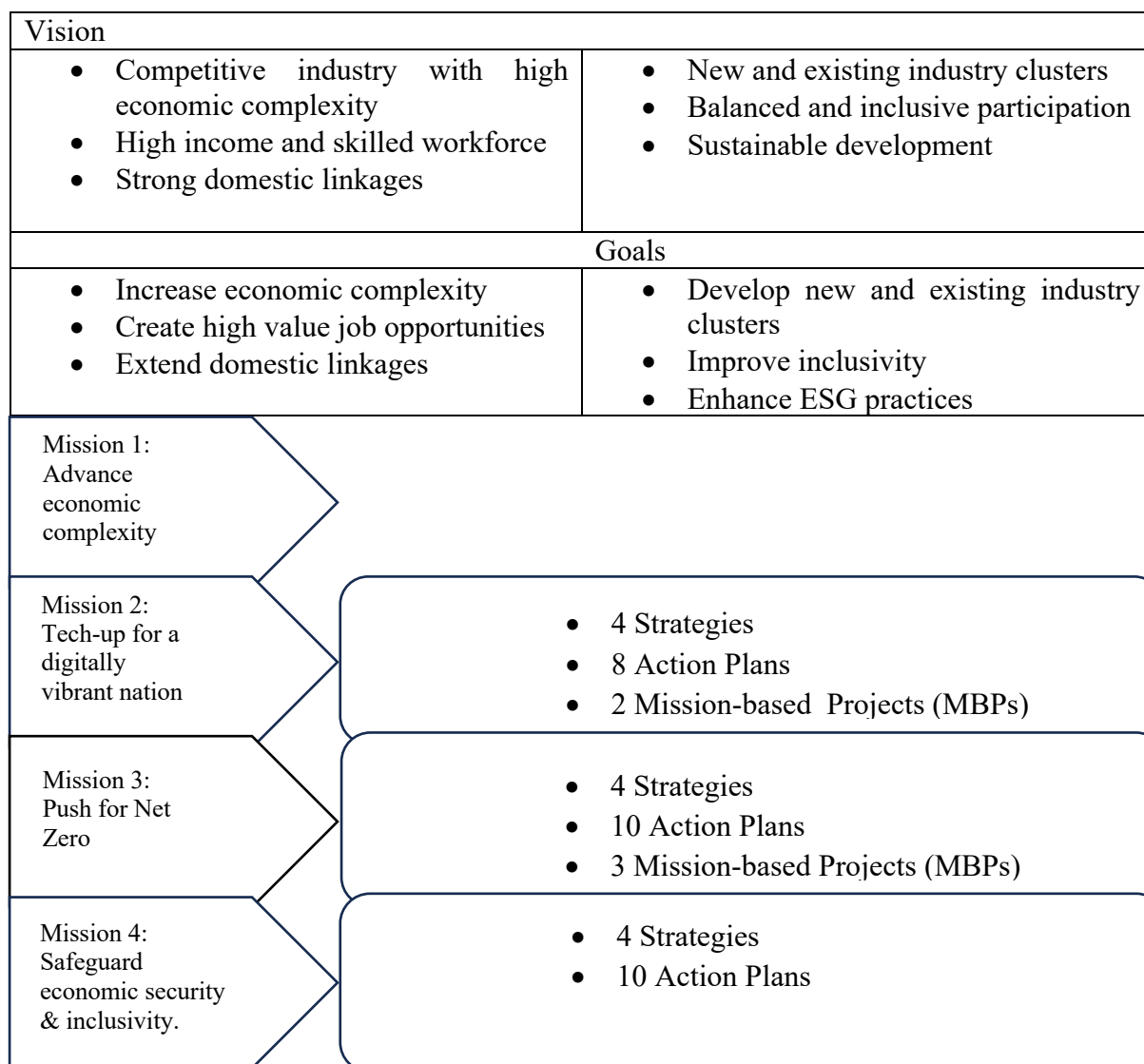
MITI also introduced the Battery Electric Vehicle Global Leaders Initiative (BEV GLI) in 2023 which allows foreign companies to sell cars in Malaysia without Approved Permit (AP) rules, thus making imported vehicles cheaper. Tesla was brought into Malaysia under this programme in the same year. Tesla is required to contribute towards the charging infrastructure; it is required to install at least 50 units of DC fast chargers within three years, and to open at least 30% of these for public use.⁸

NIMP 2030

The NIMP 2030 covers manufacturing development and manufacturing-related services. The vision and goals of the plan are shown in Figure 1. These are aligned with the National Investment Aspirations (NIA)⁹ launched in October 2022.

Shifting from the traditional sectoral approach, the plan adopts a mission approach, patterned after Mariana Mazzucato’s “Mission Economy”.¹⁰ This approach raises the use of visionary missions to trigger change and to facilitate various knock-on effects. The plan identifies four missions or cross-cutting challenges that need to be addressed if manufacturing is to help achieve its vision and goals. They are: advancing economic complexity; using tech-up for a digitally vibrant nation; pushing for net zero and; safeguarding economic security and inclusivity. Each mission is accompanied by specific strategies and action plans as well as mission-based projects (MBPs) or catalytic projects meant to ignite the change process and crowd in other projects during the duration of the plan.

Figure 1. Salient Features of NIMP 2030



Source: Author’s representation of structure of NIMP

Four new growth areas are identified in the NIMP 2030, namely advanced materials, electric vehicles (EVs), renewable energy, and carbon capture, utilization, and storage (CCUs). The case study below outlines how the NIMP aspires to facilitate the growth of EV industry, based on the framework of the plan.

EV DEVELOPMENT IN NIMP 2030

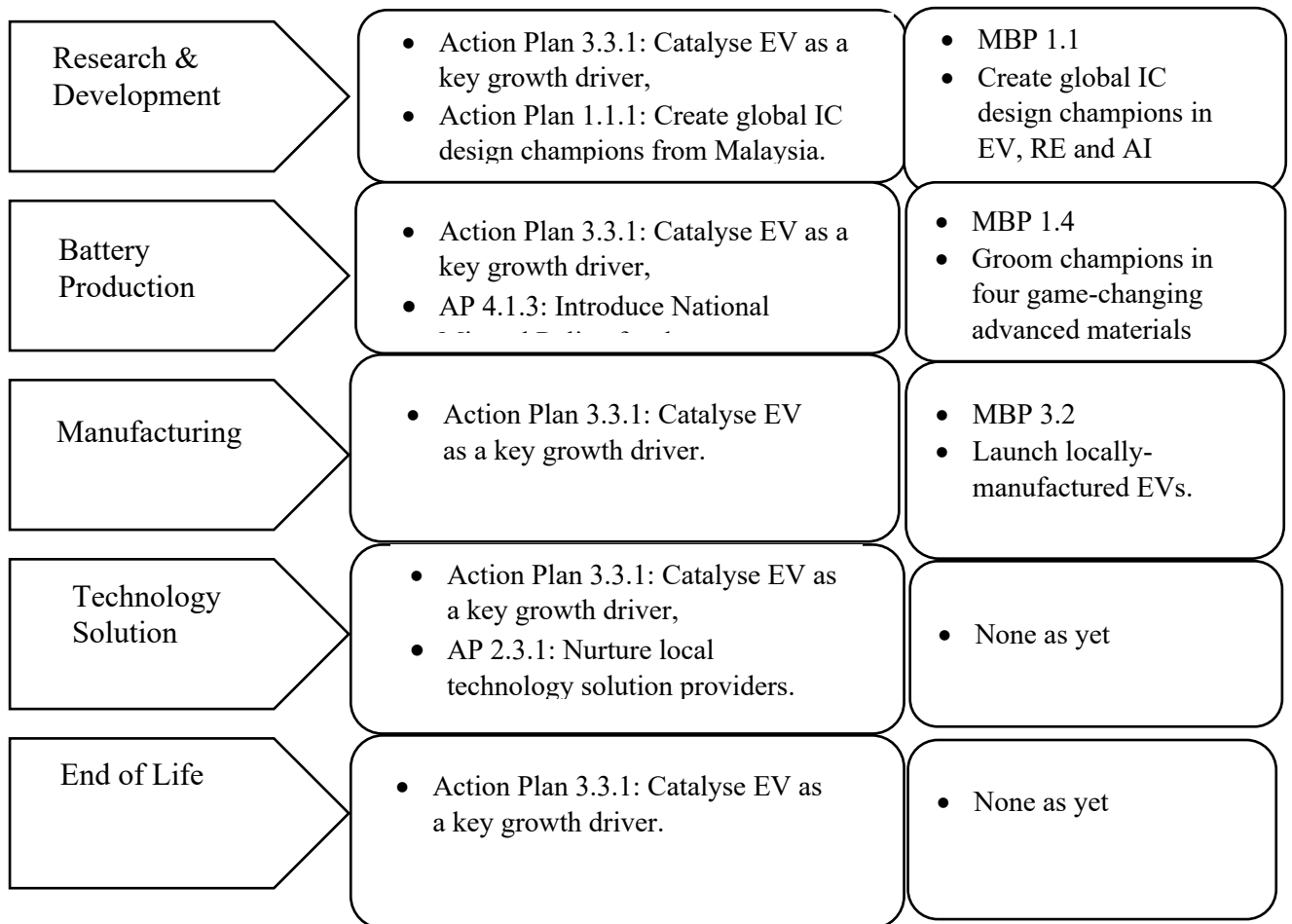
To complement the broad strokes of the NAP and the above-mentioned initiatives, NIMP 2030 focuses specifically on developing the EV value chain, lending greater substance for EV development based on concrete action plans (column two in Figure 2) and mission-based projects (column three in Figure 2)).

An important contribution of the NIMP is the use of MBPs to generate change in the desired direction. Affordable EVs remain a question as EV cars assembled locally or imported are all priced above RM100,000.¹¹ This is seen as a move to protect Proton and Perodua, the two national cars that manufacture cars priced below RM100,000. Thus, it is not surprising that the MBP for this action plan, which is to catalyse EV as a key growth driver, has Perodua committing towards the local assembly of affordable EV models, reportedly with a Japan partner, as its mission-based project (MBP3.2 in Figure 2).¹² This will address the affordability needed to stimulate local demand. Perodua has an estimated 39% of the car market share in Malaysia in 2022;¹³ it is to launch a hybrid in 2024 and an EV in 2027.¹⁴

Although the development of EV is parked under mission 3 as a push for net zero, the value chain allows for the engagement of other missions in EV development (Figure 2). For example, for mission 1 – advancing in economic complexity – the plan envisages the development of local integrated circuit (IC) designs that can also be used for EVs. Likewise, the development of battery production can tap into mission 4, which is to safeguard economic security and the action plan on the introduction of a national mineral policy for downstream processing. Local technology solution providers raised under mission 2 – tech-up for a digitally vibrant nation – can be harnessed to provide technology solutions needed for EV development.

The NIMP has identified some initial MBPs and it is important to note that the plan hopes to rope in more of these; thus, any company can propose to MITI to have a MBP in any segment of the EV value chain as long as it meets the mission's task.

Figure 2. The EV Value Chain in NIMP 2030



Note: AP: Action Plan

Source: Author

IMPLEMENTATION OF NIMP 2030

NIMP recognises implementation as the key for moving ahead in industrial development, including the EV sector. The plan therefore devotes one whole chapter to implementation. The governance structure and monitoring mechanism for the plan includes a National NIMP 2030 Council, which is to be chaired by the Prime Minister, and which includes the ministers from key ministries involved. The Council is to meet annually to review progress. Quarterly reviews will be conducted by the NIMP Steering Committee, which will be chaired by the Minister of MITI, with representatives from relevant ministries. At the last level is the Delivery Management Unit (DMU), which will monitor development of the four missions.

The plan promises to increase transparency in the reporting mechanism through periodic reporting, and a mid-term review at the end of 2026. A dashboard (NIMP Dashboard), whereby progress over time will be shown, will be hosted by MITI. In the case of the EV sector, Perodua

as a MBP will have to report regularly the progress made in the production of affordable EV and determine the launch date for the car.

OUTSTANDING CHALLENGES IN EV DEVELOPMENT: POLICY GAPS

Although the NIMP provides greater granularity for EV development in the country, two challenges remain outstanding.

Fossil Fuel Subsidies: Demand Constraints

Fossil fuel subsidies create a great disincentive for consumers to shift to alternative fuels. In particular, RON 95 is usually used for motor vehicles with an engine capacity of 2,500 cc and below, which is usually the cars used by the lower income groups. RON 95 and diesel are subsidised, with the amount of subsidy dependent on the difference between the price at pump in Malaysia and the market price per litre.¹⁵

Rising world oil prices escalate the amount of subsidy to extents that make it unsustainable. For example, in 2022, the rise in oil prices due to the Ukraine war led to a hike in the fuel subsidy; that year alone, it amounted to RM50.8 billion and made up 17% of the government's annual expenditure and 75% of the country's total subsidy bill.¹⁶

The government has already announced its intention to shift towards targeted subsidies, starting with fuel subsidy for electricity and diesel, based on household disposable income, starting from 2024.¹⁷ This shift will subsequently extend towards the subsidy for RON 95.

While this will reduce the subsidy burden on the government, it also implies that recipients of targeted subsidies will continue to use fossil fuel, thereby retarding the shift towards EVs and constraining the use of EVs to shift to net zero as planned in the NIMP.

A better option would be to repurpose fossil fuel subsidies for the shift towards EVs.¹⁸ Purchase price subsidies have been used in other countries to facilitate EV adoption; a shift towards greener transportation to reduce carbon emissions will also reduce the negative externalities from using ICE cars.

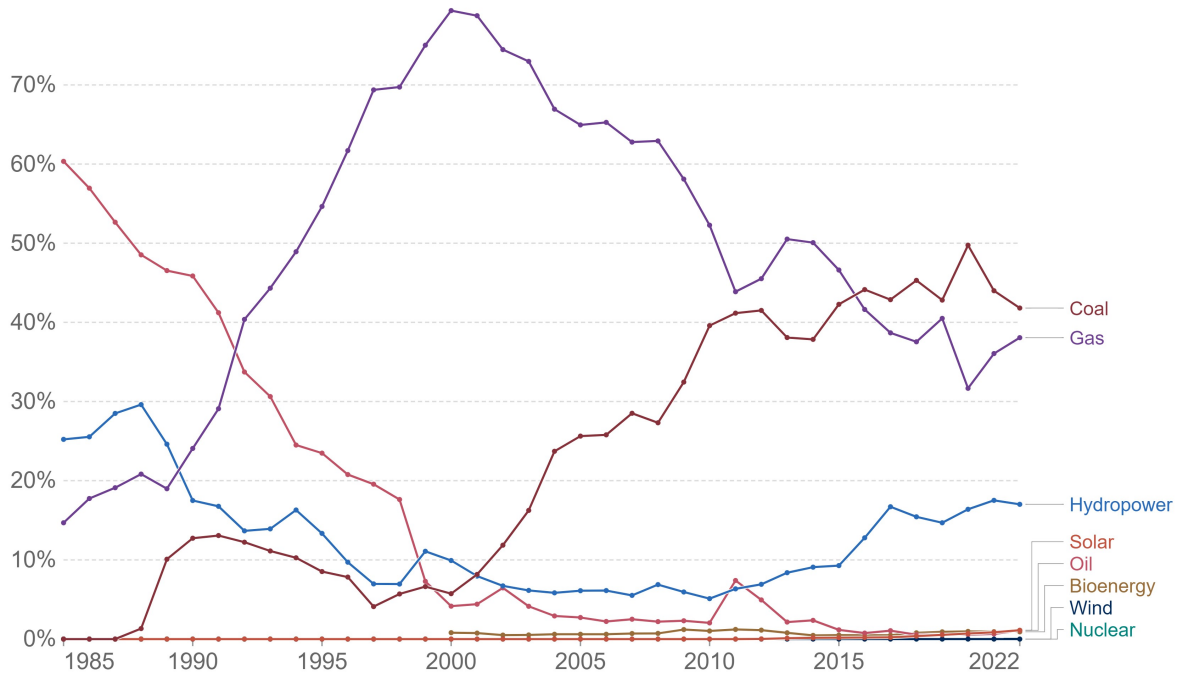
Greening the electricity grid

One key motivation for pushing EV is the push to net zero. However, EV can only facilitate the transition to net zero if the electricity grid is powered by renewable energy. But Malaysia still relies mainly on coal, oil and gas, which contribute as much as 81% for generating electricity, as shown in Chart 2. The use of EVs can only serve to reduce carbon emissions if the share of renewables increases drastically. In developed countries such as Switzerland, which is ranked as the most EV-friendly country in the world,¹⁹ the share of fossil fuels in electricity generation is only 3.6% in 2022.²⁰

Tenaga Nasional has outlined a plan to increase the share of renewables to 31% by 2025 and reduce the use of coal by 50% by 2035 and by 100% by 2050,²¹ but whether these targets can be achieved as planned remain to be seen.

Chart 2. Share of electricity production by source in Malaysia

Share of electricity production by source, Malaysia



Source: Ember's Yearly Electricity Data; Ember's European Electricity Review; Energy Institute Statistical Review of World Energy
OurWorldInData.org/energy • CC BY

Source: ourworldindata.org

CONCLUSION

The NIMP has shifted industrial policy from a sectoral to a mission approach. Essentially, four key cross-cutting challenges need to be overcome, namely advancing economic complexity, using tech-up for a digitally vibrant nation, pushing for net zero and safeguarding economic security and inclusivity.

EV development is one of four new growth areas adopted for the plan due to its numerous linkages with other sectors and hence its potential spillovers onto these sectors. The NIMP complements existing initiatives for EV development as encapsulated in the National Automotive Policy (NAP), and budget incentives given in 2022 and 2023 to drive up demand as well as development of the charging infrastructure. The NIMP focuses on supply side development in the EV value chain, including the development of affordable EVs. Previous supply plans were focused on imported EVs in the premium segment.

The action plans and the mission-based projects approach outline the government's policy directions. While the sector's development is parked under the mission towards net zero, the different segments of the EV value chain will also provide opportunities for this sector to engage with the other missions as well.

Be that as it may, the EV sector faces outstanding challenges. These include repurposing fuel subsidies for green vehicle transition and increasing the renewable sources of energy for the electricity grid of the country.

ENDNOTES

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