

# ROADMAP TO MALAYSIA'S ENERGY FUTURE

As Malaysia accelerates its shift to a low-carbon future, TNB leads the way with major energy transition initiatives that invite consumers to be part of the solution.



MALAYSIA is on the cusp of a major energy transformation – and it's not just about megawatts and massive infrastructure.

It's about what happens when the switch you flip at home connects to a smarter, greener grid that works for you, the planet and generations to come.

Under the National Energy Transition Roadmap (NETR), Tenaga Nasional Bhd (TNB) is spearheading a shift toward a more sustainable and digitally enabled energy ecosystem.

From the rollout of large-scale solar farms and electric vehicle (EV) infrastructure to investments in green hydrogen and modernised power grids, TNB's initiatives are reshaping the way energy is produced, delivered and consumed in Malaysia.

Here's what you need to know – and how you can play a part.

## Big moves on a national scale

TNB's energy transition efforts are aligned with Malaysia's NETR, a government-driven plan to move the country toward net-zero emissions.

These aren't just lofty ambitions. TNB's roadmap includes real, tangible projects that are already making an impact, including:

- > **Utility-scale renewable energy:** TNB is rapidly expanding solar capacity through major solar farms in Chenderoh, Kenyir and Temenggor. Floating solar panels on dam surfaces help produce clean electricity while maximising land use.

- > **Centralised solar parks:** Five large solar parks – which would produce enough electricity to power tens of thousands of average homes, depending on their energy consumption – are being developed.

- > **Grid modernisation:** The national grid is being upgraded to be more resilient and intelligent, using advanced digital tools to manage energy flows more efficiently, especially with more solar and self-generated energy coming online.

- > **Green hydrogen and ammonia:** At power plants in Manjung and Jimah, TNB is piloting cleaner fuel sources like hydrogen and ammonia – developed in collaboration with PETRONAS – to eventually replace fossil fuels in heavy industries.

- > **Carbon capture and repowering:** In a bid to reduce emissions, TNB is trialling carbon capture technology that traps carbon before it escapes into the atmosphere. Meanwhile, in Terengganu, the Paka power plant is being upgraded to use newer, cleaner technology, with completion targeted for 2029.

These initiatives form part of TNB's "Reimagining TNB 2.0" strategy, which targets net-zero emissions by 2050 while building a more resilient and forward-looking electricity supply for the nation.

## Cleaner energy

One of the biggest steps TNB is taking toward a cleaner future is phasing out coal, a major contributor to greenhouse gas emissions. The company aims to reduce coal-fired power generation by more than half by 2035 – and eliminate it entirely by 2050.

In the meantime, investments in renewables and clean fuel trials are laying the groundwork for a more sustainable power mix.

These efforts aren't just about reducing emissions – they're about building an energy system that's adaptable, cost-efficient and ready for the future.

This transformation might sound technical, but it's already reaching households and businesses.

Whether you're in the M40 group upgrading your home with smart devices or a T20 household exploring rooftop solar, the future of electricity in Malaysia is arriving at your doorstep.

Here's how:

- > **Smart meters:** As at May 2025, over 4.6 million smart meters have been installed across Malaysian homes, helping users track daily

electricity usage and manage their bills more effectively via the myTNB App.

- > **Time-of-use tariffs:** You can now save by shifting energy use to off-peak hours – like running your washing machine at night – reducing strain on the grid and your expenses.

- > **Energy-efficient appliances:** TNB supports initiatives like the SAVE 4.0 rebate programme, which helped thousands of Malaysians upgrade to energy-saving fridges, air conditioners and more.

- > **A cash rebate of up to RM4,000** will be offered to residential customers who submit Net Energy Metering (NEM) application to Sustainable Energy Development Authority (SEDA) Malaysia from April 1 last year onwards and successfully commission their solar PV system installations with TNB.

- > **Green electricity tariff (GET):** Don't want to install solar? You can still go green by opting into GET, which lets you use electricity generated from renewable sources.

- > **myTNB App:** With more than 7.2 million subscribers,

the app is a one-stop platform for managing energy use, monitoring bills and making applications online.

## It's a two-way street

While TNB is taking the lead with large-scale investments, the energy transition isn't just top-down. Malaysians play a vital role too.

Every smart appliance bought, every off-peak kilowatt-hour consumed, and every EV driven contributes to a cleaner, more resilient grid. TNB has installed over 4.6 million smart meters in the homes of its customers.

TNB customers will be able to enjoy more control and empowerment through information on daily consumption and subsequently enjoy other features offered in the myTNB App, enabled by smart meters.

TNB is also running public education programmes like the Malaysia Energy Literacy Programme (MELP), which includes university modules and interactive exhibits at the National Science Centre – ensuring that Malaysians understand their role in this energy shift.

Consider a family in the Klang Valley who's installed rooftop solar panels, uses a smart meter to track daily consumption, and schedules their high-usage appliances to run during off-peak hours.

Not only are they saving money,

but they're also helping reduce the country's overall carbon footprint.

TNB is also powering the future of transport. About 20 TNB Electron DC Fast Chargers (DCFC) are now available for the convenience of EV owners, and the rollout is accelerating.

Through the GO TO-U mobile app, EV drivers can easily locate, reserve and pay for TNB Electron charging sessions.

## The road ahead

The energy transition is a long journey, but the direction is clear. By 2050, Malaysia envisions a low-carbon energy mix that is clean, secure and accessible.

For consumers, this means more control, better reliability and the chance to contribute to climate goals without compromising lifestyle or convenience.

The path forward isn't without challenges, but with TNB's leadership, cutting-edge technology and informed consumers, Malaysia is building an energy system fit for the future.

This isn't just happening to you – it's happening with you.

From the socket in your living room to the solar panel on your roof, the journey toward a smarter, greener Malaysia starts now.

**Learn how you can take part in shaping Malaysia's low-carbon future by visiting [www.tnb.com.my/sustainability](http://www.tnb.com.my/sustainability).**