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What the new electricity tariff means for you and the grid

The Edge, Malaysia

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BY EVAN NG CHEE YANG

The new electricity tariff under Regulatory Period 4 (RP4), set to take place from July 1, 2025, to Dec 31, 2027, is said to be a major reform in Malaysia's energy sector. This updated tariff indeed includes notable changes to the current tariff design which, if executed well, could promote the national agenda towards energy transition while ensuring power system security and resilience. Nevertheless, there are implications of the new tariff structure that need to be further highlighted and clarified to ensure that the well-intended enhanced tariff design can achieve its full potential.

Clarification needed on lower network costs

The Energy Commission has indicated that the network and retail charges component of the average base tariff will be reduced by about 5.6% from 13.75 sen/kWh to 12.98 sen/kWh (Figure 1).

While a lower tariff for consumers is welcome, there is a need to ensure that this cost reduction is a result of appropriate cost savings, such as improved efficiency, rather than cost-cutting that could result in a negative impact in the medium to long term.

This is because as a power system transitions towards a greater share of variable renewables (that is, solar power generation, which is intermittent and changes with weather conditions compared to more predictable and dispatchable sources like gas or coal power plants), the power system typically becomes more intermittent and requires greater investments in network infrastructure and power system balancing (for example, energy storage systems).

To this end, it will be important for Tenaga Nasional Bhd and the Energy Commission to explain the drivers behind a lower network cost to the public, including potential reasons like a large increase in demand that dilutes the unit cost of the network, or the country has unlocked more cost-efficient network development strategies, in order to provide confidence to consumers that the power system can remain resilient despite the reduced network costs.

Higher grid electricity costs for large energy users, like data centres, can drive investments in renewable energy but proactive measures are needed

While Tenaga has indicated that low- to medium-energy-consuming residential consumers are generally expected to realise electricity cost savings under the new tariff scheme (after considering energy-efficiency incentives for users with <1,000 kWh/month electricity, whose exact value has not been published at the time of writing), large energy users connected to the power grid, like a data centre, are projected to face significantly higher electricity costs under the new tariff structure (Figure 2).

This significant increase in grid electricity cost on high-voltage large energy consumers can make alternative low-carbon renewable procurement schemes, like the Corporate Renewable Energy Supply Scheme (CRESS) launched in September 2024, more attractive for large energy users such as data centres. However, appropriate measures and swift, proactive communication are needed to ensure that these market players can obtain sufficient information to quickly solidify their business case for procuring renewable energy directly with renewable developers via the CRESS scheme.

More specifically, the limited transparency of the calculation methodology of the currently high system access charges in RP3 — 25 sen/kWh for firm and 45 sen/kWh for non-firm power procurement in RP3 — under the CRESS scheme (which is effectively the cost of using the network and other services provided by Tenaga) presents a key concern for data centres that are keen to procure renewable energy directly from credible sources. This issue needs to be addressed alongside the anticipated increase in grid electricity prices.

Providing greater clarity on the calculation methodology, rationale and expected trajectory will be important for these large energy users to develop a solid investment case in support of Malaysia's energy transition agenda. This includes providing greater transparency on the linkage between the expected changes in network cost and the forward-looking trajectory for RP4 and beyond, which will be critical in helping investors build compelling business cases for renewable investments aligned with Malaysia's renewable energy goals.

Expansion of Time of Use tariff and a more immediate fuel cost pass-through is much welcomed but the execution to ensure appropriate translation of the price signal is critical

The expansion of the Time of Use tariff (that is, different prices for peak and off-peak periods) for residential customers (opt-in voluntary) and the expansion of the lower-price off-peak window from 10pm-8am to 10pm-2pm on weekdays and all day on weekends is a much-welcomed move that can benefit consumers and incentivise behaviour shifts that support the power system.

The update in RP4, if implemented well, can allow residential customers to schedule energy-intensive activities like running the washing machine or charging electric vehicles (EVs) during these off-peak periods and realise cost savings. For the power system, this move can shift demand from peak to off-peak periods, reducing the system burden and generation cost during peak times (that is, lower demand in peak periods means some of the more expensive generators, like gas power plants, will not need to be turned on to meet demand). Additionally, effective demand-side management can also encourage long-term behavioural shifts in society that could reduce system investment costs. For example, if the bulk of the expected electricity load for charging EVs in the long term can be shifted to off-peak hours when solar power is abundant or when demand is low (that is, 12-2pm), the power system will not need to develop as much excess power generation or energy storage capacity to handle the mismatch between renewable generation and demand in the long term.

On the other hand, the change from the biannual fuel price adjustment scheme of the imbalance cost pass-through (ICPT) mechanism to a monthly fuel cost adjustment scheme — the automatic fuel adjustment (AFA) mechanism — will allow more transparent and immediate reflection of fuel costs in consumers' bills. This mechanism, if executed well, can encourage behavioural shifts, where consumers adjust their electricity consumption patterns in line with market signals, promoting the adoption of more energy-efficient appliances or habits through price signals.

Nevertheless, while the above two updates in the RP4 tariff have the potential to unlock cost savings for both consumers and the power system, the concepts can be abstract and not immediately straightforward. Therefore, there is a need for Tenaga to help consumers understand the direct impact of these behavioural shifts on their bills, including sharing insights on potential savings (in RM per month) if a consumer shifts energy-intensive activities to off-peak periods, or providing advance notice of any fuel price adjustments when Tenaga receives its month-ahead fuel price forecast or when significant global events is expected to affect fossil fuel prices.

All in all, the recently announced new tariff structure under RP4 is a step in the right direction towards Malaysia's energy transition targets. However, its success hinges on clear communication, consistent transparency and thoughtful implementation. As the energy landscape becomes more complex, ensuring that consumers understand the new tariff design — and are empowered to respond accordingly — will be crucial. By building trust and enabling more informed energy choices, the reforms under RP4 can lay a strong foundation for a resilient, efficient and cleaner power system in Malaysia.

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FIGURE 1

Average base electricity tariff comparison across Regulatory Periods

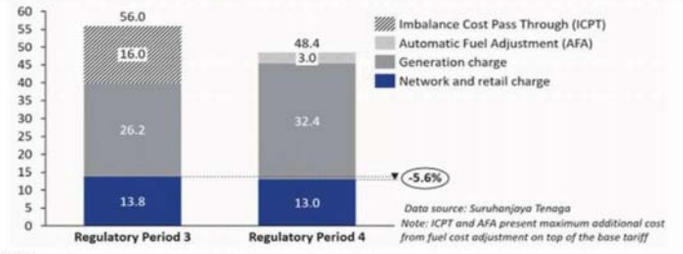

FIGURE 2

Indicative high-voltage non-domestic consumer bill comparison