Shifting Towards Greater Efficiency

The other Side of Malaysia's Energy Transition

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Strategy Report

KEY INVESTMENT HIGHLIGHTS

- NEEAP 2.0 targets an 11.6% reduction in energy demand by 2035, underpinned by RM36.6b of estimated investment across industrial, commercial and domestic users
- Shifts the energy transition narrative from building more generation capacity towards consuming energy more efficiently
- Mandatory energy-management and audit requirements can create the initial customer engagement, with the larger upside coming from conversion into retrofit and equipment-replacement works
- Renewable Energy, MEP and Consumer are potential beneficiaries. Companies mentioned in this report: **Tenaga Nasional (TP: RM16.40), Solarvest (N.R.), Pekat Group (BUY, TP: RM2.03), Samaiden Group (BUY, TP: RM1.88), Critical Holdings (N.R.), KJTS Group (N.R.), Solar District Cooling (N.R.), AWC (N.R.), BM Greentech (N.R.), Fiamma Holdings (N.R.), Khind Holdings (N.R.), Senheng New Retail (N.R.), Pensonic Holdings (N.R.), Panasonic Manufacturing Malaysia (N.R.) and Cuckoo International Malaysia (N.R.)**

National Energy Efficiency Policy and Action Plan 2026-2035 (NEEAP 2.0)

The Ministry of Energy Transition and Water Transformation (PETRA) launched the NEEAP 2.0 yesterday, marking the next phase of Malaysia's energy transition by shifting part of the focus from building more energy supply towards using existing energy more efficiently.

NEEAP 1.0 focused mainly on electricity and was constrained by the lack of a comprehensive mandatory framework. NEEAP 2.0 now covers both electrical and thermal energy and is anchored by the Energy Efficiency and Conservation Act (EECA) 2024, which came into force in Jan-25. This gives the Energy Commission statutory powers to obtain data, monitor compliance and enforce energy-efficiency requirements.

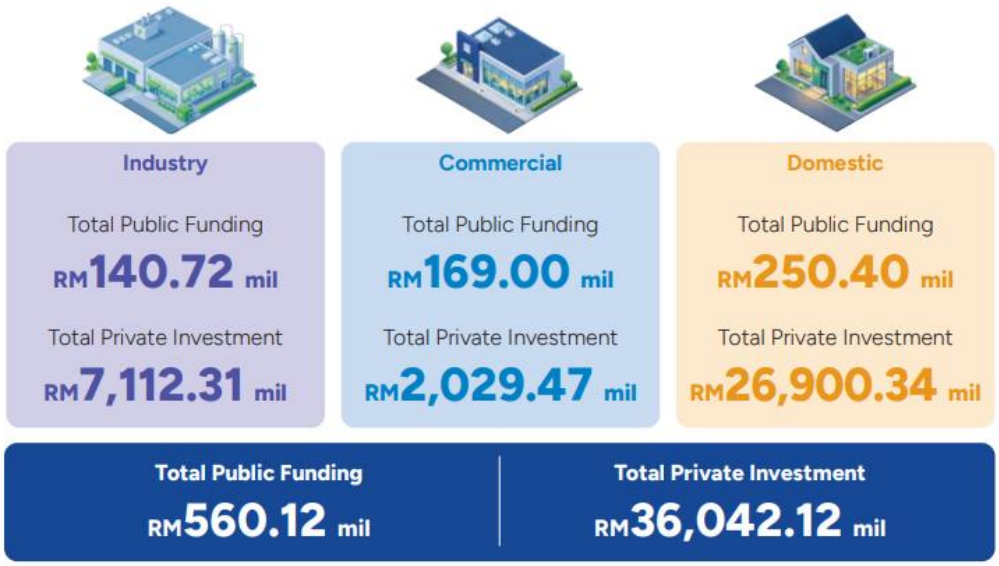
The headline target is an 11.6% reduction in energy demand against business as usual (BAU) by 2035. This means Malaysia is not targeting an absolute 11.6% decline in energy consumption but rather consumption in 2035 should be 11.6% lower than it otherwise would have been. BAU energy demand for the industrial, commercial and domestic sectors is projected at 1.466m TJ in 2035. After the projected savings, 2035 demand would be around 1.296m TJ, slightly higher than 1.238m TJ in 2026. NEEAP 2.0 projects cumulative savings over 2026 – 2035 to amount to 815,382TJ, equivalent to RM85.2b of energy savings. For context, 815,832TJ is equivalent to 226.6TWh (Peninsula's annual electricity demand is about 133.9TWh in 2025). The target is expressed in TJ rather than MWh as it captures both electrical and thermal energy savings, including electricity as well as fuels used for industrial heating, steam and other processes

The industry sector is where most of the actual energy savings will come from. Around 69% of cumulative savings are expected from industry, versus 21% from commercial buildings and 10% from households. The commercial sector has the highest 2035 percentage reduction target at 13.2%, versus 11.9% for industry and 8.7% for domestic

The total investment over the decade is estimated at RM36.60b, but only RM560m comes from public funding. NEEAP 2.0 expects some RM36.04b, or 98.5% of the amount to come from the private sector. We note that the bulk of the private investment is attributed to the domestic sector at RM26.90b, which are largely associated with the adoption or replacement of more energy-efficient appliances. Industry represents RM7.11b and commercial buildings RM2.03b.

RM36.60b of investments from 2026-2035

Figure 1: Public and Private Investment for NEEAP 2.0



Source: NEEAP 2.0

Industrial Sector

The industrial sector is expected to deliver the largest share of NEEAP 2.0's energy savings, supported by 10 energy-saving measures (ESM) across energy management, utilities, production processes, electrical equipment and thermal systems. The measures span lighting and insulation, energy management systems, recommissioning and retro-commissioning, rationalisation of energy sources, energy-efficient utilities such as compressed air, steam and hot water, digitalised production, high-efficiency motors, heat recovery and solar thermal preheating. It is estimated to require RM7.11b of private investment and RM140.72m of public funding for the sector, with the largest private-investment components comprising RM1.68b for energy-efficient utilities, RM1.62b for high-efficiency motors, RM1.22b for digitalised production and RM952m for recommissioning and retro-commissioning.

Industry is where most of the actual energy savings will come from

Table 1: Energy Saving Measures (ESM) for the Industrial Sector

ESM			Projected sector savings (%)	Investment	RM'm
1	Lighting	- To be completed over 2-year period from 2026 - Installation of energy-efficient light fixtures, timer controls, motion and photoelectric sensors and lighting control systems	2	Private	299.0
2	Insulation	- To be completed over 5-year period from 2026 - Thermal insulation to prevent heating and cooling energy losses	2	Private	291.0
3	Energy Management System	- Implementation to commence in 2026 and continue throughout 10-year NEEAP 2.0 duration	8	Private	300.0

		- ISO 50001 Energy Management System, AEMAS Energy Management Gold Standard or other systematic energy management method.			
4	Recommissioning & Retro-Commissioning	- Recommissioning (ReCx) and RetroCommissioning (RetroCx) will identify shortcomings and provide opportunities to re-assess and re-adjust in order to optimise operational performance	8	Public	30.0
				Private	952.0
5	Rationalisation of Energy Sources	- To be completed over 3-year period from 2028 for all sub-sectors except transportation, machinery and wood products - Changing from conventional fuel-fired facilities to more efficient energy sources such as electricity or technologies such as heat pumps	2	Public	50.3
				Private	62.4
6	Energy-Efficient Utilities	- To be completed over 5-year period from 2028 - Energy-efficient utilities such as compressed air, steam, hot water will provide energy savings, minimise or eliminate leakages - Energy savings estimated to be 3% in electrical and thermal energy	12	Private	1,682.0
7	Digitalised Production Process	- Implementation over a 5-year period from 2029 - Using computerised control systems to support and improve manufacturing operations	4	Public	30.0
				Private	1,215.0
8	High Efficiency Motors	- Implementation over a 4-year period from 2029 - Implementation of High Efficiency Motor (HEM) IE3 motors, classified as 'premium efficiency' motors in accordance with IEC/EN 60034-30-1 for the power range of 0.12 to 1,000kW	4	Public	29.0
				Private	1,620.0
9	Heat Recovery	- Implementation over a 5-year period from 2030 - Heat recovery using equipment, such as economisers, heat exchangers and recuperators, to recover waste heat to improve energy utilisation, generate cost savings, reduce environmental impact and enhance workflow and productivity	6	Public	0.2
				Private	361.4
10	Solar Thermal Preheating	- Implementation over a 5-year period from 2029 for chemical, F&B, pulp and paper and textile sub-sectors - Harnessing solar heat energy through solar thermal collectors to supplement or replace the process preheating or heating requirements	5	Public	0.2
				Private	361.4

Source: NEEAP 2.0, MBSBR

Commercial Sector

Cooling-related opportunities

The commercial sector has the highest targeted reduction rate, at around 13.1%–13.2% by 2035. The programme focuses on offices, hotels, hospitals and retail buildings, where air-conditioning is typically the largest electricity load. The strategy is largely on improving the energy performance of existing buildings, with 11 ESMs grouped under energy audits, ACMV improvements and recommissioning/retro-commissioning. Projections are for RM2.03b of private investment and RM169m of public funding, with cooling-related measures forming a sizeable share, including RM450m each for high-efficiency chillers and waterside/airside improvements, RM500m for four proposed district-cooling systems, and RM122m for recommissioning or retro-commissioning. We view that this represents a predominantly building retrofit, HVAC and energy-management opportunity, with implementation expected to be driven by audits, building performance requirements and the economics of reducing electricity consumption.

Table 2: Energy Saving Measures (ESM) for the Commercial Sector

ESM			Projected sector savings (%)	Investment	RM'm
1	Energy Audit	- Proposed that government provide EA grant of RM40k per approved building - Direct EA grant of RM29m will cover 25% of private buildings from a total of 2,749 buildings exceeding 4,000 m2 GFA, targeted to be utilised within first 4 years of NEEAP 2.0 - Comprises office buildings, hotels retail and hospitals. Data centres are excluded	10	Public	58.0
				Private	137.0
2	Lighting	- To be actively pursued in the first 4 years of NEEAP 2.0 - Relamping to LED lighting	10	Private	137.0
3	Insulation	- Rectification and/or re-insulation to prevent energy loss due to deteriorating or defective thermal insulation of air-conditioning systems	1.5	Private	27.0
4	Energy-Efficient Chillers	- Replacement with energy-efficient (EE) chillers will entail replacement of associated equipment such as pumps and cooling towers - Public grant of RM250 per Refrigeration Ton (RT) may be maintained to achieve a wider reach but should preferably be increased to RM300/RT to account for cost increases since 2011 - Rollout targeted from Year 2 to 6 following EA reports	30	Public	30.0
				Private	450.0
5	Waterside & Airside Improvements	- Improve waterside and airside plants to optimise energy savings for the air-conditioning system, following the replacement of chillers with new configurations suited to a building's actual cooling load profile, which in the majority of cases tend to be oversized - Implementation from Year 1 to 9	21	Private	450.0
6	Heat Pumps	- Will benefit hotels and hospitals that are still using hot water boilers or other fuel-derived heating sources - Preferred technology are water-to-water or air-to-water heat pumps - Use of natural refrigerants (hydrocarbons) should also be considered instead of relying on high-GWP synthetic refrigerants - Private investment in the range of RM200k per building, targeted for 50% of 1,068 hotels and hospitals - Implementation from year 1 to 6 following EA reports	3	Private	107.0
7	Heat Recovery Wheels	- Applicable to all commercial building types with central riser exhausts or spaces with high ventilation rates - Implementation from Year 2 to 5	1	Private	29.0
8	Solar Thermal Cooling	- More efficient than solar PV in terms of harvesting solar heat but technology has not advanced in Malaysia - Public funding of RM20m is proposed to offset the	1.5	Public	20.0
				Private	40.0

		cost of implementing 3 example cases and is slated for Years 5 to 7			
9	Building Automation System including Maximum Demand Limiting	- Building Automation System (BAS) is an integrated building control system comprising hardware and software that enables the monitoring, control and optimisation of building services, including air-conditioning, ventilation, lighting and other electrical systems - By-Law 38A of the UBBL 1984 (amended 2012 and 2021) mandates EnMS (aka BAS) provision for a building with air-conditioned areas exceeding 4,000 m2 - Implementation from Year 3 to 10	5	Private	29.0
10	Recommissioning or Retro-Commissioning	- To realise truly high-performing EE buildings, it is imperative that Cx be fully implemented, and for that reason, where Cx is lacking in new buildings, ReCx or RetroCx need to be incentivised through the public funding of RM61m, aimed at assisting up to 30% of existing buildings. - Private investment is estimated to double that at RM122m. Implementation needs to be scheduled after all EE improvement works are completed, commencing from Year 3 to 9 and beyond	15	Public	61.0
				Private	122.0
11	District Cooling System	- Urgent need for the government to properly regulate this industry to secure a sustainable, long-term, mutually beneficial arrangement between providers and end users - Allowing time for development of said regulations, implementation is targeted from Year 7 onwards, with a projection for 4 DCS plants, each with a capacity of 10,000 RT	2	Private	500.0

Source: NEEAP 2.0, MBSBR

Domestic Sector

Cooling-related opportunities

The domestic sector accounts for by far the largest investment requirement under NEEAP 2.0, with RM26.90bn of private investment and RM250.4m of public funding, equivalent to 74.2% of the plan's total investment but it ranked lowest in terms of cumulative energy savings at only 10%. The strategy is centred on improving the efficiency of household appliances through tighter Minimum Energy Performance Standards (MEPS), including raising MEPS for 10 existing appliance categories, substantially increasing air-conditioner cooling seasonal performance factor (CSPF) requirements and introducing MEPS for LPG cooking stoves and electric water dispensers.

Table 2: Energy Saving Measures (ESM) for the Commercial Sector

ESM		Measure	10-year cumulative energy saving (TJ)
1	Refrigerators	Tighten MEPS	624.2
2	Lamps	Tighten luminous-efficiency MEPS	1,354.20
3	Air Conditioners	Substantially raise CSPF / expand coverage	48,818.10
4	Fans	Tighten MEPS	4,368.20
5	Televisions	Tighten MEPS	4,044.20
6	Washing Machines	Tighten MEPS	99.0
7	Microwave Ovens	Tighten MEPS	107.9
8	Electric Rice Cookers	Tighten MEPS	275.8
9	Freezers	Tighten MEPS	1,925.50
10	Electric Ovens	Tighten MEPS	556.9
11	Liquefied Petroleum Gas Cooking Stoves	New MEPS category	773.3
12	Water Dispensers	New MEPS category	585

Source: NEEAP 2.0, MBSBR

Our view

Opportunities in ESMs for industrial and commercial sectors

The NEEAP 2.0, together with the EECA creates a regulatory framework to systematically reduce the amount of energy required by factories, buildings and households. Of the headline RM36.60b figure, we believe the opportunities are concentrated in the estimated RM9.1b of industrial and commercial private investment, spanning industrial utilities, high-efficiency motors, automation, HVAC/chillers, heat recovery, M&E retrofits and district cooling, while the much larger RM26.9b domestic component reflects the adoption of higher-efficiency appliances.

Large industrial and commercial consumers required to appoint REM

The ESMs in NEEAP 2.0 are generally not blanket mandates but it is supported by the EECA, which mandates energy management, reporting and audits for major energy consumers and imposes minimum energy-performance requirements on designated buildings. For non-compliant buildings, the Energy Commission can require an improvement plan to be implemented, providing a regulatory pathway through which recommended efficiency measures can translate into actual capex. For instance, large industrial or commercial energy consumers using ≥21,600GJ over 12 consecutive months are required under the EECA requires to appoint a Registered Energy Manager (REM), establish and implement an Energy Management System (EnMS), submit annual reports and conduct periodic energy audits. The annual EE&C report must disclose both the measures proposed to improve efficiency and measures that have been implemented or remain unimplemented. Failure to appoint an REM and to establish an EnMS could result in fines of up to RM50k.

Savings targets dependent on project economics, corporate willingness to invest, household willingness to replace appliances

While NEEAP 2.0 provides a comprehensive blueprint for reducing Malaysia's energy intensity, much of the projected spending remains indicative rather than committed, with private-sector investment accounting for 98.5% of the total and most of the ESMs not subject to blanket mandatory implementation. We view that achievement of the plan's savings targets remains dependent on project economics, corporate willingness to invest, availability of financing and the effectiveness of future incentives and enforcement. The bulk of the investments are linked to the domestic sector which will mainly involve household appliance replacement, which we view as voluntary.

Neutral on Tenaga Nasional, potential beneficiaries

Overall, we view the NEEAP 2.0 to be neutral on **Tenaga Nasional (BUY, TP: RM16.40)**. To be sure, it is not a policy to reduce electricity demand but a plan to moderate future demand growth as compared to BAU. Nevertheless, Tenaga's earnings are also regulated under the Incentive Based Regulation (IBR) framework. For solar EPCC players such as **Solarvest (N.R.)**,

Pekat Group (BUY, TP: RM2.03) and **Samaiden Group (BUY, TP: RM1.88)**, they may potentially benefit from cross-selling energy efficiency/management solutions alongside solar and battery energy storage system (BESS).

include Solarvest, Pekat, Samaiden

Mechanical, electrical and process utilities (MEP) contractors may benefit from retrofit and upgrade works. Many of the industrial and commercial ESMs require physical modification of existing mechanical and electrical systems, including high-efficiency chillers, pumps, cooling towers, airside and waterside systems, building automation, lighting, motors, compressed-air systems, steam and hot-water utilities, as well as recommissioning and retro-commissioning works. Potential beneficiaries include **Critical Holdings (N.R.)**, **KJTS Group (N.R.)**, **Solar District Cooling (N.R.)**, **AWC (N.R.)**, **BM Greentech (N.R.)**, among others.

Potential beneficiaries are Critical, KJTS, Solar District Cooling, AWC, BM Greentech

If the RM26.9b investment in the domestic sector eventually materialises, this will be positive for certain consumer stocks as lower-efficiency products are progressively replaced by more compliant models. Names that will benefit from this include **Fiamma Holdings (N.R.)**, **Khind Holdings (N.R.)**, **Senheng New Retail (N.R.)**, **Pensonic Holdings (N.R.)**, **Panasonic Manufacturing Malaysia (N.R.)** and **Cuckoo International Malaysia (N.R.)**, among others.

Consumer stocks related to electrical appliances may benefit

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STOCK RECOMMENDATIONS

BUY	Total return is expected to be >10% over the next 12 months.
TRADING BUY	The stock price is expected to rise by >10% within 3 months after a Trading Buy rating has been assigned due to positive news flow.
NEUTRAL	Total return is expected to be between -10% and +10% over the next 12 months.
SELL	Total return is expected to be <-10% over the next 12 months.
TRADING SELL	The stock price is expected to fall by >10% within 3 months after a Trading Sell rating has been assigned due to negative news flow.

SECTOR RECOMMENDATIONS

POSITIVE	The sector is expected to outperform the overall market over the next 12 months.
NEUTRAL	The sector is to perform in line with the overall market over the next 12 months.
NEGATIVE	The sector is expected to underperform the overall market over the next 12 months.

ESG RECOMMENDATIONS* - source Bursa Malaysia and FTSE Russell

☆☆☆☆	Top 25% by ESG Ratings amongst PLCs in FBM EMAS that have been assessed by FTSE Russell
☆☆☆	Top 26-50% by ESG Ratings amongst PLCs in FBM EMAS that have been assessed by FTSE Russell
☆☆	Top 51%- 75% by ESG Ratings amongst PLCs in FBM EMAS that have been assessed by FTSE Russell
☆	Bottom 25% by ESG Ratings amongst PLCs in FBM EMAS that have been assessed by FTSE Russell

* ESG Ratings of PLCs in FBM EMAS that have been assessed by FTSE Russell in accordance with FTSE Russell ESG Ratings Methodology