Maybank Investment Bank

STRATEGY

Malaysia

# Malaysia ESG Quarterly (2Q/3Q23)

# More Carrots, Bigger Sticks

Maybank IBG Sustainability Research

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## 1H23 Sustainability flows + ASEAN Mobility: highlights

Global sustainable net fund flows remained challenging over 1H23 (2022: -70% YoY), declining 62% vs. 1H22 (Fig 1), with the contraction attributed to a difficult macro backdrop as well as continuing headwinds re anti-ESG campaigns/backlash in the US (political) and EU (greenwashing). However, helped by higher valuations, sustainable AUM rose to USD2.8t as at end-2Q23 (Fig 2; 2022: USD2.5t), while global green bond issuance is on track for a record year (Fig 5), with 1H23 debt issuance for environmentally-friendly projects (c.USD350b) outpacing fossil fuels (c.USD235b) for the first time. Domestically, the National Energy Transition Roadmap (NETR) is advancing a slew of clean energy initiatives, a crucial decarbonisation lever, while EV ambitions have been bolstered with investments from Tesla and Geely. Per the latest thematic report from MIBG's Sustainability Research team ("*ASEAN Mobility: Poised for EV Acceleration*", dated July 26, ASEAN is lagging, per EV car sales share of total vehicle sales at just 2.1% vs. 29% in China, 21% in Europe and a 14% global average (Fig 11).

## 2Q23 Sustainability newsflow: holistic progress

Overarching top-down "carrot and stick" policy initiatives are increasingly self-reinforcing/accelerating global bottom-up sustainability integration and decarbonisation. Subsidies and investments in the Inflation Reduction Act (IRA; 2022) are sparking a surge in climate-related projects in the US, including carbon capture/direct air capture (DAC; Fig 16), while pushing the EU to keep up – at the same time, the EU's Carbon Border Adjustment Mechanism (CBAM; 2026 kick-off; Fig 22) is prompting the US, UK and other countries to follow suit. On regulators, IOSCO last month gave their backing to the ISSB's (Fig 24) climate-reporting standards framework re establishing global baseline. Activity around climate tech is hectic; we flag potential breakthroughs in ocean-based carbon capture (pg.9), natural hydrogen (Fig 18) and geothermal (Fig 19), while noting "carbon insetting" (Fig 21) is starting to eclipse increasingly-discredited carbon offsets.

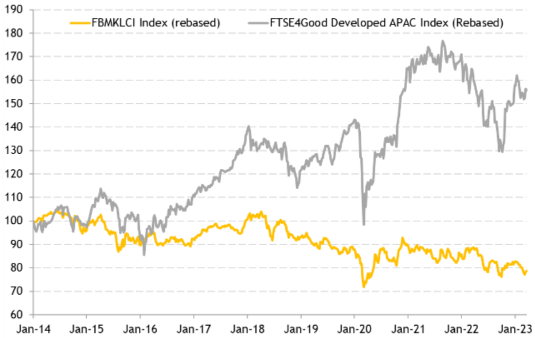
## 2Q23 MY Sustainalytics scoring: trends, standouts

Reviewing the 2023 YTD quarterly data re Sustainalytics scores for our Malaysian stock coverage, the overall bias remains broadly positive, with only the Consumer, Telcos and Utilities sectors showing a somewhat mixed trend (Fig 31). Notable rating improvements (Fig 32) were for CTOS (risk rating improved to Medium, from High), **Sunway** (improved to a relatively rare Negligible risk) and AEON (from Medium to Low). Separately, YTL Power remains the only coverage stock scoring >50 (i.e. Severe risk).

## MY ESG Portfolio: continuing to outperform

Per Fig 34, backtesting our 15-stock ESG Portfolio (Fig 33) to end-Aug yields annualised returns of +1.3%/+6.3%/+1.8% over 1/3/5 years, outperforming market coverage, MSCI Malaysia and the 38 filtered stocks (Appendix 2).

### KLCI vs. FTSE4Good APAC Index




### Top BUY picks (General Portfolio)

| Stock | BB Ticker | Price | TP | Upside (%) |
|---|---|---|---|---|
| **Large Caps** | | | | |
| Public Bank | PBK MK | 4.19 | 5.05 | 20.5% |
| CIMB Group | CIMB MK | 5.78 | 6.50 | 12.5% |
| Hong Leong | HLBK MK | 20.06 | 23.00 | 14.7% |
| Telekom | T MK | 4.97 | 6.50 | 30.8% |
| MR D.I.Y. | MRDIY MK | 1.53 | 2.40 | 56.9% |
| Genting M'sia | GENM MK | 2.51 | 2.77 | 10.3% |
| Gamuda | GAM MK | 4.55 | 4.80 | 5.5% |
| IJM Corp | IJM MK | 1.88 | 2.18 | 16.0% |
| My EG Services | MYEG MK | 0.78 | 1.16 | 48.7% |
| UMW Holdings | UMWH MK | 4.77 | 6.02 | 26.2% |
| **Mid-small Caps** | | | | |
| SP Setia | SPSB MK | 0.89 | 1.20 | 35.6% |
| CTOS Digital | CTOS MK | 1.45 | 2.00 | 37.9% |
| Mega First | MFCB MK | 3.35 | 4.30 | 28.5% |
| Allianz Malaysia | ALLZ MK | 16.00 | 19.20 | 20.0% |
| Sarawak Oil | SOP MK | 2.57 | 2.81 | 9.3% |
| AEON Co. | AEON MK | 1.04 | 1.75 | 68.3% |
| ITMAX Systems | ITMAX MK | 1.42 | 1.71 | 20.4% |
| MBM Resources | MBM MK | 3.73 | 4.57 | 22.5% |
| AirAsia X | AAX MK | 2.52 | 3.56 | 41.4% |
| Optimax | OPTIMAX MK | 0.69 | 0.86 | 24.6% |

*Source: Maybank IBG Research, Factset (as of 15 Sep)*

| Stock | BBG Code | Mkt Cap. (MYRm) | Rec. | Price (MYR) | TP (MYR) | PER (x) FY23E | PER (x) FY24E | ROE (%) FY23E | Yield (%) FY23E | Risk Rating* | Risk Score* | Management Rating* | Controversy Score* | MIBG ESG Score | In FBM4G Index?^ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Filtered Stocks** | | | | | | | | | | | | | | | |
| Petronas Chemicals | PCHEM MK | 59,440 | Hold | 7.43 | 7.00 | 22.8 | 15.2 | 6.5% | 2.2% | 22.6 | Medium | Strong | 0 | 69 | Yes |
| CelcomDigi | CDB MK | 51,971 | Hold | 4.43 | 4.60 | 39.7 | 24.4 | 8.1% | 2.5% | 24.2 | Medium | Average | 0 | 67 | Yes |
| Hong Leong Bank | HLBK MK | 43,484 | Buy | 20.06 | 23.00 | 10.2 | 10.9 | 11.8% | 3.1% | 18.7 | Low | Strong | 0 | 76 | Yes |
| Westports | WPRTS MK | 11,219 | Hold | 3.29 | 3.68 | 14.3 | 13.6 | 22.6% | 5.3% | 10.4 | Low | Strong | 1 | 62 | Yes |
| Inari | INRI MK | 10,698 | Hold | 2.86 | 3.00 | 32.5 | 26.0 | 12.4% | 3.0% | 27.7 | Medium | Average | 0 | 70 | Yes |
| Sunway | SWB MK | 10,058 | Hold | 2.03 | 1.92 | 16.3 | 15.2 | 5.6% | 2.5% | 8.8 | Negligible | Strong | 0 | 74 | No |
| Yinson | YNS MK | 7,383 | Buy | 2.54 | 5.05 | 14.2 | 8.9 | 11.7% | 0.8% | 16.6 | Low | Strong | 1 | 78 | Yes |
| ViTrox | VITRO MK | 7,090 | Hold | 7.50 | 8.10 | 40.4 | 28.4 | 17.5% | 0.6% | 14.3 | Low | Strong | 0 | 55 | No |
| Bursa | BURSA MK | 5,600 | Hold | 6.92 | 6.55 | 22.3 | 24.4 | 30.1% | 3.8% | 15.2 | Low | Strong | 0 | 69 | Yes |
| Axis REIT | AXRB MK | 3,204 | Buy | 1.84 | 2.16 | 19.7 | 15.6 | 5.9% | 4.6% | 14.0 | Low | Average | 0 | 59 | Yes |
| Bermaz Auto | BAUTO MK | 2,796 | Buy | 2.40 | 4.14 | 8.9 | 7.2 | 39.8% | 9.5% | 10.8 | Low | Average | 0 | 65 | Yes |
| **Momentum Stocks** | | | | | | | | | | | | | | | |
| MISC | MISC MK | 32,139 | Hold | 7.20 | 7.19 | 13.3 | 13.3 | 6.3% | 4.6% | 17.7 | Low | Strong | 2 | 71 | Yes |
| RHB Bank | RHBBANK MK | 24,089 | Hold | 5.62 | 6.20 | 9.2 | 8.8 | 8.9% | 6.7% | 25.8 | Medium | Average | 2 | 65 | Yes |
| Telekom | T MK | 18,995 | Buy | 4.97 | 6.50 | 10.6 | 10.4 | 19.9% | 3.8% | 27.8 | Medium | Average | 2 | 67 | Yes |
| Gamuda | GAM MK | 12,267 | Buy | 4.55 | 4.80 | 14.4 | 14.4 | 16.8% | 11.0% | 35.5 | High | Average | 1 | 68 | No |

** derived from leading external ESG research & data provider Sustainalytics*

*^ FTSE4Good Bursa Malaysia (F4GBM) Index (98 constituents as of Jun 2023)*

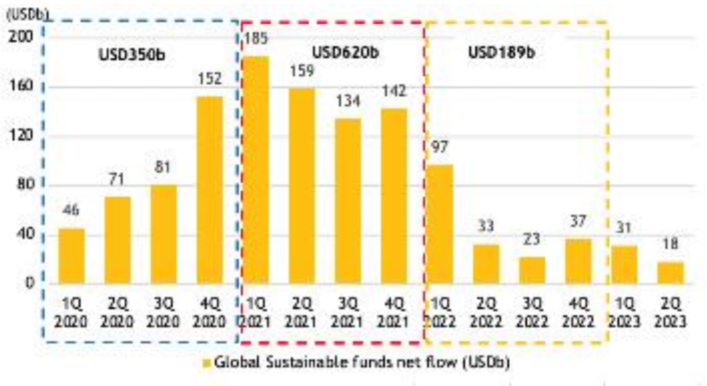
# 1H23 Sustainability flows + ASEAN Mobility: highlights

After having declined by 70% YoY over 2022, to USD189b (almost halving compared to 2020), as per data released by Morningstar (Fig 1), global sustainable funds net inflow remained lacklustre over 1H23. With 2Q23 attracting just USD18b of new money (1Q23: USD31b), 1H23 net fund flows declined by a hefty 62% vs. 1H22, with the contraction attributed to a difficult macro backdrop (high inflation, rising interest rates, uncertainty around the growth outlook for the global economy) as well as continuing headwinds re anti-ESG campaigns / backlash in the US (political) and EU (greenwashing). In terms of geographies, Europe, which is the largest market for sustainable funds, continued to attract sizeable albeit reduced inflows i.e. USD20b of net new money in 2Q23 (1Q23: USD33.7b) – however, US-domiciled funds shed USD635m in 2Q23, which is nonetheless an improvement compared to US5b-plus net outflows in the previous two quarters. There were also net withdrawals in Japan (USD1.9b net outflow, vs. USD961m net outflow in 1Q23) and the ANZAC region, which saw a net outflow of USD1.7b in 2Q23 (this being largely attributed to a sizeable withdrawal by an institutional client at Vanguard Australia) after marginal net inflow in 1Q23.

Despite the lower net inflows over 1H23 and helped by higher valuations, sustainable assets under management, which had declined to USD2.5t as of Dec 2022, -8.8% YoY (Fig 2), saw an extended recovery during the period which lifted total AUM above USD2.8t as at 2Q23, inching towards the historic high of USD3t as at end-2021. In terms of sustainable funds market size by geographies, Europe, with the most developed and diverse ESG marketplace, continued to dominate with 84% share of global sustainable fund assets, followed by the US with 11% and then Asia ex-Japan, where China is the biggest sustainable assets market with more than 70% share of the region's AUM.

Climate funds in particular are doing well. In Europe, investors are focused on decarbonisation efforts as a way to reduce environmental risks and encourage companies to lower emissions. On the other hand, in the US and China, investors seem more interested in clean-energy innovations such as solar panels, carbon capture, electric vehicles (EVs) and battery technologies. Asset managers are responding to this demand by launching new funds with climate-related mandates and repurposing old strategies - at the end of 2022, there were a record 1,206 mutual funds and exchange-traded funds (ETFs) globally with a climate-related focus, up from 950 at the end of 2021, according to Morningstar. The funds have collective assets under management of about USD415b (RM1.8t). Further, analysts at Bloomberg Intelligence reported that ETFs targeting climate themes accounted for about 40% of all newly opened funds during the first quarter. Global climate fund assets declined 1.4% last year, which was minimal when compared with the overall 18% drop in global fund assets.

**Fig 1: Global sustainable net fund flows remained sluggish in 1H23, declining 62% compared to 1H22**




*Source: Morningstar, Maybank IBG Research*

**Fig 2: Global sustainable fund assets under management showed decline in 2022**


*Source: Morningstar, Maybank IBG Research*

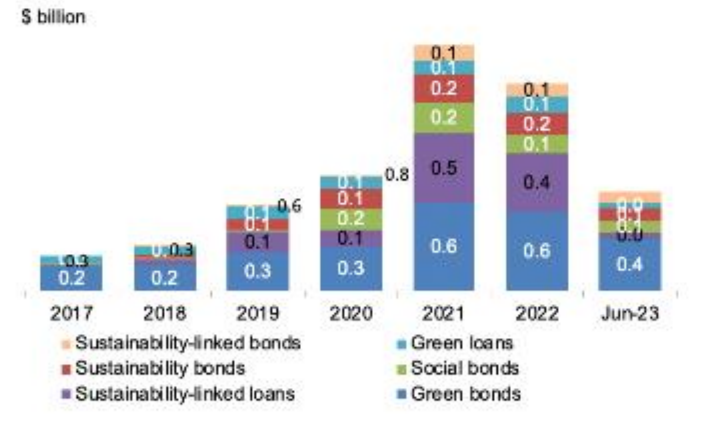
On the debt side of the equation, 1H23 run rate, with USD0.72t raised, is matching that of the previous year, with global sustainable debt raising at USD1.5t in 2022 vs USD1.8t in 2021 (Fig 3); we believe ESG AUMs and sustainable debt raising will increase going forward as countries and corporates focus on new technologies to reduce environmental stress and gain self-sufficiency in energy requirements. In terms of performance, ESG-driven indices sustainability and ESG-driven indices, per Fig 4, underperformed benchmark indices in 2022 mainly due to dislocations caused by the Ukraine-Russia conflict that resulted in a refocus on fossil fuels to fulfil energy requirements and surge in metals and commodities prices. This relative underperformance has continued through YTD 2023, with the Bloomberg Goldman Sachs Clean Energy Index and the Bloomberg Electric Vehicle Index declining 18.5% and 34.2% vs a 21.1% rise in S&P Global Oil Index since end-2021.

Further, where the Clean Energy index had been marginally outperforming the MSCI World Index for much of the comparison period, the latter has pulled ahead significantly since July 2023, when global risk assets, especially large-cap technology stocks, rallied in the wake of benign US CPI data supportive of a “peaked rates + soft landing” scenario. Recall that though there was underperformance in 2022, sustainability indices outperformed the benchmarks when considering longer periods. Over 2015-2022, the Morningstar Global Sustainability index (+76.9%) outperformed the Global Markets Index (+73.9%); similarly, the Eurozone Sustainability Index (+115.1%) beat the Eurozone Global Index (+61.3%) by a wide margin, as did the Asia ex-Japan Sustainability Index (+81.6%) when compared to the Asia ex-Japan Global Index (+38.5%).

A key headwind for sustainable debt issuance in the US has been growing political backlash. According to Bloomberg, sales of ESG-related debt by ex-finance industry companies in the US contracted by more than 50% YoY in 1Q23, to c.USD6.0b. Sales of the bonds as a share of overall issuance have also fallen, with ESG debt in the first quarter making up 2.47% of about USD248b (RM1.1t) in bonds issued by US companies globally. That compares to about 6.1% of the USD209b (RM924.8b) sold during the prior-year period. Similarly, data from the Climate Bonds Initiative (CBI) notes that US issuance of green, social, sustainability, transition, and sustainability linked (GSS+) debt in alignment with its screening methodologies fell sharply in 1H23 to USD39.8b, compared to USD65.0b in 1H22, a 39% YoY decline.

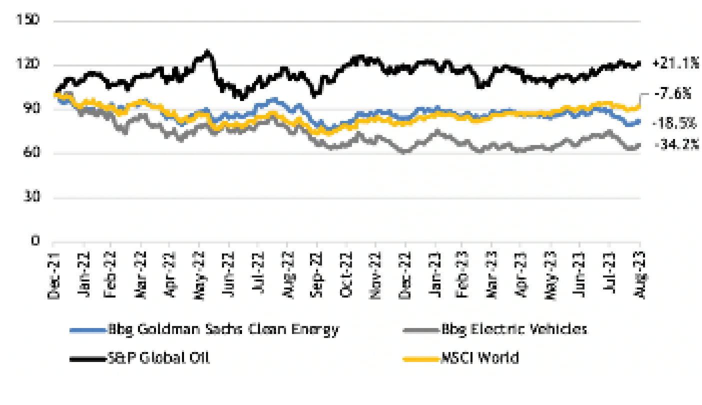
The slump in issuance comes amid a surge in anti-ESG rhetoric, in particular the political assault on ESG investing by some of the biggest names in the Republican party, including Ron DeSantis, a potential 2024 presidential candidate, who said in March that he’s leading an alliance of 19 states intent on banning ESG investing outright. Some states are prohibiting external asset managers that oversee public pension funds and other investment pools from considering ESG criteria, while many investors are reconsidering their approach to ESG given concerns that the politics around ESG securities in the US exposes them to legal risks. Last August, Texas Comptroller of Public Accounts Glenn Hegar listed 10 firms and more than 340 individual funds that “boycott energy companies,” a designation that compels state-run entities like pension managers to sell their holdings. Those companies included investment giant BlackRock Inc as well as UBS Group AG.

**Fig 3: Global Sustainable debt issuance, per 1H23 data, is relatively flat YoY vs. 2022 on an annualised basis**




*Source: BNEF, Maybank IBG Research*

**Fig 4: ESG-driven indices continue to underperform global oil index through YTD 2023**




*Source: BNEF, Maybank IBG Research*

Notwithstanding headwinds in the US re sustainability-related asset growth, global green bond issuance raised record capital from investors in the first six months of this year (H1), putting 2023 on track to be a record year. Of note, for the first time, companies and governments are raising considerably more money in the debt markets for environmentally friendly projects than they are for fossil fuels i.e. c.USD350b was raised from green bond sales in 1H23, compared with less than USD235b of oil, gas and coal-related financing, according to data compiled by Bloomberg. The ratio was roughly USD300b green bonds versus USD315b fossil fuels in the same period last year. A crucial decarbonisation lever for entities operating in almost all sectors is access to low-carbon energy. Electric vehicles, energy-efficient buildings, and even production processes in the hard-to-abate sectors such as steel and cement rely on access to low-carbon energy as part of entity-level strategy to achieve net-zero given their high energy needs and consumption. Therefore, green deals with Low Carbon Energy UoP overtaking those from fossil fuel companies is a significant milestone suggesting that financing to support clean energy expansion is being scaled.

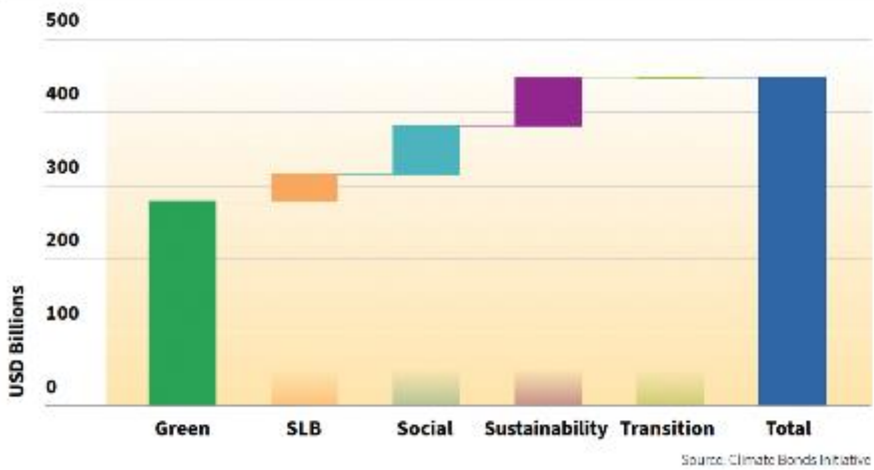
BNP Paribas said earlier this year that it expects global green bond sales to reach around USD600b in 2023 which would exceed 2021's all-time high. Recall that a green bond is a type of fixed-income instrument specifically earmarked to raise money for climate and environmental projects. Green bonds are sometimes referred to as climate bonds, but the two terms are not always synonymous. Climate bonds specifically finance projects that reduce carbon emissions or alleviate the effects of climate change, while green bonds represent a broader category of instruments related to projects with a positive environmental impact.

Statistics from the Climate Bonds Initiative (CBI) tell a similar story. By the end of 1H23, CBI had recorded cumulative volume of USD4.2t of green, social, sustainability, transition, and sustainability linked (GSS+) debt in alignment with its screening methodologies (aligned; bonds failing to meet the requirements of CBI screening methodology are classified as non-aligned and excluded from datasets; Fig 5). This figure included USD448b of aligned GSS+ debt captured in 1H23 marking a 15% year-on-year (YoY) decline compared to 1H22. Green bonds accounted for 62% of aligned volume, with USD278.8b issued in 1H23, followed by social and sustainability debt contributing 15% and 14%, respectively.

**Fig 5: Cumulative aligned GSS+ volume reached USD4.2tn in 1H23**


A total of 1758 sustainable bond products were issued in the first six months of this year, raising USD568b, according to analysis by global law firm Linklaters, with most sustainable bond categories other than sustainability-linked bonds (SLBs) seeing an increase against H1 2022. According to CBI data, in 1H23, SLB volumes totalled USD37.3b, representing a 32% YoY decline (Fig 6). SLBs go beyond the traditional use of proceeds model and link ESG performance to financial performance through KPIs and associated targets. The downtrend comes amid keen investor focus on the selection of KPIs and ambitiousness of targets, as well as the robustness of the terms of the product. A key focus remains on ensuring SLBs are structured carefully to avoid greenwashing concerns.

**Fig 6: Aligned GSS+ issuance reached USD448bn in 1H23**




On the local front, after a relatively quiet 1H23, Malaysia's sustainability-related newsflow has increased substantially into 3Q23. On the policy front, developments have been centred around the launching of the National Energy Transition Roadmap (NETR), Part 1. The NETR roadmap puts into action several RE policy milestones achieved over the past few months including **1)** the lifting of export ban on renewable energy (RE), **2)** the establishment of a central electricity exchange which is to be operated by a singlemarket aggregator to ensure fair and transparent pricing; **and 3)** a higher 70% RE capacity target (of total power capacity) by 2050, from 40% (by 2035) earlier. As already alluded to, the NETR comprises 2 parts: **i)** Part 1 outlines 10 flagship catalyst projects/initiatives based on 6 ET levers – energy efficiency, renewable energy, hydrogen, bioenergy, green mobility, and carbon capture, utilisation and storage (CCUS); **and ii)** Part 2, announced end-Aug, focuses on establishing the low-carbon pathway, national energy mix and emissions reduction targets. The investment outlays required to achieve NETR's ambitions are huge – the 10 catalytic projects/initiatives (detailed in Fig 7) have a projected total investment value of MYR435b-MYR1.85t by 2050, while the 70% RE target will require capex of c.MYR637b, consisting of investment in solar capacity, and transmission grid and distribution network reinforcement. Per NETR's whole-of-nation approach, households are also being enabled by the offering of an income opportunity from leasing out their rooftops for solar power generation.

**Fig 7: NETR Part 1's 10 flagship catalyst projects and initiatives + implementation modalities**

| Energy Transition Levers | Flagship | Modalities | Champion |
|---|---|---|---|
| Energy Efficiency (EE) | Efficient Switch | **Energy Efficiency and Conservation Act (EECA)**<br>The Energy Efficiency and Conservation Bill to regulate energy-intensive users, buildings and products will be tabled in Parliament in the fourth quarter of 2023. | NRECC |
| | | **Energy Audit For Rail Sector**<br>Railway operators to perform energy audit exercise under the Energy Audit Conditional Grant (EACG 2.0) aimed at establishing the current energy consumption baseline, identifying potential energy savings in their premises and lowering utility costs. | MOT |
| Renewable Energy (RE) | Renewable Energy Zone (RE Zone) | **Integrated RE Zone**<br>A large-scale, integrated sustainable development spanning the entire energy supply chain, from generation and energy storage to efficient demand management and consumption, will be created. A pilot RE Zone will be established encompassing an industrial park, zero-carbon city, residential development and data centre. | Khazanah Nasional Berhad |
| | | **Solar Park**<br>Centralised large-scale solar (LSS) parks co-developed by TNB, in partnership with SMEs, cooperatives, and state economic development corporations. These parks will consist of 100 MW deployment per site across 5 sites in several states. | TNB |
| Renewable Energy (RE) | Renewable Energy Zone (RE Zone) | **Hybrid Hydro-Floating Solar PV (HHFS)**<br>Development of 2500 MW HHFS potential at TNB hydro dam reservoirs will increase RE generation close to 24-hour availability. The hydro plant acts as energy storage by conserving the water in the reservoir during peak hours and discharging it during non-peak, while providing quick response to the duck curve. Reduce investment by utilising existing hydro infrastructure as compared to BESS + solar PV. Potential scaling up for future green hydrogen feedstock in collaboration with other hydrogen producers such as Gentari as the green electron offtaker. | TNB |
| | | **Residential Solar**<br>The construction of 4.5 MW solar capacity across 450 homes in City of Elmina and Bandar Bukit Raja. Up to 10 kW solar capacity per house through rooftop leasing with offtake within the township by high-demand users from the commercial or industrial sector. | Sime Darby Property |
| | Energy Storage | **Energy Storage System (ESS)**<br>Development of utility-scale ESS to enable higher penetration of variable RE in Malaysia. | NRECC<br>Energy Commission (ST) |
| | Energy Secure | **Sabah Energy Security Initiative**<br>An integrated initiative is underway to secure the long-term energy supply and support the socioeconomic development of the state. This includes: the development of large-scale solar (LSS) and small hydropower plants; the formulation of policy and regulatory framework on biowaste to ensure a consistent supply of feedstock; and the feasibility of geothermal for power generation. | Energy Commission of Sabah (ECoS) |

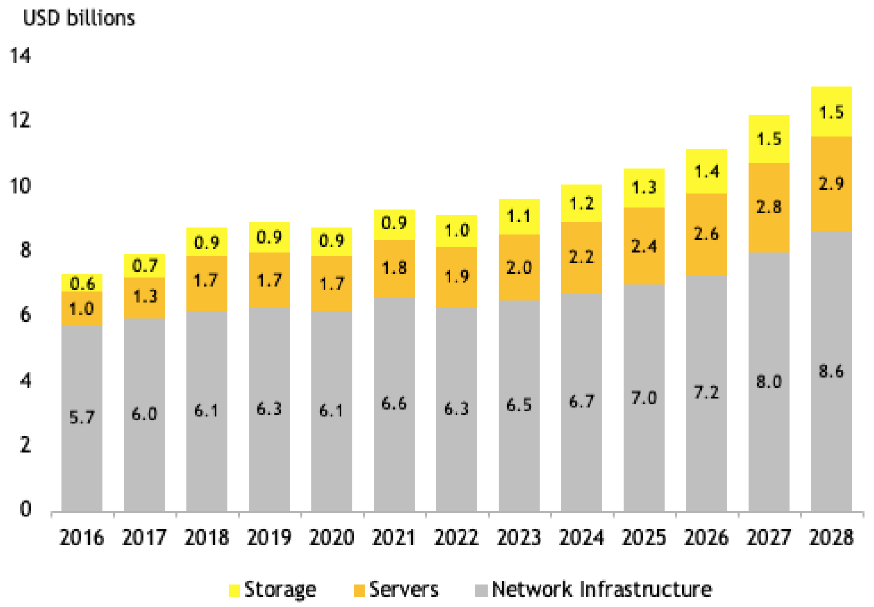
**Fig 7 (cont'd): NETR Part 1's 10 flagship catalyst projects and initiatives + implementation modalities**

| | | | |
|---|---|---|---|
| Hydrogen | Green Hydrogen | **Sarawak Hydrogen Hub** Implementation of three integrated projects to produce green hydrogen will propel Sarawak as a regional green hydrogen hub. These projects involve the development of a green hydrogen production plant in Kuching by 2025 for domestic use, and two plants in Bintulu by 2027, mainly for export purposes. Sarawak State Government through SEDC Energy is collaborating with strategic partners to develop the state into a green hydrogen hub. | SEDC Energy |
| | Hydrogen for Power | **Co-Firing of Hydrogen and Ammonia** Green hydrogen and ammonia co-firing in collaboration with PETRONAS to decarbonise TNB generation plants. | TNB |
| Bioenergy  | Biomass Demand Creation | **Biomass Clustering** Development of potential biomass clusters with a centralised plant using aggregated feedstock from multiple neighbouring mills. Biomass clustering is expected to improve economies of scale as well as securing larger and more reliable feedstock. | NRECC SEDA |
| | | **Biomass Co-firing** Co-firing initiative at the existing 2100MW Tanjung Bin Power Plant by burning biomass along with coal. Biomass sources include Empty Fruit Bunch (EFB) pellets, wood chips, wood pellets, bamboo pellets, coconut husk and rice husk. A pilot phase of co-firing will commence in 2024 with a view to scale up to a minimum of 15% biomass co-firing capacity by 2027. | Malakoff |
| Green mobility | Future Mobility | **EV Charging Stations** Installation of 10,000 EV charging stations by 2025 along highways and at selected commercial buildings in collaboration with strategic partners, among others, TNB, Plus Malaysia Berhad (PLUS), Permodalan Nasional Berhad (PNB), Gentari and Sunway Group. | MITI |
| | | **Mobile Hydrogen Refuelling Station** Introduction of the first mobile hydrogen refuelling station for transportation in Peninsular Malaysia, in collaboration with NanoMalaysia Berhad, PETRONAS, United Motor Works (UMW) and the MGTC. | MOSTI |
| | | **Public Transport Electrification** This project involves electrification of first and last mile public transport and upgrading infrastructure and electrical lines at bus depots for charging, with maintenance, repair and overhaul (MRO) opportunities for local SMEs. | MOT Prasarana |
| | | **Solar Photovoltaic (PV) Installation for Rail Operations** The Rail Sector Energy Management and Renewable Energy (EMRE) Action Plan entails the installation of Solar Photovoltaic (PV) systems for non-traction electricity usage in rail operations such as stations and depots. | MOT |
|  | Future Fuel | **Biofuels Hub** A bio-refinery will be developed in Pengerang, Johor, to serve as a catalyst for creating hubs to produce a range of bio-based products, including sustainable aviation fuel (SAF), hydrotreated vegetable oil (HVO), advanced sustainable fuel (ASF) and biochemicals. | PETRONAS |
| CCUS  | CCS for Industry | **Regulatory Framework** Development of policy and regulatory framework to facilitate the implementation of CCUS projects, including transboundary carbon movement. | Ministry of Economy |
| | | **Kasawari and Lang Lebah CCS** Implementation of carbon capture and storage (CCS) catalyst projects for Kasawari and Lang Lebah high-$CO_2$ gas fields, which are expected to be in operation by 2026 and 2028 respectively. CCS technology will be used to capture $CO_2$ from the gas production field and store it in the depleted fields. | PETRONAS |

The NETR's RE policy and capacity step-up appears well-timed given the growing demand by FDI and local companies for RE as part of their overall transitioning pathways i.e. access to low-carbon energy is a crucial decarbonisation lever for entities operating in almost all sectors. One good example is the rapidly growing build-out of data centres in across ASEAN (Fig 8), including Malaysia, in the wake of Singapore pausing construction of new data centers in 2019 due to environmental concerns about the energy and water-intensive facilities (c.7% of the electricity consumed in the country is used by data centres). Due to this, the vacancy rate at data centers in Singapore has become the lowest in the Asia Pacific region at less than 2%, according to commercial real estate agency Cushman & Wakefield. Despite strong demand, Singapore is shifting from chasing capacity to building more energy-efficient, sustainable facilities. After 3 years, the government ended the moratorium in July 2022 and awarded rights to four operators, including Microsoft and a consortium comprised of China's ByteDance and Australia's AirTrunk, from more than 20 applications. Still, capacity was limited to just 80 MW for the four winners, much below industry expectations.

Decentralisation is now happening in the region with markets such as Jakarta, Bangkok and Kuala Lumpur attracting the setup of new data centres to serve local markets. A key driver is to have the the data located close to the target audience – 5G apps, for example, benefit from lower latency to take advantage of the mobile network's responsiveness. Also important are government grants to boost local data centre capacity as well as legislation on data sovereignty that force some operators to base their data in-country. Overwhelmingly, though, it is pressure from shareholders, customers and consumers that are driving efforts in RE, efficient cooling and smart data centre design crucial to today's data centres. Greenfield data centres can be designed with efficiency in mind from conception, including using AI, modern liquid cooling and server proximity to reduce energy use. Last but not least, decentralization allows the possibility of drawing on RE sources directly in countries that possess them, such as Malaysia.

**Fig 8: ASEAN: data center revenues by segment**




*Source: Statista*

In parallel with the ambitions and development targets of the NETR, tangible progress is being made in accelerating the country's hitherto sluggish transition from ICE (internal combustion engine) to EVs (electric vehicles), with the securing in July, via MITI's BEV Global Leaders Programme, of investments by global EV giant Tesla, core elements being the establishment of a regional HQ, service centres and a Supercharger network. Further, China's Geely, which owns 49.9% of national car brand Proton, has signaled it will invest USD10b in its Tanjung Malim plant which could potentially include EV battery manufacturing (40-50% of the cost of an EV, hence vital to onshore) and assembly to produce (currently lacking) mass-market EVs with minimal "green premium" purchase cost. These EV-centric developments dovetail with not just the NETR (Green Mobility being one of its' ten flagship projects) but also the recently-announced National Industrial Masterplan 2030, that aims to achieve higher economic complexity and pushing for net zero.

While these are significant and positive steps in the right direction re sustainability, economic transitioning and energy efficiency, Malaysia and ASEAN as a whole is starting from a low base. As the latest thematic report from MIBG's Sustainability Research team ("*ASEAN Mobility: Poised for EV Acceleration*", dated July 26, covers in detail, ASEAN clearly lags developed markets in mobility transition due to lower affordability and lower scale of investments. Nonetheless, as underscored by rising EV supply chain-related investments across the region – per Figs 9 and 10, Indonesia and Thailand currently dominate FDI into ASEAN for battery production and EV manufacturing plants, and appear in pole position to develop EV ecosystems due to access to natural resources (nickel, cobalt) and large auto industrial bases – and aforementioned developments locally, there are opportunities to develop batteries and other EV parts across ASEAN to cater for domestic and export markets.

**Fig 9: ASEAN: FDI in the EV industry (highlights)**

| Company | Project cost (USDm) | ASEAN country | Year | Purpose of investment |
|---|---|---|---|---|
| BMW | 16 | Thailand | 2019 | Battery assembly plant in partnership with Dräxlmaier Group (Germany) |
| CATL | 5,200 | Indonesia | 2021 | Build EV battery production plant in partnership with PT Aneka Tambang |
| ENPlus | 101 | Philippines | 2021 | Build EV manufacturing plant (for production of electric cars & jeepneys) |
| Evlomo | 1,060 | Thailand | 2021 | Construct lithium battery plant in Thailand's Eastern Economic Corridor advanced development zone, operations to commence by 2H24 |
| FOMM | 31 | Thailand | 2019 | Expand electric car assembly plant |
| Ford | 900 | Thailand | 2022 | Increase automation and expand models including EVs |
| Foxconn | 8,000 | Indonesia | 2022 | EV cars, electric bikes, and buses to battery production and supporting industries |
| | 1,000-2,000 | Thailand | 2022 | Produce EVs in partnership with PTT (Thailand) |
| Kymco | 30 | Singapore | 2020 | Invest in GrabWheels (Grab's new mobility arm) |
| GWM | 71 | Thailand | 2022 | Upgrade Rayong plant to produce EVs |
| Honda | 136 | Thailand | 2021 | Build EV battery factory in Prachin Buri |
| Hyundai | 1,500 | Indonesia | 2021 | Build EV production facility |
| Hyundai Motor & LG Chem | 1,100 | Indonesia | 2021 | Build EV battery factory at Karawang |
| Mercedes-Benz | 200 | Thailand | 2019 | Expand manufacturing of PHEV |
| Mitsubishi | 644 | Thailand | 2021 | Build EV battery factory at Karawang |
| | 175 | Thailand | 2019 | Expand manufacturing of PHEV |
| Nissan | 352 | Thailand | 2020 | Expand capacity for production of HEVs at Samut Prakan facility |
| | 15 | Thailand | 2019 | Construct EV battery plant |
| SAIC | 75 | Thailand | 2022 | Produce batteries (through a joint venture of SAIC Motor-CP) |
| | 782 | Thailand | 2022 | Expand production capacity for PHEV and EV recharging network |
| Energy Efficiency Services | 5 | Thailand | 2020 | Invest in SWAG EV, an electric bike company |
| SK Group | 553 | Malaysia | 2021 | Manufacture electro-deposited copper foil for EV batteries |
| Toyota | 2,000 | Indonesia | 2022 | Develop and produce EVs |
| | 65 | Malaysia | 2021 | Expand manufacturing facility for HEVs |
| | 622 | Thailand | 2019 | Produce HEVs |
| | 119 | Thailand | 2019 | Extend a plant in Samut Prakan and build a hybrid battery assembly parts in partnership with Thonburi Automotive Assembly Plant |

*Source: ASEAN Investment Report 2022 research*

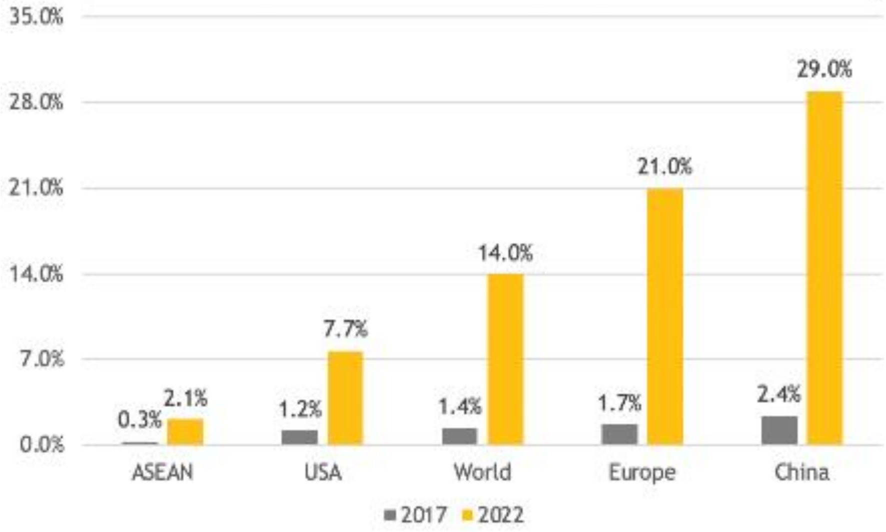
**Fig 10: EV value chain in ASEAN**

| Value chain | Selected country | Selected companies |
|---|---|---|
| Nickel mining | Indonesia | Merdeka Battery Materials (Indonesia), PT H8engjaya Indonesia), PT Antam (Indonesia), Harita TBP (Indonesia), Eramet (France), Nickel Mines (Australia), Solway Investment (Switzerland), Tsingshan Holding (China), Vale (Brazil), Zhejiang Huayou Cobalt (China) |
| | Philippines | Intex Resources (Philippines), Sumitomo Metal Mining (Japan) and Mitsui (Japan) |
| Nickel smelting | Indonesia | Eramet (France), Jiangsu Delong Nickel Industry (China), Nickel Mines (Australia), Solway Investment (Switzerland), Tsingshan Holding (China), Vale (Brazil), Zhejiang Huayou Cobalt (China) |
| EV battery, parts and components production | Indonesia | LG Energy Solution (Republic of Korea) and Hyundai Group (Republic of Korea) |
| | Malaysia | Honda (Japan), SK Group (Republic of Korea), Greatech Technology, Genetec Technology |
| | Thailand | BMW (Germany), Evlomo (United States), Mercedes-Benz (Germany), SAIC (China), Toyota (Japan) |
| EV production | Indonesia | Hyundai (Republic of Korea), Toyota (Japan), NFC Indonesia, VKTR Teknologi Mobilitas |
| | Malaysia | Toyota (Japan) |
| | Philippines | EnPlus (Republic of Korea), Ayala Corp |
| | Singapore | Hyundai Motor Innovation Centre (Republic of Korea) |
| | Thailand | BMW (Germany), Foxconn (Taiwan Province of China), Mercedes-Benz (Germany), Mitsubishi (Japan), Nissan (Japan) |
| | Vietnam | VinFast a subsidiary of Vingroup) - a very young EV player set up in 2017) |

*Source: ASEAN Investment Report 2022 research, Maybank IBG Research*

ASEAN's EV penetration is low even within comparable emerging markets. As at end -2022, ASEAN 's EV car sales as a share of total vehicle sales was 2.1% vs 29% in China, 21% in Europe and 14% global average (Fig 11). Such a low EV penetration rate is mainly due to high upfront cost of ownership (also known as the "green premium", which ranges from 13-51% across ASEAN despite rebates/subsidies provided by governments to encourage EV purchases) and lack of local production ecosystems. At the moment, three ASEAN countries have set explicit targets for EV sales as a percentage of total car sales – Malaysia (15% by 2030, 38% by 2040), Indonesia (25% by 2030), Thailand (30% by 2030) – which appear relatively modest when compared to the global market outlook by BloombergNEF and IEA, which suggest 30-60% of total sales to be EVs over the same time frame to be on target for net zero. One way for governments to spur EV adoption would be to make clear phasing out timelines for the sale of ICE vehicles i.e. Singapore, Thailand and Vietnam have announced the phasing out of the sale of ICE vehicles by 2030/2035/2040, respectively.

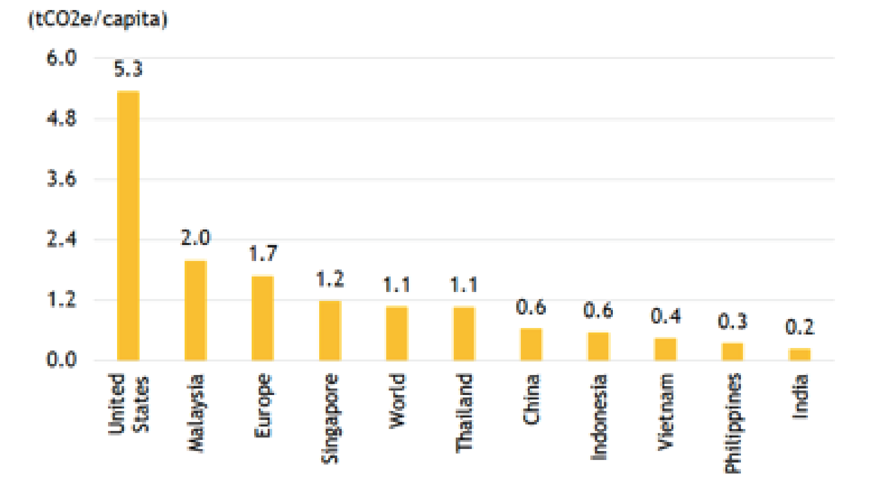
**Fig 11: EV car sales increase to 14% for World; ASEAN lags far behind at 2.1%**




*Source: IEA*

Malaysia faces some particular challenges. For one thing, among the ASEAN countries' per capita transportation emissions, Malaysia has the highest at 2.0 tCO2e (tonnes of carbon dioxide equivalent) per capita vs. the global average of 1.1 tCO2e (Fig 12) – this speaks of a car-owning culture that has the country having the highest household car ownership ratio of 82% in ASEAN. This high ratio is also significantly encouraged and supported by long-entrenched (and extremely expensive) subsidies for petrol i.e. the price of subsidized RON 95 petrol is fixed at MYR2.05 per litre, while unsubsidized RON97 petrol which is subject to market pricing cost 60% more, at c.MYR3.30 per litre. The continuation of petrol subsidies is clearly inconsistent with the government's stated aim of significantly increasing EV ownership as well as Malaysia's broader and increasingly aggressive transition / sustainability agenda – as such, with fiscal considerations also in play, we would expect progressive rationalization of petrol subsidies to be a priority going forward.

**Fig 12: Transport emissions: by country, per-capita**

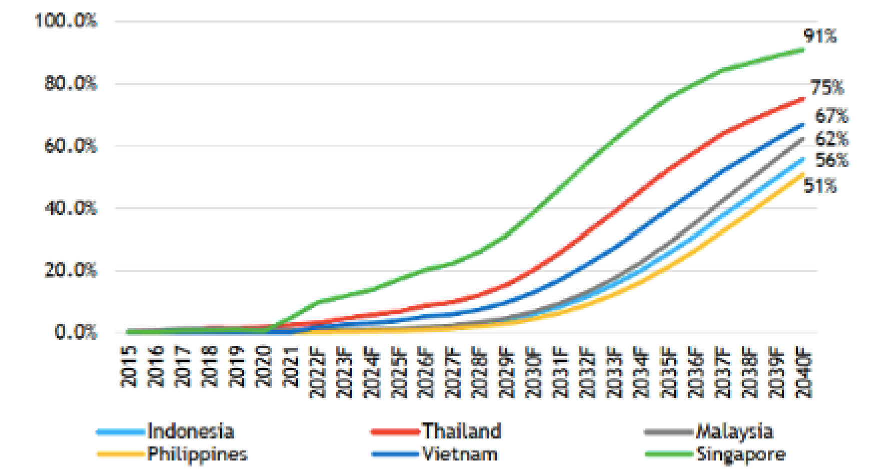



*Source: Our World in Data*

Nonetheless, we are confident the aforementioned "dissonance" re government policy will be resolved in the near future in favour of accelerating EV adoption and advancing the country's overarching sustainability and net zero ambitions. As a base case, ASEAN EV market size and outlook suggest rapid expansion from the current small base over the coming decade – while EV car sales in ASEAN surged to about 50,851 units in 2022, from 15,926 in 2021, overall EV sales remained just 2.1% of the region's passenger vehicle sales, with Thailand contributing more than

50% of the region's EV sales, followed by Indonesia and Vietnam. BloombergNEF forecasts ASEAN's annual electric passenger vehicle sales to reach 2.7-2.9m by 2040, making up 62-64% of total annual passenger vehicle sales in ASEAN (Fig 13), with BEV share of this forecast to be over 60%. In the near term, favourable government regulations in the form of concessional taxes for imports and setting up of onshore manufacturing and assembly facilities should double EV sales.

**Fig 13: ASEAN electric car market by 2040: share of overall market to be 51-91% across ASEAN countries**



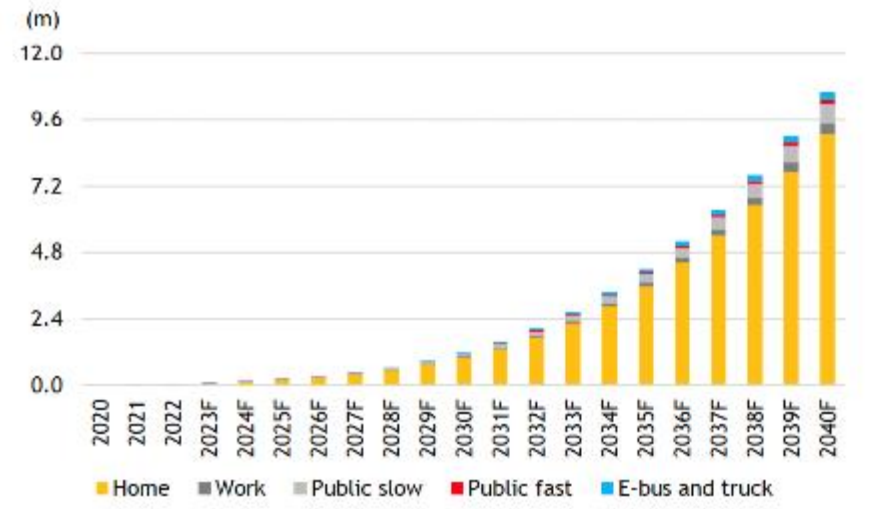

*Source: BloombergNEF*

Rising EV sales will naturally both necessitate and accelerate public charging infrastructure growth. Investments in charging infrastructure is expected to surge, driven by: **a)** increasing EV adoption; **and b)** forward integration for power companies and annuity type business model attracting fixed-income investors. In the region, Singapore and Thailand lead, driven by start-ups making investments, while reports suggest that VinFast (backed by Vietnam's largest local conglomerate Vingroup, this EV firm is the only pure BEV maker in ASEASN and recently listed on the NASDAQ via a SPAC) has also deployed about 40,000 (mostly slow) public charging points across Vietnam for both its bikes and cars, with a target to increase this number to 150,000. BloombergNEF forecasts annual investments to increase to USD452m by 2025F, USD1.2b by 2030F and USD3.4b by 2040F for ASEAN – per Fig 14, home chargers are expected to dominate, followed by public (slow) chargers.

On the Malaysian front, a notable player in this space is Yinson Greentech (YGT), the wholly-owned green technology subsidiary of publicly listed Yinson which is the 4th largest independent FPSO (floating production storage and offloading) leasing entity globally in terms of fleet size. YGT has been accelerating its e-mobility adoption agenda, having invested in start-ups like Oyika (e-2Ws), Moovita (autonomous vehicle), Lift Ocean AS (hydrofoil technology for marine harbour crafts), Sterling PBES Energy Solutions (marine battery solutions) and ChargEV (public charging operator). Focusing on mobility, YGT has a leasing programme for July 26, 2023 104 ASEAN Mobility: Poised for EV Acceleration businesses to reduce the complexities and cost of transitioning to EVs while, via ChargEV, it is a leading provider of cross-border charging infrastructure network between Malaysia and Singapore, with strategic partnerships with businesses and organizations across both countries allowing for a charging infrastructure that assures EV drivers will never be too far from a charging point.

In March 2023, YGT engaged with PLUS Malaysia to jointly develop the first ChargEV hyperpower direct current fast charging hub along the backbone North-South PLUS highway. Earlier, in March 2023, Gentari, EV Connection and YGT announced they had signed a tripartite agreement to enable cross-tracking and cross-access charging of electric vehicles (EVs) on their Gentari, JomCharge and ChargEV charging networks. The roaming agreement, which has been up and running since June 2023, allows users of any one of the Setel, JomCharge and ChargEV mobile apps to use chargers across the three networks nationwide. Aside from making it easier to locate and access chargers from any partner platform, payment for charging has also been made simpler, with a single payment system and roaming handling all transactions. The collaboration presently offers EV users access to a combined total of more than 600 EV charging points across Malaysia, or nearly two-thirds of all EV charging points in the country.

**Fig 14: ASEAN EV charging infrastructure outlook**




*Source: BloombergNEF*

# 2Q23 Sustainability newsflow: holistic progress

As underscored by the aforementioned exponential growth potential for the global and ASEAN EV sectors, and related huge investment demands / opportunities, the overarching tone of sustainability-related newsflow over the past few months, since our 1Q23 Malaysia ESG update report ("*Headway despite headwinds*", dated April 17), has been one of accelerating and broadening momentum, size and innovation re industries, technologies and regulatory oversight. Some of the key developments over the last few months in the global and domestic sustainability / ESG sphere are flagged below:

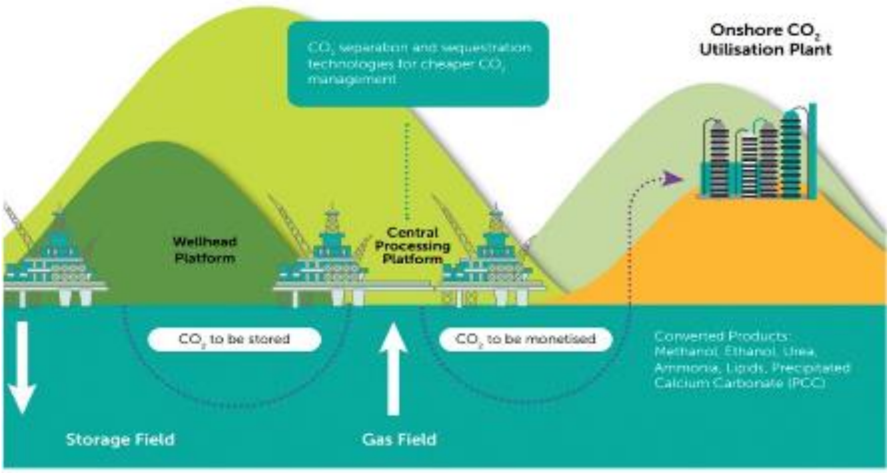
**Carbon Capture, Utilisation and Storage (CCUS):** as we had indicated in our 1Q23 update, CCUS projects, which for us encompasses other "negative emissions" initiatives such as Direct Air Capture (DAC), were destined to attract rising levels of investment going forward given current global emissions trajectories remain well-above any credible pathway to limit the rise in global temperatures to 1.5C above pre-industrial levels, the internationally agreed target. According to the International Energy Agency (IEA), despite stated goals by the world's biggest economies and companies, global CO2 kept rising in 2022, +0.9% YoY to a record 36.8 gigatons. An International Panel for Climate Change (IPCC) update in March 2023 estimates that by mid-century, it will be necessary to remove between 3 and 12 gigatons of CO2 from the air annually to limit global warming to the 1.5C target.

Hence, governments and companies are looking at innovations in CCUS to mitigate for overshooting emissions, with some interesting examples being as follows:

- **UCLA's Institute for Carbon Management (ICM)** is working on a new way to remove carbon dioxide (CO2) from the atmosphere, namely by sucking it out of the ocean (ocean water contains c.150x more CO2 than the air, making it a much more efficient carbon capture proposition) and hence allowing the latter to absorb more CO2 from the atmosphere. The process of removing CO2 from the ocean is done via an electrochemical process (essentially CO2 in the water is trapped by calcium and magnesium, becoming calcium and magnesium carbonates which are materials found in chalk and seashells), with a byproduct being hydrogen, a carbon-free energy source and the cost-efficient generation of which is also attracting huge amounts of investment. Equatic, a LA-based startup is scaling up this technology and is backed by the likes of Singapore's Temasek Foundation and the US Energy Department. A large test plant is to open in late-2024 in Singapore, integrated into a desalination facility. If successful, Equatic will be removing millions of tons of CO2 in the years to come for less than USD100/ton (monetizing by selling carbon offset credits to corporate buyers) while at the same time generating hydrogen for USD1/kg.

- On the home front, per carbon capture and storage (CCS) being flagged as one of the six Energy Transition (ET) levers within the aforementioned NETR, **Malaysia's national oil & gas corporation Petronas** is investing in CCS for its Kasawari and Lang Lebah high-CO2 gas fields, to be operational by 2026 and 2028 respectively (Fig 15). Re the more imminent Kasawari project, which is the first CCS project in the country and which will include the world's largest offshore CCS platform, Phase 1 (RM2.5b) will extract natural gas from the field to be sent via pipeline for processing at the Petronas Bintulu LNG Complex c.300km away, while extracting CO2 that would otherwise have entered the atmosphere via flaring. Phase 2 (RM4.5b) of the project will send up to 3.3m tonnes of the CO2 back underground into the reservoir each year, with the compressed CO2 being reinjected via a 138km long 16-inch subsea pipeline. The carbon dioxide removal will be conducted leveraging a membrane separation technology with the help of two trains of low pressure booster compressors. An additional two trains will be used for reinjecting the separated carbon dioxide into a dedicated storage site.

**Fig 15: Petronas CCS: Envisioned Process Flow**

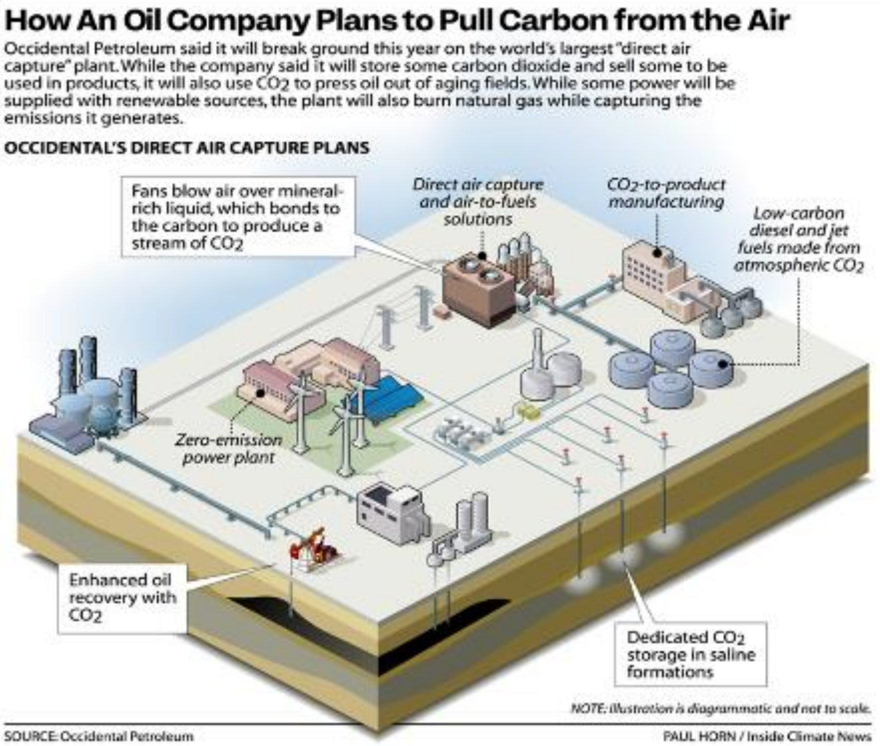



*Source: Petronas*

- In Aug, Warren Buffett-backed US oil & gas giant Occidental Petroleum agreed to pay USD1.1b for technology supplier Carbon Engineering Ltd. to help it develop a strong of carbon-capture sites. Occidental aims to build about 100 plants using Direct Air Capture (DAC) technology that strips CO2 from the atmosphere to either bury underground or utilize for products such as concrete and aviation fuel – in this regard, its' West Texas-based Stratos project is set to be the world's largest DAC plant by 2025 (Fig 16). DAC technology is still in early stages of commercialization and requires large amounts of investment to support its development and long-term scaling up – in this regard, US companies are getting a helping hand from President Biden's Inflation Reduction Act (IRA; passed in 2022, it has committed to USD369b in subsidies and investments for renewable energy-related projects over the next 10 years) which is providing billions of dollars in federal grants to support such investments.

  Carbon removal is a critical component of Biden's goal to reach net-zero emissions by 2050. The administration estimates the US will need to remove, capture and store as much as 1.8bn metric tons of CO2 annually to achieve its goal. It envisions the DAC hubs as the first of a national network of carbon removal projects – the administration aims for each hub to remove 1mn tons of carbon a year by the end of this decade. Critics argue that DAC is technology that is unproven, both technologically and economically, but the promise of which is allowing the oil & gas industry to continue business as usual. DAC would also do nothing to clean up particulate matter, benzene and other health-harming emissions associated with oil & gas and petrochemicals production.

**Fig 16: Occidental's DAC Plan**




- **Other oil & gas players** are also ramping up their carbon capture / DAC ambitions – in April, per reporting by The Economist, ExxonMobil had unveiled plans for its low-carbon division which is aimed at offering decarbonisation as a service to industrial customers in hard-to-abate sectors such as steel and cement. The oil giant estimates that the carbon credits so generated could be worth up to USD6tn in revenues globally by 2050. Across the Atlantic, Equinor and Wintershall, a German oil & gas company, have secured licenses to store carbon captured from German industry in North Sea sites, underscoring Wintershall's ambition to evolve from an oil & gas company into a gas & carbon management company. In the Middle East, the likes of Aramco and ADNOC are also investing heavily in CCS to increase capacity multiple-folds by the end of the decade.

  Estimates by consultants dovetail with these optimistic targets / assessments – Wood Mackenzie estimates that global CCUS capacity – which includes CCS as well as DAC – will rise more than 7x by 2030. Spurring carbon-removal investments (Fig 17) and related prospects is **government action**. On one hand, there is carbon pricing i.e. making carbon polluters pay a high enough fee for every tonne of carbon emitted such that it makes economic sense to pay carbon removers to step in, either via removal at sources (CCS) or from the atmosphere (DAC). At the same time, the US (via the IRA) and EU governments are also intent on ramping up tax credits and other fiscal incentives to ensure carbon removal investments are viable / profitable.

Fig 17: Worldwide Energy Investments

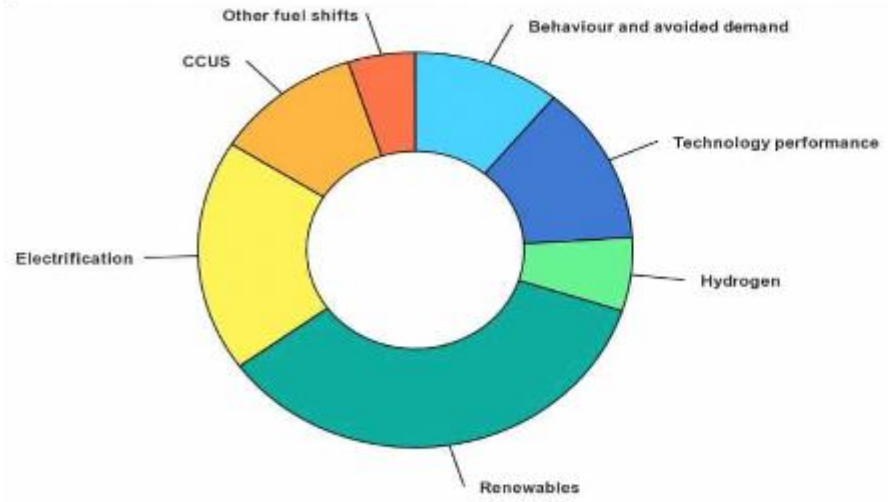

CCUS is not the only area which is seeing a positive combination of promising new innovations and large investments – some other **potential advances in the broader renewable energy industry** are also noteworthy as potential game-changers:

- **PowerCo., the battery subsidiary of the Volkswagen Group,** is planning to introduce a completely new manufacturing process in its **battery cell production** plans in Europe and North America. The so-called "Dry Coating" procedure allows a decrease in energy consumption of about 30% by allowing the manufacture of electrodes (the most energy-intensive part of cell manufacturing) without wet-coating chemical solvents and subsequently drying them. The technology, which the CEO of PowerCo describes as "What the solid-state cell is to the product, Dry Coating is to production", will save hundreds of millions of Euros annually and deliver a definite competitive advantage as well as lower prices for consumers.

- **Brimstone, a company founded in 2019 at Caltech with the mission to decarbonise cement production**, and backed by a slew of leading climate investors, has received third party certification that its cement meets or exceeds the ASTM Standard Specification for Portland Cement (ASTM C150), making it the first ultra-low carbon cement to meet this universally accepted industrial requirement. Recall that cement production is a hard-to-abate industry, accounting for 7.5% of global $CO_2$ emissions and 5.5% of total greenhouse gas (GHG) emissions. Conventional cement involves heating limestone, which releases large quantities of $CO_2$ embedded in the rock – by contrast, Brimstone's technology utilises carbon-free calcium silicate rock, with the production process also generating magnesium compounds that permanently absorb $CO_2$ from the air, making the process carbon-negative. Not only will the Brimstone method slash carbon emissions and compete on price, it will also deliver the exact same material (i.e. Portland cement, which is 95% of all cement produced in the US) without requiring the retraining of construction workers to use it.

- **Denver-based startup Koloma,** founded just 2 years ago, has received USD91m in funding from Bill Gates and other investors to drill for natural hydrogen in the US Midwest. Natural hydrogen, also called gold or white hydrogen, differs from other types of hydrogen in that it is a primary source of energy like fossil fuels but carbon-free. Koloma believes that it can tap into a regenerating supply of underground hydrogen through a process called serpentinization. The process breaks down iron- and magnesium-based minerals under the earth's surface deep in the seafloor to produce hydrogen-rich fluids and other minerals. The company refers to this regenerative gas as geologic hydrogen with clean and environmentally-friendly attributes. Coming from iron-rich source rocks and as a primary energy source, geologic hydrogen requires no external energy and water inputs. It also has a low carbon footprint compared to electrolysis and results in minimal surface disruption. Currently, the global hydrogen market is worth over USD120b, with 100m metric tons in annual consumption volume. According to Goldman Sachs, the market will more than double to USD250b by 2030, helped by large subsidies from governments around the world to boost green hydrogen production, and be worth USD1t by 2050 (Fig 18).

**Fig 18: Emissions Reduction by Mitigation Measure in the Net Zero Scenario**

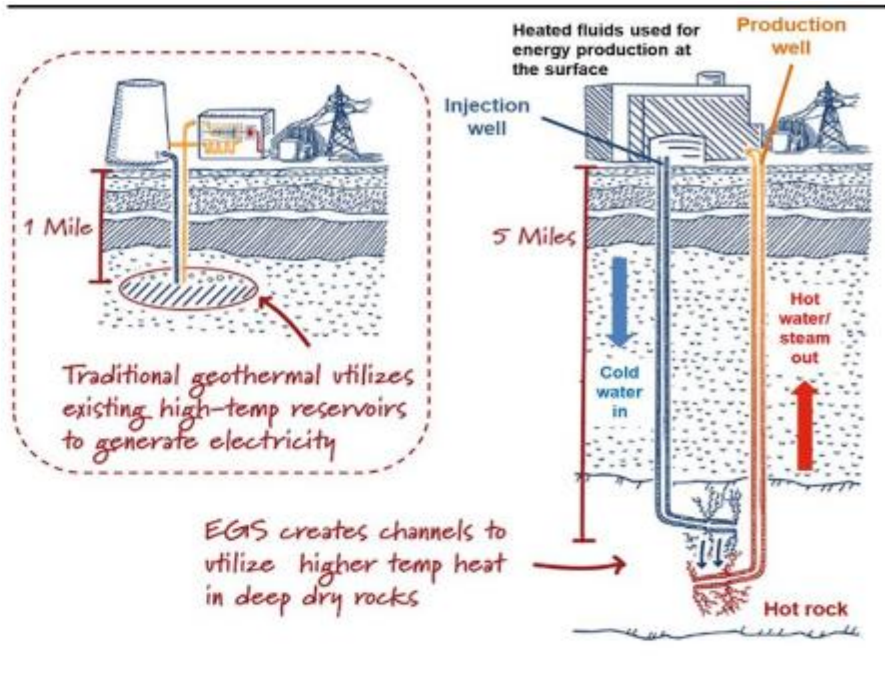



*Source: IEA*

- **State Power Investment Corp., China's biggest renewable power developer, and Norway-based Ocean Sun** are currently testing the deployment of offshore solar technology in the Yellow Sea. Success would enable locations out at sea to host solar panels and help land-constrained regions accelerate a transition away from fossil fuels. A project by Sungrow, on the site of a former coal mine in Huainan, has half a million floating solar panels covering the size of more than 400 soccer pitches and generating power for more than 100,000 homes. While solar plants on fresh water sites like reservoirs will continue to expand globally, ocean-based solar arrays that can handle waves of up to 4m could be ready for commercial deployment within a year, with systems able to withstand 10m high swells likely at least three years down the road.

- **Geothermal start-up Fervo Energy**, which signed a partnership with Google in 2021 to help the latter reach its' goal to operate on 24-7 carbon-free energy by 2030, announced a key technical milestone in July, completing a 30-day test at its commercial pilot plant for enhanced geothermal systems (EGS) in Northern Nevada. Fervo drills deep wells (re the test, down to 7,700 feet) and pumps water into them – after the water grows hot from the heat of the Earth, Fervo pumps it back to the surface, where a turbine converts the heat to electricity. Currently, most geothermal energy sources are located near tectonic plate boundaries where magma gets close to the earth's surface, heating up trapped water (Fig 19). Fervo, however, uses advanced drilling technology developed by the oil & gas industry with hydraulic fracturing to create reservoirs in rocks deep underground. The test achieved conditions that would generate 3.5MW of electricity (a single MW is roughly enough electricity to meet the demand of 750 homes at once) and Ferro has just started construction on a 400MW project that it expects to be online by 2028. Geothermal could play a key role in a decarbonised grid, providing "always on" power and long-duration energy storage at times when traditional renewables like solar and wind are not available.

**Fig 19: Traditional vs. Enhanced Geothermal Systems Energy Production**



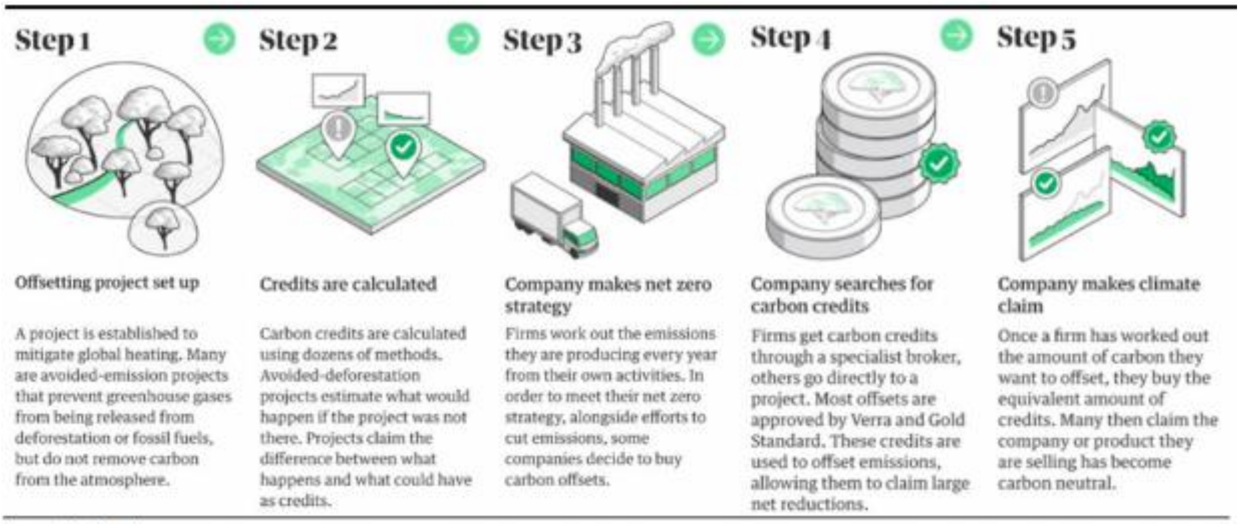

*Source: Fervo Energy*

- Circular economy startup Ambercycle has developed a groundbreaking solution called Cycora®, a regenerated alternative to conventional polyester that makes it possible to repeatedly recycle and reuse polyester in clothing. While 80 billion pieces of clothing are produced annually, every second, a truckload of used clothes is thrown into landfills or incinerated. This is a colossal waste of resources while toxins and microfibres from polyester and nylon leach into the earth, posing a serious threat to ecosystems, marine life, and human health. Current polyester and plastic recycling methods mean it can typically only be recycled once due to material breaking down during the recycling process. Ambercycle has attracted investment and partnerships from some of the biggest name clothing brands, H&M, CO:LAB, and Zalando and raised $27 million in funding to build a circular textile ecosystem. To date Ambercycle has diverted 3.5mn pounds of end-of-life textile waste away from landfill. Over the next 10-15 years, Ambercycle plans to build largescale recycling factories and create incentives to put garments into collection systems that will feed back directly into fabric supply chains.

Closely linked to the viability of the aforementioned CCUS and DAC projects is the monetization of the carbon credits so generated. Most of today's corporate climate claims—not only carbon neutral and net zero, but also carbon negative, carbon free, climate neutral and climate positive—rely to a greater or lesser extent on the use of carbon credits generated to offset corporate emissions. Against a backdrop of growing controversy around the quality of carbon credits on Voluntary Carbon Markets (VCMs; see our 1Q23 Malaysia ESG update report from April 2023 for details), there has been significant newsflow on this space over the last few months:

- Actor and former White House aide Kal Penn, in episode 12 of his popular climate crisis series "*Getting Warmer*" aired in April, focused on problems inherent to the carbon offset market, especially how companies are using cheap credits of highly-dubious veracity and quality to meet their carbon net emission ambitions (Fig 20). In particular, he flagged that how offset projects work on the ground often do not match the theory, with "avoided emissions" offsets in particular being an area of abuse given that many of the underlying green assets (e.g. forestry) being "protected" were never at risk or threatened in the first place, while the increasingly-controversial carbon offset registries that validate carbon savings from supposed "additionality" like Verra (see below) are not accountable to anyone. The good news is purchasing corporates are now far more engaged in evaluating the quality of the carbon credits they purchase – in particular, directly quantifiable carbon savings such as from CCS and DAC projects like Climeworks carbon capture plant in Iceland (as well as the many examples flagged in the earlier section) appear the way forward. At the same time, benchmark-setters like Science Based Targets initiative's (SBTi) Corporate Net-Zero Standard sensibly requires at least 90% emissions reductions before offset credits can be used to claim net zero.

**Fig 20: How companies use carbon offsetting to hit emission goals**




*Source: The Guardian*

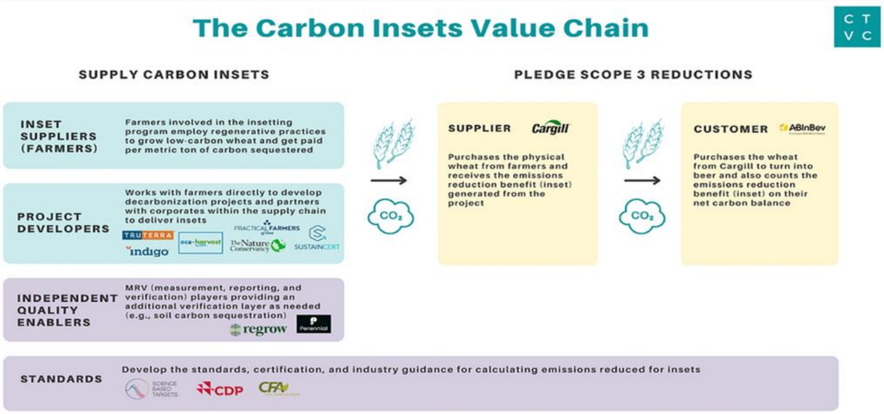
- At a meeting on climate, energy and environment hosted by Japan in April, G-7 ministers agreed in a 36-page joint statement that there was "value" in acknowledging **avoided emissions**, reinforcing the positive momentum created by the recent publication of guidelines for measuring and reporting the emissions a company has "avoided" by offering eco-friendly products and services. The guidelines were published in March with the support of the Switzerland-based World Business Council for Sustainable Development (WBCSD), a grouping of CEOs of over 200 global companies. According to the WBCSD, quantifying avoided emissions will show who's moving fastest and most successfully in offering more low-carbon products, providing investors signalling on the companies' efforts not only in reducing emissions but also in adapting and evolving to a more sustainable business model. WBCSD's guidelines also aim to address concerns around companies using undefined terms such as "avoided emissions" and "Scope 4 emissions" to overstate the positive impact of their climate efforts. Hence, per the guidelines, companies are allowed to report they have avoided emissions only if they have disclosed credible, science-based emission reduction targets, and only for products and services deemed to have the potential of having a "direct and significant decarbonizing impact". Such measurements also have internal benefits i.e. motivating employees and supporting purpose-driven management.

- In May, the CEO of the world's **leading carbon credit certified Verra** announced he would step down the following month after 15 years in his role. The resignation comes amidst media reports, principally a joint Guardian investigation which we flagged in our 1Q23 ESG report, that Verra, a Washington-based non-profit, approved tens of millions of worthless (often based on stopping the destruction of rainforests that were not threatened) carbon offsets that were bought by major companies to fulfil their climate and biodiversity commitments. Verra dominates the USD2b global voluntary carbon market (VCM), having certified more than 1b credits through its verified carbon standard (VCS).

The organisation is introducing new rules for generating rainforest carbon credits, with all projects set to be using the new system by mid-2025.

- In seeking options outside of carbon offsets, there is now increased focus on investing in value chain decarbonisation as a cost-effective way to achieve net zero goals. Scope 3 (or "value chain") emissions account for the lion's share of a company's total greenhouse gas (GHG) emissions and are often the most challenging category of emissions to measure and abate because companies are dependent on the climate action and data of multiple suppliers and distributors. In exploring ways to address Scope 3 emissions, approaches are often focused on working directly with suppliers to help reduce their own emissions. Such policies may include requirements or incentives (including ROI-boosting price premiums and/or technical support) for new or existing suppliers to switch to lower-emissions products, production processes or sourcing practices. An emerging strategy is value chain interventions, sometimes referred to as "**carbon insetting**", investing or co-investing in value chain partners' decarbonisation projects that generate verified, quantifiable levels of emissions reduction or carbon removal (Fig 21). Some notable examples in the US include Tyson Foods' financially incentivising supply chain partners in its Climate Smart Beef program to implement emissions-reducing practices, and Walmart's Project Gigaton to reduce supplier emission, which includes a supply chain finance program tied to science-based targets. Nestle has also stated it will move away from investing in carbon offsets for its brands, opting instead to reduce emissions in their supply chains. Insetting also provides valuable benefits that offsets may not e.g. supply chain risk reduction and progress towards sector-wide decarbonisation.

**Fig 21: The Carbon Insets Value Chain**




*Source: Climate Tech VC*

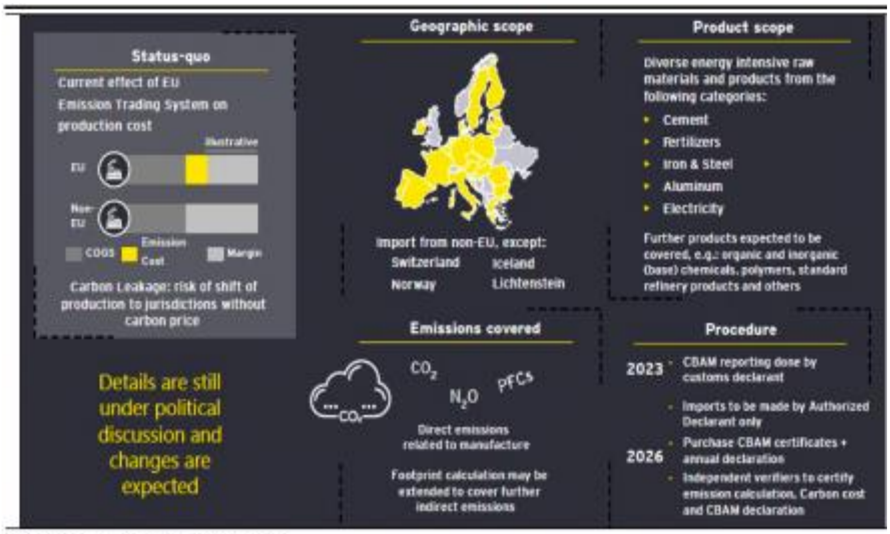
- In a move seen as critical in improving market confidence around the use of carbon offsets, the **Voluntary Carbon Markets Integrity Initiative (VCMI)** finalised in June a global rulebook (code of practice) for carbon credit buyers. The use of offsets is still seen as a necessary tool for companies to neutralise hard-to-abate emissions but the longstanding concerns are that offsets could incentivise companies to delay or avoid work needed to cut emissions within their value chains. The code addresses this by placing an absolute priority on emissions reductions and limiting the type of emissions companies will be allowed to offset in pursuit of their climate targets and commitments. Of note, accreditations will only be granted to companies that have already cut emissions in line with their near-term decarbonisation targets for Scope 1, 2 and 3 emissions as validated by the SBTi. Offsets can only be used for emissions that are additional to those targets, or "residual emissions", which make up no more than 5-10% of a company's entire carbon footprint. Crucially, there are also behavioural requirements for companies to align their public lobbying activities and advocacy work to be consistent with the Paris Agreement and ensure they do not "represent a barrier to ambitious climate regulation". Companies will only be allowed to purchase "good" carbon credits certified by the Integrity Council for the Voluntary Carbon Market (ICVCM), the supply-side sister initiative to the VCMI, which sets standards as to how carbon credit schemes are governed, and how the credits they produce are validated and tracked.

**Governments and regulators** around the world have also been busy in trying to manage the rapid pace of change and continuing developments relating to decarbonisation efforts and related economic implications, while also taking aim at the relatively opaque ESG ratings industry. Key developments to note are:

- **EU Carbon Border Tax:** in April, after two years of negotiations, the EU's 27 member states voted to finalize a new law creating the world's first carbon border tax. The tax, levied on imports, is a landmark piece of legislation, with the potential to transform the most polluting industries within the EU and beyond. The Carbon Border Adjustment Mechanism (CBAM; Fig 22) comes into effect in June 2026 and will begin by targeting imports of goods with a high-carbon impact, including cement, iron, fertilisers and steel. The carbon border tax aims to raise the costs of such imports to deter EU-based companies from moving production to jurisdictions with more relaxed environmental policies while at the same time reinforcing the EU's commitment to net-zero carbon emissions by 2050. Companies that import these products into the EU would need to purchase "CBAM certificates" to make up the difference between the carbon price paid in the country of origin and the price of carbon allowances in the EU.

  The carbon tax legislation is part of the European Union's broader "*Fit for 55 in 2030*" plan — a package of bills aimed at reducing the bloc's greenhouse gas emissions by at least 55 percent of their 1990s levels by 2030. The law will be phased in from 2026 until 2034, as the EU's existing carbon trading system — which enables manufacturers to offset emissions — is phased out. Governments and lawmakers in other countries are under pressure to follow suit – the vote has stoked fresh calls in the U.S. for a similar type of tax, with manufacturers arguing it is difficult to compete with imported goods that have bigger environmental footprints. The UK is also debating whether to introduce a carbon border tax.

**Fig 22: Carbon Border Adjustment Mechanism (CBAM): key highlights**

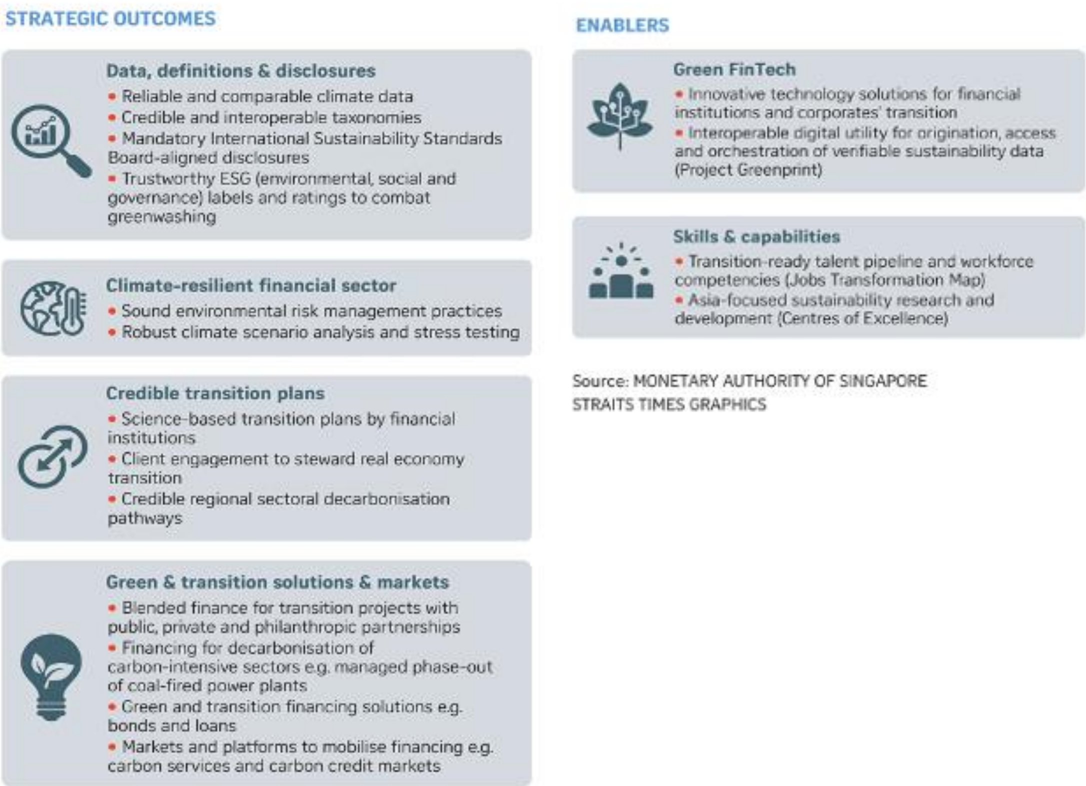



*Source: EY - Maybank Presentation*

- Closer to home, to accelerate the decarbonisation of the economy, Singapore will expand its focus, which is now solely on green finance, to one that also includes transition finance by mapping out clear definitions, encouraging innovation and extending grants. Singapore will achieve this through the Monetary Authority of Singapore's (MAS) refreshed Finance for Net Zero Action Plan (FiNZ). Transition finance is a form of financial support to help high-carbon companies become greener via long-term initiatives. The plan is an expansion of MAS' Green Finance Action Plan, launched in 2019, for Singapore to be a global hub for green finance. Under the expanded plan, MAS will work with the Singapore Exchange and other agencies on a road map for key financial institutions and listed companies to make climate disclosures aligned with the International Sustainability Standards Board's (ISSB) standards. The ISSB has been working on a global benchmark for sustainability disclosures, and this is expected to be finalised by end-2023.

  In sum, the four strategic outcomes expected of the FiNZ Plan (Fig 23) are **i)** to promote consistent, comparable, and reliable climate data and disclosures to guide decision making by financial market participants, and safeguard against greenwashing risks **ii)** co-create a code of conduct with industry, which will require ESG ratings and data product providers to disclose how transition risks are factored into their products; **iii)** work with relevant counterparts and stakeholders to enhance interoperability of taxonomies across jurisdictions, to catalyse cross-border green and transition financing flows; **and iv)** and work with the Singapore Exchange and other government agencies to set out a roadmap for key financial institutions (FIs) and listed companies to make International Sustainability Standards Board (ISSB)-aligned disclosures on a risk-proportionate basis.

Fig 23: Finance for Net Zero Action Plan

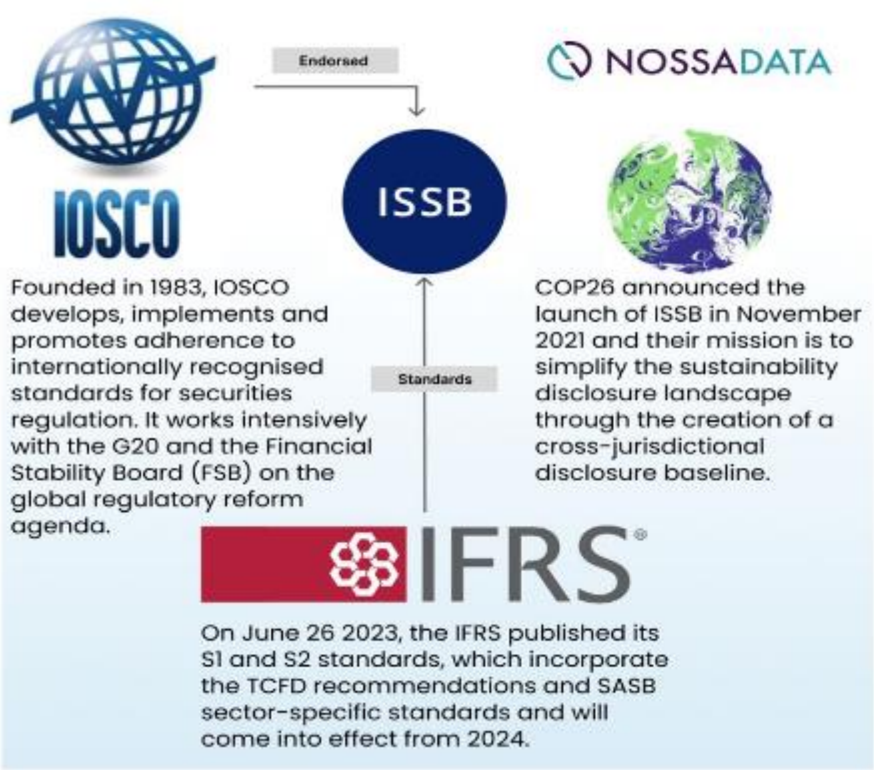



In July, a committee formed by two of Singapore's top regulators - the Accounting and Corporate Regulatory Authority (Acra) and Singapore Exchange Regulation (SGX RegCo), with support from the Ministry of Finance – started seeking public feedback on making disclosure of climate-related financial information mandatory for listed and large non-listed companies. The public consultation on the recommendations made by the Sustainability Reporting Advisory Committee (SRAC) will run from July 6 to Sept 30, 2023. The SRAC recommendations will require listed companies to lead the way and report climate-related disclosures (CRDs) that align with globally recognised standards set by the International Sustainability Standards Board (ISSB) from financial year 2025. The mandatory CRDs by large non-listed companies with annual revenue of at least $1 billion will start from financial year 2027. A review is recommended in 2027 with a view to mandate reporting by large non-listed companies with annual revenue of at least $100 million by around financial year 2030. Currently in Singapore, CRDs consistent with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) is mandatory for listed companies in the financial, food and forest products and energy sectors. Listed companies in materials and buildings, and transportation industries must do the same from 2024. All other listed companies are required to apply TCFD recommendations on a comply-or-explain basis.

- In a related development re disclosures, in August, the regulators of the world's top stock exchanges gave their backing to the international climate-reporting standards framework, adding momentum to efforts to establish the rules as the global baseline. The International Organization of Securities Commissions (IOSCO) endorsed the International Sustainability Standards Board's (ISSB) recently published climate reporting standard. IOSCO's board of 35 securities regulators—which includes the U.S. Commodity Futures Trading Commission and Securities and Exchange Commission (SEC) —endorsed the reporting framework which includes requirements to report so-called Scope 3 emissions in the supply chain and material information on climate-related risks and opportunities. IOSCO's more than 130 member jurisdictions oversee a total of more than 95% of global market capitalization. The SEC is completing its own set of requirements for U.S.-listed companies which are expected to come in the second half of this year and to require less disclosure than the ISSB's recommendations. Meanwhile, the EU's new standards require more information from both EU-based companies and some international businesses with local operations. Nonetheless, both will be aligned in part with the ISSB's "baseline" norms to minimise duplication for companies that operate in many countries.

The ISSB (Fig 24) hopes to become a global baseline for reporting sustainability information. It is now up to individual countries and jurisdictions to decide if and when they adopt the ISSB standards. So far, about 20 countries have declared their interest or commitment to applying and using the ISSB standards including Australia, Canada, Japan, Hong Kong, Malaysia, New Zealand, Nigeria, Singapore and the U.K. Reporting could start from 2025. The ISSB was created at the COP26 climate summit in Glasgow in response to calls from the Group of 20 advanced and developing economies, the Financial Stability Board—which oversees the G-20 global financial system—and IOSCO, as well as business leaders and investors, to progress towards a global baseline for sustainability reporting. The ISSB is part of the IFRS Foundation, responsible for writing financial accounting rules, which IOSCO endorsed two decades ago, lending them a credibility boost that led to mandatory adoption in over 140 jurisdictions.

**Fig 24: International Sustainability Standards Board (ISSB)**



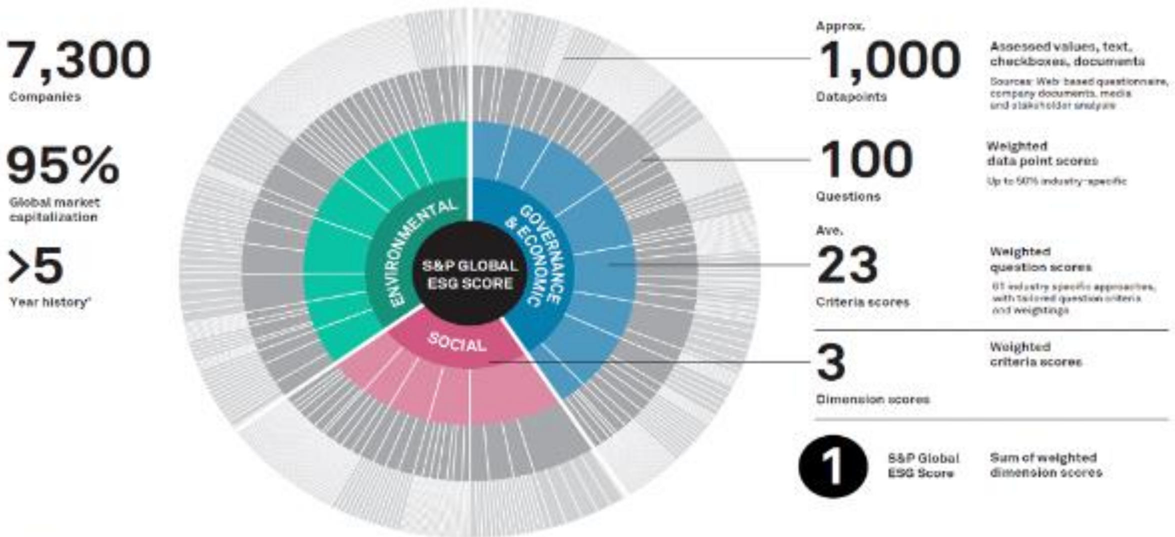

*Source: ISSB*

- **In the ESG ratings space**, the EU proposed new regulations in June for firms selling environmental, social and governance (ESG) ratings that could force some to restructure their businesses in a major shake-up of the industry. S&P Global, Moody's and Morningstar's Sustainalytics are among the biggest sellers of ratings on companies' ESG performance that help guide trillions of investment dollars. According to the EU's draft legislation, providers must stop providing consulting services to investors, the sale of credit ratings and the development of benchmarks among other things, to avoid potential conflicts of interest. Providers will also need to be authorised and supervised by the European Securities and Markets Authority (ESMA), and breaching the new rules could land them with a fine of up to 10% of their annual net turnover. The Regulation is intended to harmonise regulation across the EU given that there are currently no laws governing ESG rating providers in any of the individual EU Member States. It will also require EU and third country market participants providing ESG ratings commercially to become authorised and supervised by ESMA. Of note, Britain has also outlined plans to regulate ESG ratings providers.

  Critics say ESG ratings methodologies are overly complex, opaque and tend to reward companies that disclose more information, rather than those that are best able to manage ESG risks or do the best job in limiting negative business impacts on the planet. Authorities are trying to incentivise more sustainable investment and tackle greenwashing by boosting transparency and arming investors with better information, so directing private financial flows towards genuinely environmentally friendly activities. The draft warns of "divergences, lack of transparency and absence of common rules" and says it aims to avoid member states introducing their own disparate measures. However, in order to ensure that there remains a variety of approaches in the EU ESG ratings market, the Commission is not intending to require harmonisation of the methodologies used by ESG ratings providers. Instead, the Regulation is aimed at fostering transparency. ESG rating providers will remain in full control of their own methodologies in order to maintain a variety of approaches in the market and the Regulation expressly stipulates that ESMA, the Commission and other EU Member States may not interfere with the content or methodologies of ESG ratings.

- In a related development, **S&P Global** has dropped an alphanumeric scale (from 1 to 5) it launched in 2021 to score publicly rated entities in some sectors and asset classes on ESG factors when assessing their credit quality (Fig 25 provides an illustration of indicative scoring parameters). "We have determined that the dedicated analytical narrative paragraphs in our credit rating reports are most effective at providing detail and transparency on ESG credit factors material to our rating analysis, and these will remain integral to our reports," the company said in a statement released in Aug. Including ESG scores in credit ratings is proving particularly sensitive, given the potential to influence an issuer's borrowing costs. Some sustainability experts have said numerical scales are not capable of capturing the list of complex factors that ESG represents, which includes everything from climate change to workers' rights. Then there is the political factor as Republicans target Wall Street's use of ESG more broadly, with conservative state attorneys-generals last year opening an investigation into S&P's use of the factors. S&P said its ESG credit indicators were not sustainability ratings or a standalone assessment of a company's ESG performance – nonetheless, the reversion to relying only on text descriptions puts the company at odds with other ratings providers such as Moody's and Fitch which have said they will not follow suit.

Fig 25: S&P Global ESG Scoring: Indicative Parameters




*Where available
Source: S&P Global ESG Scores. S&P Global Market Intelligence. 2020. For illustrative purposes only

On a final note for this section of the report, governments are not always in control, though, and are being forced to be responsive in their own right. In the first ruling of its kind in the US, a Montana state court decided in August in favor of young people (16 plaintiffs aged 5 to 22) who alleged the state violated their state constitutional right to a “clean and healthful environment” by promoting the use of fossil fuels. The court determined that a provision in the Montana Environmental Policy Act has harmed the state’s environment and the young plaintiffs by preventing Montana from considering the climate impacts of energy projects. The provision is accordingly unconstitutional, the court said. The sweeping win, one of the strongest decisions on climate change ever issued by a court, could energize the environmental movement and usher in a wave of cases aimed at advancing action on climate change, experts say.

# 2Q23 MY Sustainalytics scoring: trends, standouts

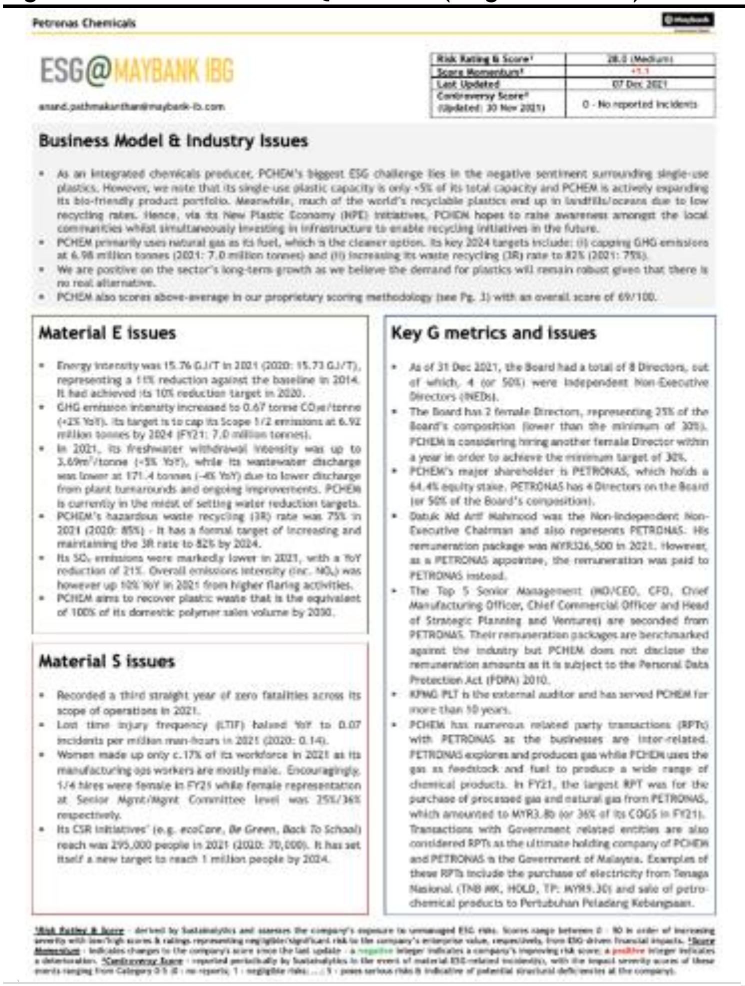
As articulated in our 123-page Malaysia ESG Compendium entitled "*Sustainability: No longer optional*", dated April 8, 2021, the MIBG equity research team across ASEAN (35+ analysts covering 250+ stocks) has been publishing one-page ESG tear sheets for companies under coverage since mid-2020. As at end-2021, all of Maybank Investment Bank (MIB)'s ASEAN equity research coverage, spanning across all sectors, now comes with a qualitative-centric ESG tear sheet insert (ESG 1.0; Fig 26) that outlines key E, S and G considerations for the company, and how these feed into the company's core business model in terms of recognition of material ESG issues and strategies on addressing related risks and opportunities.

Since 2Q21, these qualitative tear sheets have included a quantitative scoring element for a more complete consideration of the company's ESG issues and dynamics, hence providing both a backward looking/current quantitative view and a forward-looking, MIBG analyst-driven qualitative outlook. The quantitative ESG inputs are sourced from Sustainalytics which is a leading external ESG research and data provider that MIBG has partnered with for ESG services that range from company-focused ESG ratings reports, through to portfolio ESG and carbon analytics. Sustainalytics also acts as the data source for other service providers such as Morningstar (ESG fund ratings and indices) and FTSE Russell (ESG ratings and customized indices, including FTSE4Good indices).

More recently, in parallel with the publication of the maiden Regional Utilities report ("*Geopolitics accelerating transition to renewables*", dated April 24 2022) by the then newly-established MIBG Sustainability Research Team based in India, we launched our own proprietary ESG scoring model per the addition of a quantitative-focused tear sheet (ESG 2.0, example per Fig 27 below), with the target being to complete the roll out ESG 2.0 to all our 300+ ASEAN stock coverage by end-2023. Re methodology, we evaluate the ESG ratings based on quantitative, qualitative and ESG targets. We assign a score for each of these three parameters. The overall rating, per Appendix 1, is based on the weighted average of the scores: quantitative (50%), qualitative (25%) and ESG target (25%).

For the quantitative, qualitative and ESG target, the sub-parameters are assigned a score - '0' for data not available, '+1' for improving trajectory, positive change, 'Yes', better than peers or a positive number if historical is not available and '-1' for declining trajectory, negative change, 'No', lower than peers or a negative number. The total of the scores of all the sub-parameters is divided by the total number of sub-parameters is the score of each of the three parameters. The sub-parameters may be different for different industries depending on the key areas to monitor for each industry. A company should achieve a minimum score of 50 for an average ESG rating.

**Fig 26: PChem Tear Sheet: Qualitative (Original ESG 1.0)**



Petronas Chemicals

ESG@MAYBANK IBG

anand.pathmakanthan@maybank-ib.com

| | |
|---|---|
| Risk Rating & Score[1] | 28.0 (Medium) |
| Score Momentum[2] | +1.1 |
| Last Updated | 07 Dec 2021 |
| Controversy Score[3] (Updated: 30 Nov 2021) | 0 - No reported incidents |

**Business Model & Industry Issues**

- As an integrated chemicals producer, PCHEM's biggest ESG challenge lies in the negative sentiment surrounding single-use plastics. However, we note that its single-use plastic capacity is only <5% of its total capacity and PCHEM is actively expanding its bio-friendly product portfolio. Meanwhile, much of the world's recyclable plastics end up in landfills/oceans due to low recycling rates. Hence, via its New Plastic Economy (NPE) initiatives, PCHEM hopes to raise awareness amongst the local communities whilst simultaneously investing in infrastructure to enable recycling initiatives in the future.
- PCHEM primarily uses natural gas as its fuel, which is the cleaner option. Its key 2024 targets include: (i) capping GHG emissions at 6.98 million tonnes (2021: 7.0 million tonnes) and (ii) increasing its waste recycling (3R) rate to 82% (2021: 75%).
- We are positive on the sector's long-term growth as we believe the demand for plastics will remain robust given that there is no real alternative.
- PCHEM also scores above-average in our proprietary scoring methodology (see Pg. 3) with an overall score of 69/100.

**Material E issues**

- Energy intensity was 15.76 GJ/T in 2021 (2020: 15.73 GJ/T), representing a 11% reduction against the baseline in 2014. It had achieved its 10% reduction target in 2020.
- GHG emission intensity increased to 0.67 tonne $CO_2e$/tonne (+2% YoY). Its target is to cap its Scope 1/2 emissions at 6.92 million tonnes by 2024 (FY21: 7.0 million tonnes).
- In 2021, its freshwater withdrawal intensity was up to 3.69m³/tonne (+5% YoY), while its wastewater discharge was lower at 171.4 tonnes (-4% YoY) due to lower discharge from plant turnarounds and ongoing improvements. PCHEM is currently in the midst of setting water reduction targets.
- PCHEM's hazardous waste recycling (3R) rate was 75% in 2021 (2020: 85%) - it has a formal target of increasing and maintaining the 3R rate to 82% by 2024.
- Its $SO_x$ emissions were markedly lower in 2021, with a YoY reduction of 21%. Overall emissions intensity (inc. $NO_x$) was however up 10% YoY in 2021 from higher flaring activities.
- PCHEM aims to recover plastic waste that is the equivalent of 100% of its domestic polymer sales volume by 2030.

**Material S issues**

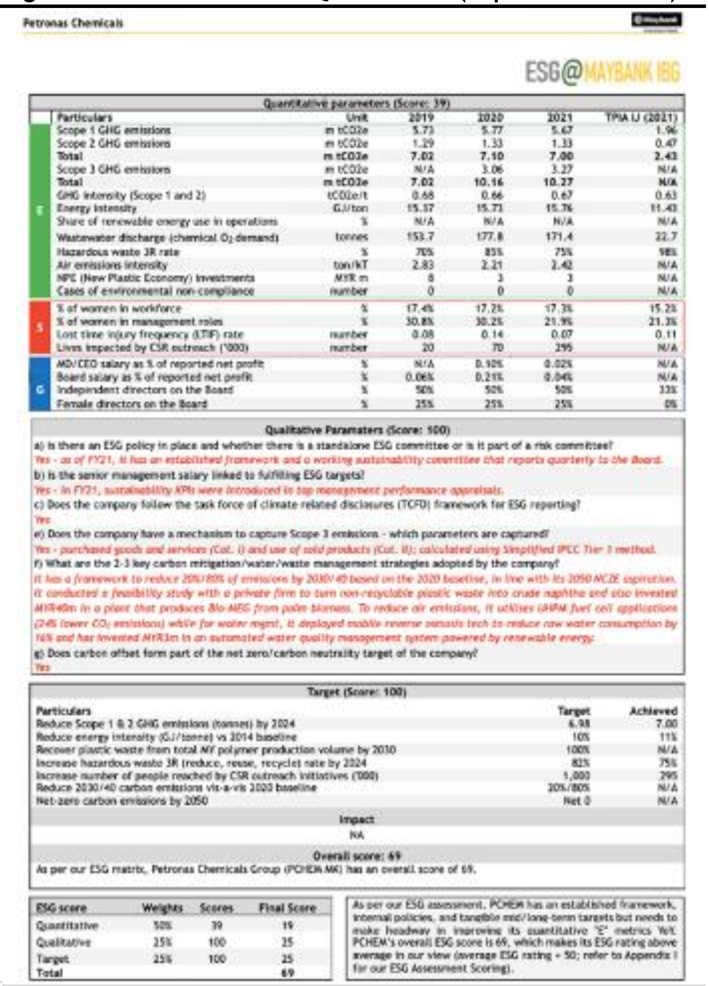
- Recorded a third straight year of zero fatalities across its scope of operations in 2021.
- Lost time injury frequency (LTIF) halved YoY to 0.07 incidents per million man-hours in 2021 (2020: 0.14).
- Women made up only c.17% of its workforce in 2021 as its manufacturing ops workers are mostly male. Encouragingly, 1/4 hires were female in FY21 while female representation at Senior Mgmt/Mgmt Committee level was 25%/36% respectively.
- Its CSR initiatives' (e.g. *ecoCare*, *Be Green*, *Back To School*) reach was 295,000 people in 2021 (2020: 70,000). It has set itself a new target to reach 1 million people by 2024.

**Key G metrics and issues**

- As of 31 Dec 2021, the Board had a total of 8 Directors, out of which, 4 (or 50%) were Independent Non-Executive Directors (INEDs).
- The Board has 2 female Directors, representing 25% of the Board's composition (lower than the minimum of 30%). PCHEM is considering hiring another female Director within a year in order to achieve the minimum target of 30%.
- PCHEM's major shareholder is PETRONAS, which holds a 64.4% equity stake. PETRONAS has 4 Directors on the Board (or 50% of the Board's composition).
- Datuk Md Arif Mahmood was the Non-Independent Non-Executive Chairman and also represents PETRONAS. His remuneration package was MYR326,500 in 2021. However, as a PETRONAS appointee, the remuneration was paid to PETRONAS instead.
- The Top 5 Senior Management (MD/CEO, CFO, Chief Manufacturing Officer, Chief Commercial Officer and Head of Strategic Planning and Ventures) are seconded from PETRONAS. Their remuneration packages are benchmarked against the industry but PCHEM does not disclose the remuneration amounts as it is subject to the Personal Data Protection Act (PDPA) 2010.
- KPMG PLT is the external auditor and has served PCHEM for more than 10 years.
- PCHEM has numerous related party transactions (RPTs) with PETRONAS as the businesses are inter-related. PETRONAS explores and produces gas while PCHEM uses the gas as feedstock and fuel to produce a wide range of chemical products. In FY21, the largest RPT was for the purchase of processed gas and natural gas from PETRONAS, which amounted to MYR3.8b (or 36% of its COGS in FY21). Transactions with Government related entities are also considered RPTs as the ultimate holding company of PCHEM and PETRONAS is the Government of Malaysia. Examples of these RPTs include the purchase of electricity from Tenaga Nasional (TNB MK, HOLD, TP: MYR9.30) and sale of petrochemical products to Pertubuhan Peladang Kebangsaan.

Source: Company, Maybank IBG Research (Tear Sheet)

**Fig 27: PChem Tear Sheet: Quantitative (Expanded ESG 2.0)**



Petronas Chemicals

ESG@MAYBANK IBG

| | Quantitative parameters (Score: 39) | | | | | |
|---|---|---|---|---|---|---|
| | Particulars | Unit | 2019 | 2020 | 2021 | TPIA IJ (2021) |
| E | Scope 1 GHG emissions | m tCO2e | 5.73 | 5.77 | 5.67 | 1.96 |
| | Scope 2 GHG emissions | m tCO2e | 1.29 | 1.33 | 1.33 | 0.47 |
| | **Total** | **m tCO2e** | **7.02** | **7.10** | **7.00** | **2.43** |
| | Scope 3 GHG emissions | m tCO2e | N/A | 3.06 | 3.27 | N/A |
| | **Total** | **m tCO2e** | **7.02** | **10.16** | **10.27** | **N/A** |
| | GHG intensity (Scope 1 and 2) | tCO2e/t | 0.68 | 0.66 | 0.67 | 0.63 |
| | Energy intensity | GJ/ton | 15.37 | 15.73 | 15.76 | 11.43 |
| | Share of renewable energy use in operations | % | N/A | N/A | N/A | N/A |
| | Wastewater discharge (chemical $O_2$ demand) | tonnes | 153.7 | 177.8 | 171.4 | 22.7 |
| | Hazardous waste 3R rate | % | 70% | 85% | 75% | 98% |
| | Air emissions intensity | ton/kT | 2.83 | 2.21 | 2.42 | N/A |
| | NPE (New Plastic Economy) investments | MYR m | 8 | 3 | 3 | N/A |
| | Cases of environmental non-compliance | number | 0 | 0 | 0 | N/A |
| S | % of women in workforce | % | 17.4% | 17.2% | 17.3% | 15.2% |
| | % of women in management roles | % | 30.8% | 30.2% | 21.9% | 21.3% |
| | Lost time injury frequency (LTIF) rate | number | 0.08 | 0.14 | 0.07 | 0.11 |
| | Lives impacted by CSR outreach ('000) | number | 20 | 70 | 295 | N/A |
| G | MD/CEO salary as % of reported net profit | % | N/A | 0.10% | 0.02% | N/A |
| | Board salary as % of reported net profit | % | 0.06% | 0.21% | 0.04% | N/A |
| | Independent directors on the Board | % | 50% | 50% | 50% | 33% |
| | Female directors on the Board | % | 25% | 25% | 25% | 0% |

**Qualitative Paramaters (Score: 100)**

a) Is there an ESG policy in place and whether there is a standalone ESG committee or is it part of a risk committee?
*Yes - as of FY21, it has an established framework and a working sustainability committee that reports quarterly to the Board.*
b) Is the senior management salary linked to fulfilling ESG targets?
*Yes - in FY21, sustainability KPIs were introduced in top management performance appraisals.*
c) Does the company follow the task force of climate related disclosures (TCFD) framework for ESG reporting?
*Yes*
e) Does the company have a mechanism to capture Scope 3 emissions - which parameters are captured?
*Yes - purchased goods and services (Cat. I) and use of sold products (Cat. XI); calculated using Simplified IPCC Tier 1 method.*
f) What are the 2-3 key carbon mitigation/water/waste management strategies adopted by the company?
*It has a framework to reduce 20%/80% of emissions by 2030/40 based on the 2020 baseline, in line with its 2050 NCZE aspiration. It conducted a feasibility study with a private firm to turn non-recyclable plastic waste into crude naphtha and also invested MYR40m in a plant that produces Bio-MEG from palm biomass. To reduce air emissions, it utilises UHPM fuel cell applications (24% lower $CO_2$ emissions) while for water mgmt, it deployed mobile reverse osmosis tech to reduce raw water consumption by 16% and has invested MYR3m in an automated water quality management system powered by renewable energy.*
g) Does carbon offset form part of the net zero/carbon neutrality target of the company?
*Yes*

| Target (Score: 100) | | |
|---|---|---|
| Particulars | Target | Achieved |
| Reduce Scope 1 & 2 GHG emissions (tonnes) by 2024 | 6.98 | 7.00 |
| Reduce energy intensity (GJ/tonne) vs 2014 baseline | 10% | 11% |
| Recover plastic waste from total MY polymer production volume by 2030 | 100% | N/A |
| Increase hazardous waste 3R (reduce, reuse, recycle) rate by 2024 | 82% | 75% |
| Increase number of people reached by CSR outreach initiatives ('000) | 1,000 | 295 |
| Reduce 2030/40 carbon emissions vis-a-vis 2020 baseline | 20%/80% | N/A |
| Net-zero carbon emissions by 2050 | Net 0 | N/A |

Impact

NA

Overall score: 69

As per our ESG matrix, Petronas Chemicals Group (PCHEM MK) has an overall score of 69.

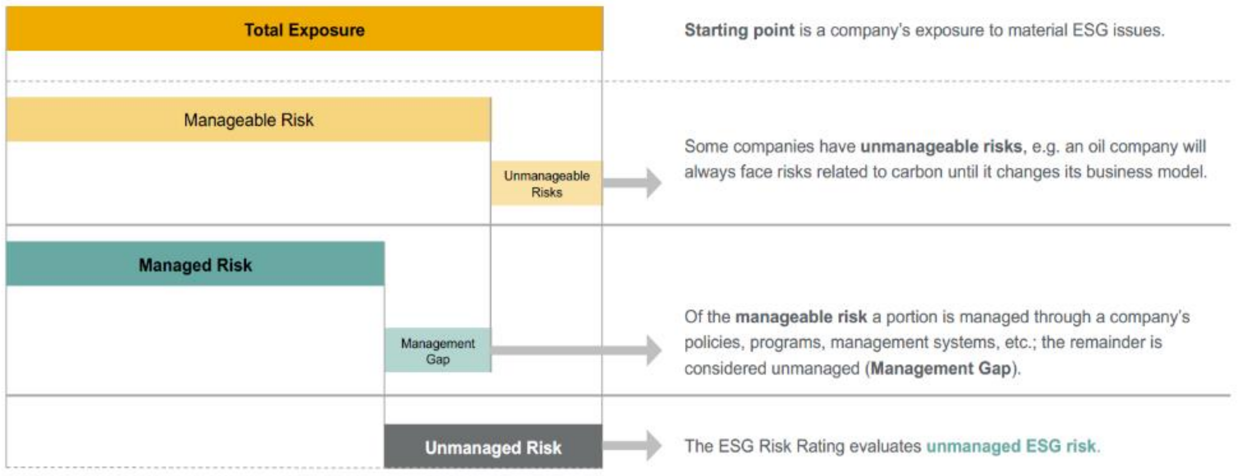
| ESG score | Weights | Scores | Final Score |
|---|---|---|---|
| Quantitative | 50% | 39 | 19 |
| Qualitative | 25% | 100 | 25 |
| Target | 25% | 100 | 25 |
| Total | | | 69 |

As per our ESG assessment, PCHEM has an established framework, internal policies, and tangible mid/long-term targets but needs to make headway in improving its quantitative "E" metrics. Yet PCHEM's overall ESG score is 69, which makes its ESG rating above average in our view (average ESG rating = 50; refer to Appendix I for our ESG Assessment Scoring).

Source: Company, Maybank IBG Research (Tear Sheet)

The Sustainalytics' ESG risk rating measures the extent to which the company's economic value is at risk from unmanaged ESG risks (Fig 28). This is done by giving points for specific material risk factors, identified from industry exposure and management indicators, to be added up across all the identified issues for a total overall score, which is then rated via five risk category ratings. These risk categories are absolute i.e. a certain risk assessment reflects a comparable degree of unmanaged ESG risk across the research universe, regardless of the sector or business the company operates in. Sustainalytics' company-specific ESG reports are updated annually on average, while score-influencing controversies are monitored and reported on an on-going basis – hence, the scoring for the company can change more often than the annual report update.

### Fig 28: Sustainalytics: ESG risk rating top-down methodology




*Source: Sustainalytics*

As mentioned, MIBG displays key Sustainalytics metrics in the upper right corner of the business model section at the top of the ESG 1.0 tear sheets, with a focus on the following:

- **Score:** this is the company's final ESG Risk Rating Score (Unmanaged Risk Score). It is derived by a materiality-driven risk decomposition process, starting with assessing the company's exposure to ESG risks at the industry level, followed by an assessment of the company's ESG management (i.e. actions and commitments that demonstrate how ESG issues are managed). This is finally followed by the score calculation of unmanaged risk, which is defined as material ESG risk that has not been managed by the company, the key components of which are unmanageable risk (cannot be addressed by company initiatives) and the management gap (risks that could be managed but are as yet not sufficiently addressed by management).

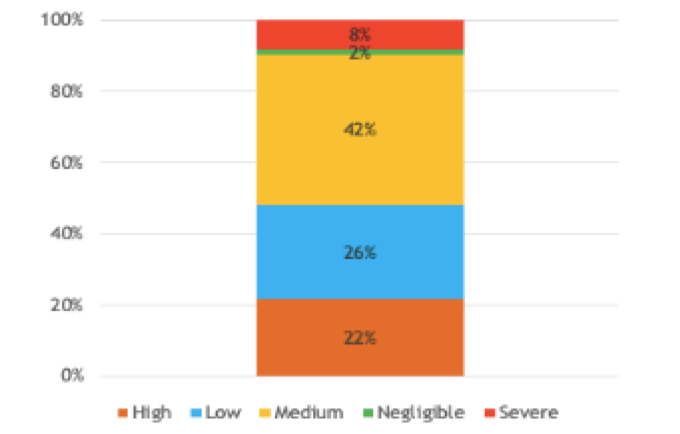
- **Rating:** company scores derived as above are assigned to five ESG risk categories, as shown in Figs 29-30. These are: **i)** negligible risk - score of 0-10; enterprise value (EV) considered to have negligible risk of material financial impacts driven by ESG factors; **ii)** low risk - score of 10-20; EV at low risk of material financial impacts; **iii)** medium risk - score of 20-30; EV at medium risk; **iv)** high risk – score of 30-40; EV at high risk; and **v)** severe risk – score of 40+; EV at severe risk of material financial impacts driven by ESG factors. These risk categories are absolute i.e. a particular risk assessment reflects a comparable degree of unmanaged ESG risk across the research universe, regardless of the sector the company is in.

- **Momentum:** this indicator shows the change in company score since the last assessment (on average, Sustainalytics updates its company scores around once a year, barring any major controversy event), and is broken down into changes in exposure momentum and management momentum. A negative number means overall risk score is improving (and vice versa). This indicator is of key interest to investors seeking to generate positive alpha via ESG momentum strategies i.e. by investing in companies showing improvement in ESG score, which is expected to flow through to improved operational performance and/or intangible value accretion.

- **Controversies:** where relevant, Sustainalytics also publishes controversy reports for companies for which it has ESG scores. These reports are generated when there is an event or aggregation of events relating to an ESG topic i.e. incidents that have a negative impact on the environment, society and external stakeholders. An event assessment is based on the highest impact or risk score assigned to the related incidents, alongside a broader assessment of event trend and company preparedness and response. The related event categories range from Category 1 (event has a low impact on the environment and society, and poses negligible risks to the company) up to Category 5 (event has a severe impact on the environment and society, posing serious risks to the company), with

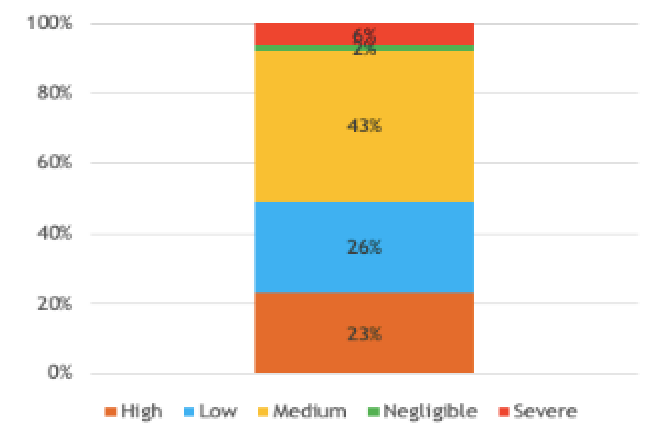
Category 4 and 5 events often indicative of structural problems at the company. The controversy reports also have an outlook (Positive, Negative or Neutral) that forecasts how the controversy rating will change over the next 12 months e.g. if negative, the event is likely to deteriorate, leading to a downgrade rating of the corresponding indicator, feeding back to the management score for the company.

**Fig 29: Sustainalytics: risk categories (global coverage)**




*Source: Sustainalytics, Maybank IBG (Chart)*
*Note: Comprises 15,335 public-listed companies with accessible data*

**Fig 30: Sustainalytics: risk categories (Malaysia coverage)**




*Source: Sustainalytics, Maybank IBG (Chart)*
*Note: Comprises 130 public-listed companies with accessible data*

Reviewing the 2023 YTD quarterly trend re Sustainalytics scores for our Malaysian stock coverage to end-June quarter, as detailed in Fig 31 below, the overall bias continues to be positive, as was the case in our last review per Malaysia ESG Quarterly (1Q23) "*Headway despite headwinds*", dated April 17. The number of stocks with improving scores (note a negative integer for the score momentum column indicates assessed ESG risk for the stock is declining, and hence is a positive change) remained far greater than the number with deteriorating scores. Of note:

- The Banking sector continued the positive scoring momentum seen over 2022 into 1H23, with the best scoring bank being **Hong Leong Bank**, which is a component of our 15-stock ESG Portfolio (see Fig 33);

- The Construction sector saw significant score improvements over 1H23; apart from the scoring rebound at **Cahya Mata Sarawak** (which we flagged in our 1Q23 update report), sector heavyweights **Gamuda** and **IJM** also saw tangible positive traction, continuing from their favourable momentum in 2022. Both stocks (note Gamuda is one of our ESG Portfolio "momentum" picks) are now on the cusp of improving their risk category to "medium risk" (score of 20-30), vs. "high risk" currently (30-40).

- The Consumer sector was the most mixed in terms of scoring momentum over 1H23, with deterioration for staples (**Nestle**, **QL**), while discretionary stocks like **Carlsberg** and **AEON** improved. Of note, the latter has now moved from "medium risk" to "low risk" per its' <20 score.

- Gaming sector scoring momentum was positively biased on balance over 1H23, with slight deterioration for **GENM** being offset by improvements for other stocks in the sector, in particular **Sports Toto**.

- In the Energy-related sectors (Oil & Gas and Petrochemicals), sector heavyweights such as **Dialog**, **Yinson** and **Petronas Chemicals** (PChem) continued to build on their respective positive 2022 scoring momentum in 1H23. The best scoring energy-related stock is Yinson, which is also a component stock of our recommended ESG Portfolio (as is PChem) and which also boasts the highest overall ESG scoring as generated by MIBG's aforementioned proprietary ESG scoring model.

- The Plantations sector saw broad and significant scoring improvements over 1H23. Of note, heavyweight **Sime Darby Plantations**, which had previously faced and subsequently responded comprehensively to forced labour allegations (per a US Customers and Border Protection Findings report issued in Jan 2022 – see our Malaysia ESG Compendium 2022 "*Shifting into higher gear*", dated Nov 29 for details), now scores in the medium risk category, vs. high risk over 2021 and 2022.

- The Property sector saw selective but tangible improvements – apart from the strongly improving trend for **ECW** since 2022 which we had flagged in our 1Q23 report, heavyweights **Sunway** and **SP Setia** have also notched up significant score improvements. In particular, Sunway, which is also a component stock of our recommended ESG portfolio, has now joined the handful of coverage stocks scoring as negligible risk i.e. score is <10.

- For the broad Tech sector, the software sub-sector saw sizeable scoring improvements, with **CTOS** in particular improving over 2Q23 to the medium risk category after an almost 10ppts scoring improvement. For the hardware sub-sector, apart from the previously-flagged (in our 1Q23 report) substantial improvement for **ViTrox**, which is also a "momentum" pick in our recommended ESG Portfolio, other heavyweights such as **Inari**, **Frontken** and **Greatech** also saw score improvements.

- For the Utilities sector, it was a decidedly mixed picture, especially as many stocks which saw better scores over 2022 gave back some of this improvement over 1H23 (and vice-versa). Except for **Petronas Gas**, which just squeaks into the medium risk category, the other stocks in the sector score as high or severe risk, with **YTL Power** in the unfortunate position of having the worst Sustainalytics score in our coverage universe, at >50.

**Fig 31: Sustainalytics: quarterly risk score trend for MIBG coverage stocks in 2023 YTD**

| | BBG Ticker | Rating | Sust. Risk Score (Annual Trend) | | Score Momentum | Sust. Risk Score (Quarterly Trend) | | Score Momentum |
|---|---|---|---|---|---|---|---|---|
| | | | 31-Dec-21 | 31-Dec-22 | (YoY Dec) | 31-Mar-23 | 30-Jun-23 | (YTD 2023) |
| **Automotive** | | | | | | | | |
| Bermaz Auto | BAUTO MK | Buy | 10.8 | 10.8 | | 10.8 | 10.8 | |
| MBM Resources | MBM MK | Buy | 14.2 | N/A | | N/A | N/A | |
| Sime Darby Bhd | SIME MK | Buy | 24.9 | 25.8 | *0.9* | 25.8 | 23.7 | *-2.1* |
| Tan Chong Motor | TCM MK | Sell | N/A | N/A | | N/A | N/A | |
| UMW Holdings | UMWH MK | Buy | 28.2 | 28.2 | | 28.2 | 28.1 | *-0.1* |
| **Banking** | | | | | | | | |
| Alliance Bank | ABMB MK | Buy | 29.0 | 27.3 | *-1.7* | 27.2 | 27.2 | *-0.1* |
| AMMB Holdings | AMM MK | Buy | 30.0 | 27.5 | *-2.5* | 27.1 | 27.1 | *-0.4* |
| BIMB Holdings | BIMB MK | Hold | 35.5 | 29.0 | *-6.5* | 29.0 | 29.0 | |
| CIMB Group Holdings | CIMB MK | Buy | 19.8 | 19.5 | *-0.3* | 19.2 | 19.2 | *-0.3* |
| Hong Leong Bank | HLBK MK | Buy | 24.3 | 18.7 | *-5.6* | 18.7 | 18.6 | *-0.1* |
| Hong Leong Financial | HLFG MK | Buy | 30.4 | 27.4 | *-3.0* | 27.4 | 27.1 | *-0.3* |
| Public Bank | PBK MK | Hold | 26.6 | 26.8 | *0.2* | 26.8 | 26.8 | |
| RHB Bank | RHBBANK MK | Buy | 24.3 | 25.8 | *1.5* | 25.8 | 25.6 | *-0.2* |
| **Construction** | | | | | | | | |
| Cahya Mata Sarawak | CMS MK | Buy | 38.5 | 48.3 | *9.8* | 37.6 | 36.1 | *-12.2* |
| Gamuda | GAM MK | Buy | 35.8 | 35.3 | *-0.5* | 35.3 | 31.0 | *-4.3* |
| IJM Corporation | IJM MK | Buy | 35.7 | 33.3 | *-2.4* | 33.3 | 31.1 | *-2.2* |
| Pintaras Jaya | PINT MK | Hold | | N/A | | N/A | N/A | |
| Sunway Construction | SCGB MK | Hold | 26.3 | 26.3 | | 26.3 | 24.2 | *-2.1* |
| **Consumer** | | | | | | | | |
| AEON Co. (M) | AEON MK | Buy | 20.7 | 20.5 | *-0.2* | 20.5 | 17.2 | *-3.3* |
| Berjaya Food | BFD MK | Buy | N/A | N/A | | N/A | N/A | |
| Carlsberg Brewery | CAB MK | Hold | 18.2 | 18.2 | | 18.2 | 15.5 | *-2.7* |
| Heineken Malaysia | HEIM MK | Buy | 21.6 | 21.6 | | 21.6 | 21.9 | *0.3* |
| InNature | INNATURE MK | Buy | | N/A | | N/A | N/A | |
| Leong Hup Int'l | LHIB MK | Buy | 50.4 | 50.9 | *0.5* | 50.9 | 48.5 | *-2.5* |
| MyNews Holdings | MNHB MK | Hold | N/A | N/A | | N/A | N/A | |
| MR D.I.Y. Group (M) | MRDIY MK | Buy | 31.4 | 31.4 | | 31.4 | 31.4 | |
| Nestle Malaysia | NESZ MK | Sell | 19.4 | 19.4 | | 19.4 | 20.8 | *1.4* |
| Padini Holdings | PAD MK | Buy | 16.2 | 14.6 | *-1.6* | 14.6 | 14.6 | |
| QL Resources | QLG MK | Sell | 41.6 | 41.1 | *-0.5* | 41.1 | 41.8 | *0.7* |
| 7-Eleven Malaysia | SEM MK | Hold | 30.9 | N/A | | N/A | 24.6 | |
| Farm Fresh | FFB MK | Buy | | N/A | | N/A | 35.2 | |

*Source: Sustainalytics*

*Note: Companies with scores classified as N/A are not in Sustainalytics' coverage universe*

**Fig 31: Sustainalytics: quarterly risk score trend for MIBG coverage stocks in 2023 YTD (cont'd)**

| | BBG Ticker | Rating | Sust. Risk Score (Annual Trend) 31-Dec-21 | Sust. Risk Score (Annual Trend) 31-Dec-22 | Score Momentum (YoY Dec) | Sust. Risk Score (Quarterly Trend) 31-Mar-23 | Sust. Risk Score (Quarterly Trend) 30-Jun-23 | Score Momentum (YTD 2023) |
|---|---|---|---|---|---|---|---|---|
| **Gaming** | | | | | | | | |
| Genting Malaysia | GENM MK | Buy | 27.7 | 27.7 | | 28.9 | 28.9 | *1.2* |
| Genting Bhd | GENT MK | Buy | 27.7 | 27.0 | *-0.7* | 27.0 | 26.8 | *-0.2* |
| Magnum Bhd | MAG MK | Hold | 28.3 | 27.6 | *-0.7* | 27.6 | 27.3 | *-0.3* |
| Sports Toto | SPTOTO MK | Hold | 30.8 | 29.1 | *-1.7* | 29.1 | 22.3 | *-6.8* |
| **Healthcare/Gloves** | | | | | | | | |
| Hartalega | HART MK | Sell | 17.6 | 17.1 | *-0.5* | 17.1 | 17.1 | |
| Kossan Rubber | KRI MK | Sell | 20.0 | 14.6 | *-5.4* | 14.6 | 14.6 | |
| Top Glove | TOPG MK | Sell | 24.4 | 23.1 | *-1.3* | 20.3 | 20.4 | *-2.8* |
| IHH Healthcare | IHH MK | Buy | 30.5 | 34.7 | *4.2* | 34.7 | 34.7 | |
| KPJ Healthcare | KPJ MK | Hold | 20.9 | 23.0 | *2.1* | 23.0 | 23.0 | |
| Optimax | OPTIMAX MK | Buy | | N/A | | N/A | N/A | |
| **Logistics** | | | | | | | | |
| Capital A Bhd | CAPITALA MK | Buy | 32.6 | 34.5 | *1.9* | 34.5 | 34.5 | |
| Malaysia Airports | MAHB MK | Hold | 20.1 | 21.5 | *1.4* | 21.5 | 21.2 | *-0.4* |
| MISC Bhd | MISC MK | Hold | 18.8 | 18.0 | *-0.8* | 18.0 | 17.7 | *-0.3* |
| Westports Holdings | WPRTS MK | Hold | 11.2 | 10.4 | *-0.8* | 10.4 | 10.4 | |
| **Media** | | | | | | | | |
| Astro Malaysia | ASTRO MK | Hold | 14.9 | 14.9 | | 13.4 | 13.4 | *-1.5* |
| **Non-Bank Financials** | | | | | | | | |
| Allianz Malaysia | ALLZ MK | Buy | N/A | 25.3 | | 25.3 | 25.3 | |
| Bursa Malaysia | BURSA MK | Hold | 13.1 | 15.2 | *2.1* | 15.2 | 15.2 | |
| MNRB | MNRB MK | Hold | | N/A | | N/A | N/A | |
| RCE Capital | RCE MK | Hold | N/A | N/A | | N/A | N/A | |
| **Oil & Gas** | | | | | | | | |
| Bumi Armada | BAB MK | Hold | 33.0 | 20.4 | *-12.6* | 20.4 | 20.4 | |
| Dialog Group | DLG MK | Buy | 31.6 | 26.4 | *-5.2* | 26.0 | 24.2 | *-2.2* |
| Favelle Favco | FAVCO MK | Hold | N/A | N/A | | N/A | #N/A | |
| Hibiscus Petroleum | HIBI MK | Buy | N/A | N/A | | 39.9 | 38.1 | |
| Icon Offshore | ICON MK | Buy | N/A | N/A | | N/A | N/A | |
| Malaysia Marine | MMHE MK | Buy | N/A | N/A | | N/A | N/A | |
| Sapura Energy | SAPE MK | Sell | 36.4 | 35.3 | *-1.1* | 35.3 | N/A | |
| Velesto Energy | VEB MK | Sell | 35.8 | 21.2 | *-14.6* | 21.2 | 21.7 | *0.5* |
| Wah Seong | WSC MK | Buy | N/A | N/A | | N/A | N/A | |
| Yinson Holdings | YNS MK | Buy | 21.7 | 17.4 | *-4.3* | 17.4 | 16.6 | *-0.8* |
| **Petrochemicals** | | | | | | | | |
| Petronas Chemicals | PCHEM MK | Hold | 28.0 | 23.7 | *-4.3* | 23.4 | 22.6 | *-1.1* |
| Lotte Chemical Titan | TTNP MK | Sell | N/A | 26.3 | | 26.3 | 26.3 | |
| **Plantations** | | | | | | | | |
| Boustead Plantations | BPLANT MK | Hold | N/A | N/A | | N/A | N/A | |
| Genting Plantations | GENP MK | Hold | 43.3 | 42.6 | *-0.7* | 42.6 | 42.4 | *-0.2* |
| IOI Corporation | IOI MK | Hold | 25.0 | 25.0 | | 23.3 | 24.7 | *-0.3* |
| KL Kepong | KLK MK | Buy | 38.5 | 38.5 | | 38.5 | 38.0 | *-0.5* |
| Sime Darby Plant | SDPL MK | Hold | 33.9 | 31.7 | *-2.2* | 27.6 | 27.7 | *-4.0* |
| Sarawak Oil Palms | SOP MK | Hold | N/A | 36.3 | | 33.0 | 33.8 | *-2.5* |
| Ta Ann Holdings | TAH MK | Buy | N/A | 27.5 | | 27.5 | 22.0 | *-5.5* |
| TH Plantations | THP MK | Sell | N/A | N/A | | N/A | N/A | |
| TSH Resources | TSH MK | Sell | N/A | N/A | | N/A | 42.0 | |
| **Property** | | | | | | | | |
| Eco World Dev | ECW MK | Buy | 25.5 | 20.6 | *-4.9* | 10.4 | 10.4 | *-10.2* |
| Eco World Int'l | ECWI MK | Buy | 20.6 | N/A | | N/A | N/A | |
| Sime Darby Property | SDPR MK | Buy | 14.2 | 14.2 | | 14.2 | 14.2 | |
| SP Setia | SPSB MK | Hold | 17.4 | 17.4 | | 17.4 | 13.2 | *-4.2* |
| Sunway Bhd | SWB MK | Hold | 13.6 | 13.6 | | 13.6 | 8.8 | *-4.8* |
| Tambun Indah Land | TILB MK | Hold | N/A | N/A | | N/A | N/A | |
| UEM Sunrise | UEMS MK | Hold | 15.9 | 15.9 | | 15.9 | 12.8 | *-3.1* |

*Source: Sustainalytics*

*Note: Companies with scores classified as N/A are not in Sustainalytics' coverage universe*

*[1]Risk Rating & Score - derived by Sustainalytics and assesses the company's exposure to unmanaged ESG risks. Scores range between 0 - 50 in order of increasing severity with low/high scores & ratings representing negligible/significant risk to the company's enterprise value, respectively, from ESG-driven financial impacts.*
*[2]Score Momentum - indicates changes to the company's score since the last update - a negative integer indicates a company's improving risk score; a positive integer indicates a deterioration.*

Fig 31: Sustainalytics: quarterly risk score trend for MIBG coverage stocks in 2023 YTD (cont'd)

| | BBG Ticker | Rating | Sust. Risk Score (Annual Trend) 31-Dec-21 | 31-Dec-22 | Score Momentum (YoY Dec) | Sust. Risk Score (Quarterly Trend) 31-Mar-23 | 30-Jun-23 | Score Momentum (YTD 2023) |
|---|---|---|---|---|---|---|---|---|
| **REITs** | | | | | | | | |
| Axis REIT | AXRB MK | Buy | 14.9 | 14.9 | | 14.0 | 14.0 | -0.9 |
| CapitaLand (M) Mall | CLMT MK | Hold | N/A | N/A | | N/A | N/A | |
| IGB REIT | IGBREIT MK | Hold | 18.3 | 16.8 | -1.5 | 16.8 | 16.8 | |
| KLCCP Stapled Group | KLCCSS MK | Hold | N/A | 12.3 | | 12.3 | 12.3 | |
| Pavilion REIT | PREIT MK | Buy | 18.2 | 16.2 | -2.0 | 16.2 | 16.6 | 0.4 |
| Al-Salam REIT | SALAM MK | Buy | N/A | N/A | | N/A | N/A | |
| Sentral REIT | SENTRAL MK | Hold | N/A | N/A | | N/A | N/A | |
| Sunway REIT | SREIT MK | Hold | 15.0 | 15.0 | | 12.7 | 12.7 | -2.3 |
| YTL Hospitality REIT | YTLREIT MK | Buy | 24.0 | N/A | | N/A | N/A | |
| **Renewables** | | | | | | | | |
| Cypark Resources | CYP MK | Buy | N/A | N/A | | N/A | N/A | |
| Solarvest Holdings | SOLAR MK | Hold | N/A | N/A | | N/A | N/A | |
| **Software** | | | | | | | | |
| CTOS Digital | CTOS MK | Buy | N/A | 35.6 | | 35.6 | 25.7 | -9.9 |
| GHL Systems | GHLS MK | Hold | N/A | N/A | | N/A | N/A | |
| MyEG Services | MYEG MK | Buy | 21.5 | 21.5 | | 20.2 | 20.2 | -1.3 |
| Ramssol | RAMSSOL MK | Buy | N/A | N/A | | N/A | N/A | |
| Revenue Group | REVENUE MK | Hold | N/A | N/A | | N/A | N/A | |
| **Technology** | | | | | | | | |
| Aurelius Technologies | ATECH MK | Buy | N/A | N/A | | N/A | N/A | |
| Frontken Corp. | FRCB MK | Buy | 29.8 | 29.8 | | 25.6 | 24.8 | -5.0 |
| Greatech Technology | GREATEC MK | Buy | 19.1 | 19.1 | | 19.1 | 18.6 | -0.5 |
| Globetronics Tech | GTB MK | Sell | 31.3 | N/A | | N/A | N/A | |
| Inari Amertron | INRI MK | Buy | 11.4 | 28.1 | 16.7 | 28.1 | 27.7 | -0.4 |
| ViTrox Corporation | VITRO MK | Hold | 24.6 | 24.6 | | 14.3 | 14.3 | -10.3 |
| V.S. Industry | VSI MK | Hold | 13.3 | 9.5 | -3.8 | 9.5 | 9.5 | |
| **Telcos** | | | | | | | | |
| Axiata Group | AXIATA MK | Buy | 28.7 | 27.9 | -0.8 | 27.9 | 29.8 | 1.9 |
| DiGi.com | DIGI MK | Hold | 23.9 | 24.1 | 0.2 | N/A | N/A | |
| Maxis Bhd | MAXIS MK | Hold | 26.3 | 27.9 | 1.6 | 27.9 | 27.8 | -0.1 |
| Telekom Malaysia | T MK | Buy | 26.1 | 25.8 | -0.3 | 27.8 | 27.8 | 2.0 |
| TIME dotCom | TDC MK | Hold | 26.2 | 26.2 | | 23.9 | 24.0 | -2.3 |
| **Utilities** | | | | | | | | |
| Gas Malaysia | GMB MK | Buy | N/A | 33.4 | | 33.4 | 31.4 | -2.1 |
| Mega First Corp. | MFCB MK | Buy | 51.3 | 39.3 | -12.0 | 39.3 | 39.8 | 0.5 |
| Malakoff Corporation | MLK MK | Hold | 43.9 | 43.9 | | 40.5 | 40.3 | -3.7 |
| Petronas Gas | PTG MK | Hold | 31.8 | 28.8 | -3.0 | 28.8 | 29.5 | 0.7 |
| Tenaga Nasional | TNB MK | Hold | 38.0 | 38.1 | 0.1 | 31.8 | 32.2 | -5.9 |
| YTL Power | YTLP MK | Hold | 53.3 | 52.7 | -0.6 | 52.7 | 54.1 | 1.4 |
| Ranhill Utilities | RAHH MK | Buy | N/A | N/A | | N/A | N/A | |

*Source: Sustainalytics*

*Note: Companies with scores classified as N/A are not in Sustainalytics' coverage universe*

*[1]Risk Rating & Score - derived by Sustainalytics and assesses the company's exposure to unmanaged ESG risks. Scores range between 0 - 50 in order of increasing severity with low/high scores & ratings representing negligible/significant risk to the company's enterprise value, respectively, from ESG-driven financial impacts.*
*[2]Score Momentum - indicates changes to the company's score since the last update - a negative integer indicates a company's improving risk score; a positive integer indicates a deterioration.*

Looking at the scoring trends YTD to end-Aug, only the Telco and Consumer sectors are prominent in terms of deteriorating scores – per Fig 34, all the other sectors have delivered positive scoring momentum. A few stocks of note were already flagged in our 1Q23 report i.e. **Cahya Mata Sarawak** (improvements for both Exposure and Management risk scores), **ViTrox** (Management score improved sharply, with the biggest positive changes being for eco-design, diversity programmes, whistleblower programmes, ESG governance and the new category of lobbying and political expense), **EcoWorld** (Management score jumped from 37.3, average, to 68.8, strong, on indications ECW is now following industry best practice in managing material ESG issues) and **Tenaga** (improvements in both Exposure and Management scores, with better results for GHG reduction programme and carbon solutions offerings.

Some of the more recent (through to end-Aug 2023 scoring; Fig 32) movers in terms of overall ESG risk score to be flagged are as follows:

- **CTOS Digital (CTOS MK):** overall ESG score improved from 35.6 (High) to 22.6 (Medium). Exposure risk scoring improved from 46.0 (Medium risk) to 33.4 (Low), with improvements in indicators such as financial flexibility, asset performance and water stress. Management score rose to 34.9 (Average), from 24.1 (Weak), with strong scores for ESG governance, board diversity / independence as well as lobbying and political expenses – areas with high-weightage where improvement would lead to significantly higher scoring include diversity programmes (no score), data privacy & security policy (only 25% raw score), whistleblower programmes (25% raw score) and sustainable products & services (no score).

- **YTL Power (YTLP MK):** the only stock in our coverage scoring above 50 (Severe risk), Exposure risk score is an elevated 75.0 (High), with affected beta indicators of note including emissions, effluents & waste, operating performance and carbon emissions / solutions offering. Management score is average at 30.8, with disclosure indicated to be poor, signalling inadequate accountability to investors and the public. Some of the higher weightage categories where the company could do better include environmental policy (only 25% raw score), environmental management system (60% raw score), asset integrity management (25% raw score), community involvement programmes (no score), whistleblower programmes (25% raw score) and board independence (no score).

- **Sunway (SWB MK):** risk rating improved from Low to Negligible following a -5.0 decline in overall ESG risk score, to 8.6, which makes Sunway the lowest risk developer within our coverage. Exposure risk score improved marginally, to 30.0 (Low), from 33.0, with improvements in indicators such as asset performance and regional water stress. The bigger driver was Management score, which jumped to 73.0 (Strong), from 60.1 (Strong), with maximum or near-maximum contributions from higher-weighted indicators such as environmental policy, occupier satisfaction surveys, bribery & corruption policy, whistleblower programmes, board diversity as well as lobbying and political expenses. Highly-weighted categories where scores should be improved are product service and safety (only 25% raw score) and board independence (only 50% raw score).

- **SP Setia (SPSB MK):** risk rating category was unchanged at Low but underlying overall ESG risk score improved to 13.2, from 17.4 previously. Exposure score was unchanged at 33.0 (Low) but Management score improved significantly, to 61.7 (Strong), from 48.6 (Average) previously. Highly-weighted indicators where the company scored well included occupier satisfaction surveys, bribery & corruption policy, whistleblower programmes, board diversity and independence, as well as lobbying and political expenses. Areas for improvement which would move its score tangibly higher include environmental policy (only 25% raw score), product service and safety (25% raw score) as well as scope of social supplier standards i.e. supply chain social compliance (25% raw score).

- **Sports Toto (SPTOTO MK):** overall ESG risk score improved from 29.1 (Medium Risk) to 22.3 (Medium), making the stock the best scoring gaming company under coverage. There was some incremental improvement in Exposure score (+0.4, to 36.1, Medium), underpinned by the categories of asset performance and carbon emissions. The much bigger driver was a sharp increase in Management score, from 22.6 (Weak) to 42.6 (Average), with contributing high-weightage indicators being carbon intensity, responsible gaming programme and bribery & corruption policy. Still, there are many high-weightage indicators for the company to improve upon, including environmental management system (only 20% raw score), working hours policy (20% raw score), human capital development (25%

raw score), verification of ESG reporting (no score) as well as board diversity and independence (average score is well below 30%).

- **AEON (AEON MK):** risk rating category improved from Medium to Low following a -3.3 decline in overall ESG risk score, to 17.2. Exposure score was flat at 28.1 (Low) but Management score rose significantly, from 29.2 (Average) to 41.8 (Average; scoring range for Average is 25-50). Indicators with high weightings where the company score well include whistleblower programmes, board diversity and social supplier standards (50% raw score). Other indicators where progress would translate into tangible score increases are environmental management system (EMS), employee turnover rate (only 20% raw score), supply chain management (25% raw score), data privacy & security policy (25% raw score), verification of ESG reporting (no score) and board independence (30% raw score).

- **Nestle (NESZ MK):** the slight deterioration in score here is interesting to us given Nestle is not only a well-regarded MNC that would be expected to be in the top-tier re ESG initiatives and risk scoring but the decline in overall ESG risk score means the company has gone from Low risk (19.4) to Medium risk (20.8). There was no change in Exposure score of 53.8 (Medium), with overall exposure deemed to be similar to subindustry average where carbon (own operations), resource use (especially water) and product governance are notable material ESG issues. Management score weakened slightly, -2.9 to 65.9 (Strong) – while the company has assigned board level responsibility for the oversight of ESG issues and has a very strong environmental policy, it is noted that Nestle Malaysia has adopted ESG practices which are not aligned with leading reporting standards – further, based on available evidence, the company's executive compensation is not explicitly linked to sustainability performance targets.

- **Gamuda (GAM MK):** overall ESG risk score improved from 35.3 (High) to 31.0 (High). Exposure risk actually increased, rising to 58.2 (High) from 51.5 (Medium) previously, with overall exposure being similar to subindustry average and notable material ESG issues centred around human capital, bribery and corruption as well as environmental and social (E&S) impact of products and services. Of note, while the board of directors oversees ESG matters, suggesting that these are integrated into its core business strategy, and the company's chief integrity and governance officer has oversight on bribery and corruption, the company can nonetheless improve its performance in the aforementioned areas by conducting annual bribery and corruption risk assessments, and employee training. In addition, to align itself with best industry practice, Gamuda needs to attain memberships in green building initiatives. Management score jumped from 33.7 (Average) to 50.7 (Strong), with aforementioned strong board oversight of ESG matters mitigating for the fact that the company's ESG reporting does not as yet align with leading reporting standards. In addition, Gamuda is a strong performer in human capital development, as it has in place relevant initiatives for talent recruitment, retention and development. Pertaining to its products, the company has sustainable offerings but does not disclose revenue derived from them.

**Fig 32: Sustainalytics: notable YTD 2023 risk score trends for MIBG coverage stocks**

| Sector/Company | BBG Ticker | Rating | Sustainalytics Risk Score (Quarterly and Monthly Trend) | | | | | Score Momentum (YTD 2023) |
|---|---|---|---|---|---|---|---|---|
| | | | 31-Dec-22 | 31-Mar-23 | 30-Jun-23 | 31-Jul-23 | 31-Aug-23 | |
| **Automotive** | | | | | | | | |
| Sime Darby Bhd | SIME MK | Buy | 25.8 | 24.4 | 23.7 | 23.7 | 23.7 | -2.1 |
| **Banking** | | | | | | | | |
| AMMB Holdings | AMM MK | Buy | 27.5 | 27.1 | 27.1 | 27.1 | 27.1 | -0.4 |
| CIMB Group Holdings | CIMB MK | Buy | 19.5 | 19.2 | 19.2 | 18.0 | 18.0 | -1.5 |
| Hong Leong Bank | HLBK MK | Buy | 18.7 | 18.7 | 18.5 | 18.5 | 18.5 | -0.2 |
| Hong Leong Financial | HLFG MK | Buy | 27.4 | 27.4 | 27.1 | 27.1 | 27.1 | -0.3 |
| RHB Bank | RHBBANK MK | Buy | 25.8 | 25.8 | 25.6 | 25.6 | 25.6 | -0.2 |
| **Construction** | | | | | | | | |
| Cahya Mata Sarawak | CMS MK | Buy | 48.3 | 37.6 | 36.1 | 36.1 | 36.1 | -12.2 |
| Gamuda | GAM MK | Buy | 35.3 | 35.3 | 31.0 | 31.0 | 31.0 | -4.3 |
| IJM Corporation | IJM MK | Buy | 33.3 | 33.3 | 31.1 | 31.1 | 31.1 | -2.2 |
| Sunway Construction | SCGB MK | Hold | 26.3 | 26.3 | 24.2 | 24.2 | 24.2 | -2.1 |
| **Consumer** | | | | | | | | |
| AEON Co. (M) | AEON MK | Buy | 20.5 | 20.5 | 17.2 | 17.2 | 17.2 | -3.3 |
| Carlsberg Brewery | CAB MK | Hold | 18.2 | 18.2 | 15.5 | 15.5 | 15.5 | -2.7 |
| Leong Hup Int'l | LHIB MK | Buy | 50.9 | 50.9 | 48.5 | 48.5 | 48.5 | -2.5 |
| Nestle Malaysia | NESZ MK | Sell | 19.4 | 19.4 | 19.4 | 20.8 | 20.8 | 1.4 |
| Padini Holdings | PAD MK | Buy | 14.6 | 14.6 | 14.6 | 14.6 | 15.2 | 0.6 |
| QL Resources | QLG MK | Sell | 41.1 | 41.1 | 41.8 | 41.8 | 41.8 | 0.7 |
| **Gaming** | | | | | | | | |
| Genting Malaysia | GENM MK | Buy | 27.7 | 28.9 | 28.9 | 28.9 | 28.9 | 1.2 |
| Sports Toto | SPTOTO MK | Hold | 29.1 | 29.1 | 22.3 | 22.3 | 22.3 | -6.8 |
| **Healthcare/Gloves** | | | | | | | | |
| Top Glove | TOPG MK | Sell | 23.1 | 20.3 | 20.4 | 20.4 | 20.4 | -2.8 |
| **Logistics** | | | | | | | | |
| Capital A Bhd | CAPITALA MK | Buy | 34.5 | 34.5 | 34.5 | 34.5 | 34.1 | -0.4 |
| Malaysia Airports | MAHB MK | Hold | 21.5 | 21.5 | 21.2 | 21.2 | 21.2 | -0.3 |
| **Media** | | | | | | | | |
| Astro Malaysia | ASTRO MK | Hold | 14.9 | 13.4 | 13.4 | 13.4 | 13.4 | -1.5 |
| **Oil & Gas** | | | | | | | | |
| Dialog Group | DLG MK | Buy | 26.4 | 26.0 | 24.2 | 24.2 | 24.2 | -2.2 |
| Yinson Holdings | YNS MK | Buy | 17.4 | 17.4 | 16.6 | 16.6 | 16.6 | -0.8 |
| **Petrochemicals** | | | | | | | | |
| Petronas Chemicals | PCHEM MK | Hold | 23.7 | 23.4 | 22.6 | 22.6 | 22.6 | -1.1 |
| **Plantations** | | | | | | | | |
| Kuala Lumpur Kepong | KLK MK | Buy | 38.5 | 38.5 | 38.0 | 36.1 | 36.1 | -2.5 |
| Sime Darby Plantation | SDPL MK | Hold | 31.7 | 27.6 | 27.7 | 27.7 | 27.7 | -4.0 |
| Sarawak Oil Palms | SOP MK | Hold | 36.3 | 33.0 | 33.8 | 33.8 | 33.8 | -2.5 |
| Ta Ann Holdings | TAH MK | Buy | 27.5 | 27.5 | 22.0 | 22.0 | 22.0 | -5.5 |
| **Property** | | | | | | | | |
| Eco World Development | ECW MK | Buy | 20.6 | 10.4 | 10.4 | 10.4 | 10.4 | -10.2 |
| SP Setia | SPSB MK | Hold | 17.4 | 17.4 | 13.2 | 13.2 | 13.2 | -4.2 |
| Sunway Bhd | SWB MK | Hold | 13.6 | 13.6 | 8.8 | 8.6 | 8.6 | -5.0 |
| UEM Sunrise | UEMS MK | Hold | 15.9 | 15.9 | 13.1 | 12.8 | 12.8 | -3.1 |
| **REITs** | | | | | | | | |
| Axis REIT | AXRB MK | Buy | 14.9 | 14.0 | 14.0 | 14.0 | 14.0 | -0.9 |
| Pavilion REIT | PREIT MK | Buy | 16.2 | 16.2 | 16.6 | 14.6 | 14.6 | -1.6 |
| Sunway REIT | SREIT MK | Hold | 15.0 | 12.7 | 12.8 | 12.8 | 12.7 | -2.3 |
| YTL Hospitality REIT | YTLREIT MK | Buy | N/A | N/A | N/A | N/A | N/A | |
| **Software** | | | | | | | | |
| CTOS Digital | CTOS MK | Buy | 35.6 | 35.6 | 25.7 | 22.6 | 22.6 | -13.0 |
| MyEG Services | MYEG MK | Buy | 21.5 | 20.2 | 20.2 | 20.2 | 20.2 | -1.3 |
| **Technology** | | | | | | | | |
| Frontken Corp. | FRCB MK | Buy | 29.8 | 25.6 | 24.8 | 24.8 | 24.8 | -5.0 |
| ViTrox Corporation | VITRO MK | Hold | 24.6 | 14.3 | 14.3 | 14.3 | 14.3 | -10.3 |
| V.S. Industry | VSI MK | Hold | 9.5 | 9.5 | 9.5 | 9.5 | 9.5 | |
| **Telcos** | | | | | | | | |
| Axiata Group | AXIATA MK | Buy | 27.9 | 27.9 | 29.8 | 29.8 | 29.4 | 1.5 |
| DiGi.com | DIGI MK | Hold | 24.1 | N/A | N/A | 25.2 | 25.2 | 1.1 |
| Telekom Malaysia | T MK | Buy | 25.8 | 27.8 | 27.8 | 27.8 | 27.5 | 1.7 |
| TIME dotCom | TDC MK | Hold | 26.2 | 23.9 | 24.0 | 24.0 | 24.0 | -2.3 |
| **Utilities** | | | | | | | | |
| Gas Malaysia | GMB MK | Buy | 33.4 | 33.4 | 31.4 | 31.4 | 31.4 | -2.1 |
| Malakoff Corporation | MLK MK | Hold | 43.9 | 40.5 | 40.3 | 40.3 | 37.9 | -6.0 |
| Tenaga Nasional | TNB MK | Hold | 38.1 | 31.8 | 32.2 | 32.2 | 32.2 | -5.9 |
| YTL Power | YTLP MK | Hold | 52.7 | 52.7 | 54.1 | 54.8 | 54.8 | 2.1 |

*Source: Sustainalytics*
*Note: Companies with scores classified as N/A are not in Sustainalytics' coverage universe*

***Risk Rating & Score*** *- derived by Sustainalytics and assesses the company's exposure to unmanaged ESG risks. Scores range between 0 - 50 in order of increasing severity with low/high scores & ratings representing negligible/significant risk to the company's enterprise value, respectively, from ESG-driven financial impacts.*
*[2]Score Momentum - indicates changes to the company's score since the last update - a negative integer indicates a company's improving risk score; a positive integer indicates a deterioration.*

# MY ESG Portfolio: continuing to outperform

To recap on our ESG Portfolio stock selection process, we combined the granular insights from the ESG 1.0 Tear Sheets with data and risk scoring from Sustainalytics to generate our maiden 16-stock ESG Portfolio in April 2021. We have since, per our most recent Malaysia ESG Compendium 2022 "*Shifting into higher gear*" report dated Nov 29, 2022, utilised a combination of insights from our completed ESG 2.0 Tear Sheets and three Sustainalytics-based stock filters namely **i)** ESG risk ratings (negligible-low-medium only); **ii)** quality of management (average-high only); **and iii)** level of controversies (0-1 score only), to guide us in refreshing the constituent make-up of our ESG portfolio, together with consideration for the following combination of factors and parameters:

- **Analyst stock rating:** as ESG factors lend support and de-risk existing business models that are fundamental drivers of long-term shareholder returns, we include both BUY and HOLD-rated companies with attractive business models and long-term growth outlooks, but exclude SELL-rated stocks, the latter notably including some companies with attractive ESG credentials / scores such as filters-satisfying Nestle and UEM Sunrise;

- **Sustainalytics risk score and category:** for many of the constituents we have chosen, there is clear positive correlation or cross-check between the analysts' fundamental stock rating and the risk score from the external ESG research provider – examples are across a diverse set of sectors and include BUY-rated names like Bermaz and Hong Leong Bank, as well as HOLD-rated Westports and Sunway, all of which have strong Sustainalytics risk scores /low risk ratings;

- **Momentum assessment:** while Sustainalytics momentum indicators are useful for flagging near-term changes in risk score, and where they are coming from (i.e. exposure or management issues), the analysts may, from their frequent dialogues with company management and deep understanding of the underlying business, have greater insights into management's commitment and plans to address and improve the company's ESG factors. This bottom-up, forward-looking understanding underscores portfolio picks that are not currently in the filtered 38 stocks list (see Appendix 2 for full list) but show strong signs of joining this list over the medium-term i.e. where current relatively high ESG risk scores have scope to improve significantly on positively pivoting business models and improving ESG factor measurements and disclosures.

  We have retained 4 (of the original 5) such "momentum" stocks in our refreshed ESG portfolio notwithstanding these names not satisfying all 3 of the aforementioned Sustainalytics filters, namely telco Telekom (controversy score of 2 relating to Bribery and Corruption events over the past decade, the last being in 2019), banking group RHB Bank (controversy score of 2 relating to being on the 2022 Global Coal Exit List over financial relationships with the coal industry), construction company Gamuda (still high overall ESG Risk Score / Rating despite improvement as detailed in the previous section) and shipper MISC (controversy score of 2 relating to Emissions, Effluents and Waste issues from environmentally-damaging shipbreaking activities, the last such report being in Feb 2022).

  Leaving the momentum stocks list to join the filtered stocks list is tech play ViTrox. Previously held back by weak management score related to poor disclosures, and lack of policies and programmes to manage risks related to its material ESG issues, 1Q23 saw its overall ESG risk score revised to 14.3 (Low risk), from 24.6 (Medium), underpinned by a big improvement in Management score, from 20.2 (Weak) to 51.5 (Strong), with better scores across all major indicators, especially eco-design, diversity programmes, whistleblower programmes, ESG governance and the new category of lobbying and political expense.

- **FTSE4Good membership:** considering whether portfolio constituent stocks are in Bursa's FTSE4Good Bursa Malaysia Index is a useful cross-check - recall this index adopts best-in-class positive screening and inclusion criteria are consistent with the global ESG model that FTSE has developed. However, we note that the 30-stock KLCI substantially overlaps with the 98-stock FTSE4Good index (as at end-June 2023; 26 of the KLCI constituent stocks are also in the FTSE4Good) – hence, there is a very high positive correlation between the two indices – therefore, for investors looking to capture differentiated performance vs. the KLCI benchmark, a more refined ESG portfolio appears to be required; and

- **Risk scores and ESG Tear Sheet completion:** we have required constituent stocks to have both a Sustainalytics risk score as well as completed ESG Tear Sheets (1.0 and 2.0). We note that this results at the moment in exclusion of smaller-cap stocks with prima facie promising ESG underpinnings such as Allianz and Aurelius Technologies.

Re the most recent change in the ESG Portfolio, as articulated in our 4Q22 Results Roundup report ("*Downbeat Finish*", dated March 5), we removed **Petronas Chemicals (PChem)** following its' rating downgrade to SELL (see report "*4Q22: Fine margins facing a tight squeeze*", dated Feb 24, for details). However, with its recent rating upgrade to HOLD per update report "*Mixed Fortunes*", dated April 4, we have re-included this large-cap. No changes to the portfolio have been made post-2Q23 reporting (see 2Q23 results roundup report "*Regaining Composure*", dated Sept 4) – hence, the 15-stock ESG portfolio is again similar to that in the Malaysia ESG Compendium 2022 "*Shifting into higher gear*" report dated Nov 29, 2022. As mentioned, and as flagged in Fig 33, while the bulk of our ESG Portfolio (10 out of the 15 stocks) are constituted of stocks which satisfy the three quantitative/qualitative Sustainalytics-derived filters as previously articulated, we have also included the 5 "momentum" stocks (**MISC**, **RHB**, **Telekom**, **Gamuda**, **ViTrox**) which, while they do not immediately satisfy all three filters, are, per our on-the-ground research assessment, showing positive momentum re closing the implied disclosure and operational gaps to improve their ESG metrics / scoring over the medium-term.

**Fig 33: MY ESG portfolio: recommended constituents**

| Stock | BBG Code | Mkt Cap. (MYRm) | Rec. | Price (MYR) | TP (MYR) | PER (x) FY23E | PER (x) FY24E | ROE (%) FY23E | Yield (%) FY23E | Risk Rating* | Risk Score* | Management Rating* | Controversy Score* | MIBG ESG Score | In FBM4G Index?^ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Filtered Stocks** | | | | | | | | | | | | | | | |
| Petronas Chemicals | PCHEM MK | 59,440 | Hold | 7.43 | 7.00 | 22.8 | 15.2 | 6.5% | 2.2% | 22.6 | Medium | Strong | 0 | 69 | Yes |
| CelcomDigi | CDB MK | 51,971 | Hold | 4.43 | 4.60 | 39.7 | 24.4 | 8.1% | 2.5% | 24.2 | Medium | Average | 0 | 67 | Yes |
| Hong Leong Bank | HLBK MK | 43,484 | Buy | 20.06 | 23.00 | 10.2 | 10.9 | 11.8% | 3.1% | 18.7 | Low | Strong | 0 | 76 | Yes |
| Westports | WPRTS MK | 11,219 | Hold | 3.29 | 3.68 | 14.3 | 13.6 | 22.6% | 5.3% | 10.4 | Low | Strong | 1 | 62 | Yes |
| Inari | INRI MK | 10,698 | Hold | 2.86 | 3.00 | 32.5 | 26.0 | 12.4% | 3.0% | 27.7 | Medium | Average | 0 | 70 | Yes |
| Sunway | SWB MK | 10,058 | Hold | 2.03 | 1.92 | 16.3 | 15.2 | 5.6% | 2.5% | 8.8 | Negligible | Strong | 0 | 74 | No |
| Yinson | YNS MK | 7,383 | Buy | 2.54 | 5.05 | 14.2 | 8.9 | 11.7% | 0.8% | 16.6 | Low | Strong | 1 | 78 | Yes |
| ViTrox | VITRO MK | 7,090 | Hold | 7.50 | 8.10 | 40.4 | 28.4 | 17.5% | 0.6% | 14.3 | Low | Strong | 0 | 55 | No |
| Bursa | BURSA MK | 5,600 | Hold | 6.92 | 6.55 | 22.3 | 24.4 | 30.1% | 3.8% | 15.2 | Low | Strong | 0 | 69 | Yes |
| Axis REIT | AXRB MK | 3,204 | Buy | 1.84 | 2.16 | 19.7 | 15.6 | 5.9% | 4.6% | 14.0 | Low | Average | 0 | 59 | Yes |
| Bermaz Auto | BAUTO MK | 2,796 | Buy | 2.40 | 4.14 | 8.9 | 7.2 | 39.8% | 9.5% | 10.8 | Low | Average | 0 | 65 | Yes |
| **Momentum Stocks** | | | | | | | | | | | | | | | |
| MISC | MISC MK | 32,139 | Hold | 7.20 | 7.19 | 13.3 | 13.3 | 6.3% | 4.6% | 17.7 | Low | Strong | 2 | 71 | Yes |
| RHB Bank | RHBBANK MK | 24,089 | Hold | 5.62 | 6.20 | 9.2 | 8.8 | 8.9% | 6.7% | 25.8 | Medium | Average | 2 | 65 | Yes |
| Telekom | T MK | 18,995 | Buy | 4.97 | 6.50 | 10.6 | 10.4 | 19.9% | 3.8% | 27.8 | Medium | Average | 2 | 67 | Yes |
| Gamuda | GAM MK | 12,267 | Buy | 4.55 | 4.80 | 14.4 | 14.4 | 16.8% | 11.0% | 35.5 | High | Average | 1 | 68 | No |

** derived from leading external ESG research & data provider Sustainalytics*

*^ FTSE4Good Bursa Malaysia (F4GBM) Index (98 constituents as of Jun 2023)*

*Source: Maybank IBG Research, Sustainalytics, FactSet, Bloomberg (as of 15 Sep)*

Turning to performance, in Fig 34 below, we have updated (to end-Aug 2023) the backtesting of the performance of the 15-stock ESG Portfolio against Sustainalytics and MIBG Malaysia overall and filtered coverage. When considering relative performance vs. the benchmark MSCI Malaysia, both overall and filtered coverage generated significantly superior returns. Further, per the rally in global risk assets since early July which has seen many higher-beta/higher-risk stocks outperforming, there has been a continued narrowing of the outperformance gap since our last update (for period to end-March 2023 per Malaysia ESG Quarterly (1Q23) report "Headway despite headwinds", dated April 17), with the MIBG 15-stock ESG portfolio now performing generally in-line with (vs. modestly outperforming previously) the 62 filtered Sustainalytics stocks. In sum, the backtested 15-stock ESG Portfolio generated returns of +1.3%/+6.3%/+1.8% over 1/3/5 years, handily outperforming both overall MIBG market coverage that overlaps with Sustainalytics coverage (78 stocks) as well as the 38 filtered Malaysian stocks covered by MIBG.

**Fig 34: Backtesting our 15-stock ESG Portfolio performance vs. both MSCI and broad coverage (end-Aug 2023)**

| | | MCAP weighted return | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | MSCI Malaysia | | | annualised returns | | | Out/underperformance | | |
| | no of companies | 5Y Ann. Ret | 3Y Ann. Ret | 1Y Ret | 5Y Ann. Ret | 3Y Ann. Ret | 1Y Ret | 5Y Ann. Ret | 3Y Ann. Ret | 1Y Ret |
| **Malaysia** | | | | | | | | | | |
| Total companies - Sustainalytics | 136 | -4.8% | -3.5% | -3.3% | 0.9% | 7.0% | 7.4% | 5.7% | 10.5% | 10.7% |
| ESG risk score -- low/medium + controversy (no or 1) + mgmt (medium or strong) | 62 | -4.8% | -3.5% | -3.3% | 0.6% | 7.5% | 1.4% | 5.4% | 11.0% | 4.8% |
| **MIBG coverage (overlaps with Sustainalytics)** | **78** | **-4.8%** | **-3.5%** | **-3.3%** | **-1.1%** | **4.3%** | **4.2%** | **3.8%** | **7.8%** | **7.5%** |
| ESG risk score -- low/medium + controversy (no or 1) + mgmt (medium or strong) | 38 | -4.8% | -3.5% | -3.3% | -1.6% | 5.0% | -1.1% | 3.2% | 8.5% | 2.2% |
| **MIBG 15-stock ESG Portfolio** | **15** | **-4.8%** | **-3.5%** | **-3.3%** | **1.8%** | **6.3%** | **1.3%** | **6.6%** | **9.9%** | **4.6%** |

*Source: Sustainalytics, Maybank IBG Research*

In conclusion, the ESG Tear Sheets 1.0 and 2.0 for the 15 ESG Portfolio constituent stocks, as well as MIBG Malaysia Research stock coverage that have incorporated ESG 2.0 as well (current status summarised in Fig 35 below) can be referenced in our comprehensive Malaysia ESG Compendium 2022 "*Shifting into higher gear*" report dated Nov 29, 2022; refer to pages 45-147 for details on ESG qualitative fundamentals and quantitative Sustainalytics and MIBG proprietary scoring, and how these relate to risks and opportunities that impact the core business model.

## Fig 35: MIBG Malaysia Research Coverage: 54 stocks; ranked by MIBG ESG Score

| Stock | BBG Code | Mkt Cap. MYRm | Rec. | Price MYR | TP MYR | PER (x) FY22E | PER (x) FY23E | ROE (%) FY23E | Yield (%) FY23E | MIBG ESG Score (total) | *Quant Score* | *Qual Score* | *Target Score* | Sust. Risk Score* | In FBM4G Index? ^ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Yinson Holdings | YNS MK | 7,758 | Buy | 2.54 | 5.05 | 17.3 | 14.2 | 11.7% | 0.8% | 78 | 56 | 100 | 100 | 16.6 | Yes |
| Hong Leong Bank | HLBK MK | 43,484 | Buy | 20.06 | 23.00 | 12.7 | 10.2 | 11.8% | 3.1% | 76 | 69 | 67 | 100 | 18.7 | Yes |
| Sunway | SWB MK | 10,149 | Hold | 2.03 | 1.92 | 14.9 | 16.3 | 5.6% | 2.5% | 74 | 47 | 100 | 100 | 8.8 | No |
| MISC Bhd | MISC MK | 32,139 | Hold | 7.20 | 7.19 | 14.1 | 13.3 | 6.3% | 4.6% | 71 | 43 | 100 | 100 | 17.7 | Yes |
| RCE Capital | RCE MK | 1,890 | Buy | 2.55 | 2.38 | 10.1 | 9.6 | 17.2% | 16.5% | 71 | 50 | 83 | 100 | N/A | Yes |
| Sunway REIT | SREIT MK | 4,966 | Hold | 1.45 | 1.54 | 15.2 | 14.8 | 6.6% | 6.1% | 71 | 50 | 83 | 100 | 12.7 | No |
| Inari Amertron | INRI MK | 10,676 | Hold | 2.86 | 3.00 | 25.0 | 32.5 | 12.4% | 3.0% | 70 | 47 | 86 | 100 | 27.7 | Yes |
| Bursa Malaysia | BURSA MK | 5,600 | Hold | 6.92 | 6.55 | 23.8 | 22.3 | 30.1% | 3.8% | 69 | 54 | 100 | 67 | 15.2 | Yes |
| Gamuda | GAM MK | 12,109 | Buy | 4.55 | 4.80 | 10.2 | 14.4 | 16.8% | 11.0% | 69 | 56 | 100 | 67 | 35.5 | No |
| IOI Corporation | IOI MK | 23,632 | Hold | 3.76 | 3.85 | 13.8 | 17.8 | 9.8% | 2.9% | 69 | 39 | 100 | 100 | 24.7 | Yes |
| Petronas Chemicals | PCHEM MK | 59,440 | Hold | 7.43 | 7.00 | 10.7 | 22.8 | 6.5% | 2.2% | 69 | 39 | 100 | 100 | 22.6 | Yes |
| Axiata Group | AXIATA MK | 23,016 | Buy | 2.51 | 3.40 | 17.9 | 67.3 | 1.5% | 4.0% | 68 | 62 | 83 | 67 | 29.9 | Yes |
| CelcomDigi | CDB MK | 51,971 | Hold | 4.43 | 4.60 | 42.6 | 39.7 | 8.1% | 2.5% | 67 | 43 | 83 | 100 | 24.2 | Yes |
| CIMB Group | CIMB MK | 61,644 | Buy | 5.78 | 6.50 | 11.1 | 9.5 | 9.8% | 5.7% | 67 | 50 | 67 | 100 | 19.2 | Yes |
| My EG Services | MYEG MK | 5,833 | Buy | 0.78 | 1.16 | 18.2 | 14.1 | 19.0% | 2.1% | 67 | 67 | 33 | 100 | 20.2 | Yes |
| Telekom Malaysia | T MK | 18,995 | Buy | 4.97 | 6.50 | 16.4 | 10.6 | 19.9% | 3.8% | 67 | 50 | 67 | 100 | 27.8 | Yes |
| Hong Leong FG | HLFG MK | 20,380 | Buy | 17.76 | 21.70 | 8.6 | 7.2 | 10.9% | 2.8% | 66 | 73 | 17 | 100 | 27.4 | Yes |
| Sunway Construction | SCGB MK | 2,444 | Hold | 1.89 | 1.73 | 14.9 | 18.0 | 8.9% | 2.9% | 66 | 31 | 100 | 100 | 24.2 | No |
| RHB Bank | RHBBANK MK | 24,089 | Hold | 5.62 | 6.20 | 8.6 | 9.2 | 8.9% | 6.7% | 65 | 80 | 0 | 100 | 25.8 | Yes |
| AMMB Holdings | AMM MK | 12,362 | Hold | 3.73 | 4.20 | 8.6 | 7.2 | 9.9% | 4.9% | 63 | 30 | 8 | 25 | 27.1 | Yes |
| IJM Corp | IJM MK | 6,857 | Buy | 1.88 | 2.18 | 23.0 | 16.7 | 1.6% | 5.0% | 63 | 44 | 83 | 80 | 31.1 | No |
| Public Bank | PBK MK | 81,331 | Buy | 4.19 | 5.05 | 13.7 | 12.1 | 13.0% | 4.5% | 63 | 60 | 33 | 100 | 26.8 | Yes |
| Tenaga Nasional | TNB MK | 57,876 | Hold | 10.06 | 10.00 | 11.8 | 11.5 | 8.3% | 4.8% | 63 | 25 | 100 | 100 | 32.2 | Yes |
| Westports Holdings | WPRTS MK | 11,219 | Hold | 3.29 | 3.68 | 19.2 | 14.3 | 22.6% | 5.3% | 62 | 30 | 88 | 100 | 10.4 | Yes |
| Hartalega | HART MK | 6,958 | Hold | 2.03 | 2.12 | 5.1 | 50.5 | n.m. | 0.0% | 61 | 47 | 50 | 100 | 17.1 | Yes |
| KLCCP Stapled Group | KLCCSS MK | 12,240 | Hold | 6.78 | 7.00 | 17.7 | 16.2 | 5.5% | 5.3% | 61 | 47 | 50 | 100 | 12.3 | No |
| Malaysia Airports | MAHB MK | 12,014 | Buy | 7.20 | 7.96 | nm | 38.9 | 4.7% | 1.3% | 61 | 38 | 67 | 100 | 21.5 | Yes |
| Greatech Technology | GREATEC MK | 5,496 | Buy | 4.39 | 5.20 | 47.9 | 36.5 | 20.4% | 0.0% | 57 | 65 | 100 | 0 | 18.6 | Yes |
| Dialog Group | DLG MK | 12,421 | Buy | 2.20 | 4.90 | 23.7 | 21.9 | 9.8% | 1.7% | 56 | 27 | 71 | 100 | 26.1 | Yes |
| VS Industry | VSI MK | 3,782 | Hold | 0.98 | 0.80 | 19.2 | 19.4 | 8.4% | 2.1% | 56 | 37 | 67 | 83 | 9.5 | Yes |
| Nestle (Malaysia) | NESZ MK | 30,415 | Sell | 129.70 | 118.80 | 49.5 | 44.2 | 108.8% | 2.2% | 55 | 26 | 67 | 100 | 19.6 | No |
| Petronas Gas | PTG MK | 33,559 | Hold | 16.96 | 17.00 | 20.0 | 18.8 | 13.2% | 4.2% | 55 | 19 | 83 | 100 | 29.8 | Yes |
| ViTrox Corp | VITRO MK | 7,090 | Hold | 7.50 | 8.10 | 33.3 | 40.4 | 17.5% | 0.6% | 55 | 67 | 86 | 0 | 14.3 | No |
| Heineken Malaysia | HEIM MK | 7,184 | Buy | 23.78 | 30.80 | 18.4 | 16.8 | 85.7% | 6.0% | 54 | 50 | 33 | 83 | 21.9 | Yes |
| Alliance Bank | ABMB MK | 5,248 | Buy | 3.39 | 4.10 | 10.2 | 7.8 | 10.3% | 6.5% | 52 | 21 | 67 | 100 | 27.2 | Yes |
| Carlsberg Malaysia | CAB MK | 6,121 | Buy | 20.02 | 24.70 | 21.4 | 17.7 | 193.6% | 4.6% | 52 | 21 | 67 | 100 | 15.5 | No |
| Kuala Lumpur Kepong | KLK MK | 25,209 | Hold | 23.32 | 23.00 | 10.1 | 21.1 | 8.1% | 2.8% | 52 | 28 | 50 | 100 | 37.9 | Yes |
| MR D.I.Y. Group (M) | MRDIY MK | 14,422 | Buy | 1.53 | 2.40 | 39.3 | 25.0 | 33.2% | 1.9% | 52 | 29 | 67 | 83 | 31.4 | Yes |
| Optimax Holdings | OPTIMAX MK | 373 | Buy | 0.69 | 0.86 | 28.9 | 23.1 | 24.4% | 3.5% | 52 | 53 | 100 | 0 | N/A | No |
| Sime Darby Plantation | SDPL MK | 31,674 | Hold | 4.58 | 4.44 | 14.8 | 26.6 | 11.7% | 3.2% | 52 | 35 | 83 | 50 | 27.7 | Yes |
| Genting Malaysia | GENM MK | 14,904 | Buy | 2.51 | 2.77 | 64.6 | 24.7 | 4.7% | 6.0% | 51 | 36 | 33 | 100 | 28.9 | Yes |
| Media Prima | MPR MK | 471 | Hold | 0.43 | 0.41 | 19.8 | 30.9 | 6.3% | 3.7% | 49 | 65 | 67 | 0 | N/A | No |
| IHH Healthcare | IHH MK | 52,578 | Buy | 5.97 | 7.13 | 39.6 | 33.7 | n.m. | 2.9% | 48 | 20 | 50 | 100 | 34.7 | No |
| Top Glove | TOPG MK | 6,648 | Sell | 0.81 | 0.80 | 28.0 | nm | n.m. | 0.0% | 47 | 11 | 67 | 100 | 20.3 | No |
| Genting Bhd | GENT MK | 16,283 | Buy | 4.20 | 5.36 | 197.8 | 18.2 | 2.8% | 3.6% | 46 | 15 | 67 | 86 | 26.8 | No |
| QL Resources | QLG MK | 13,263 | Hold | 5.45 | 5.90 | 56.2 | 40.8 | 13.1% | 1.2% | 45 | 63 | 33 | 20 | 41.8 | No |
| Bank Islam Malaysia | BIMB MK | 4,873 | Hold | 2.15 | 2.20 | 13.6 | 9.8 | n.m. | 6.1% | 43 | 36 | 0 | 100 | 29.0 | No |
| YTL Power | YTLP MK | 16,853 | Buy | 2.08 | 2.30 | nm | 5.5 | 12.1% | 4.6% | 42 | 9 | 50 | 100 | 54.1 | No |
| TIME dotCom | TDC MK | 9,918 | Hold | 5.40 | 5.30 | 21.3 | 23.7 | 70.4% | 14.3% | 38 | 67 | 17 | 0 | 23.9 | No |
| Genting Plantations | GENP MK | 4,810 | Buy | 5.36 | 6.08 | 11.7 | 16.7 | 5.4% | 3.6% | 35 | 6 | 67 | 60 | 42.4 | No |
| IGB REIT | IGBREIT MK | 5,851 | Hold | 1.65 | 1.70 | 17.6 | 16.0 | 9.5% | 5.9% | 31 | 20 | 33 | 50 | 16.8 | No |
| Maxis Bhd | MAXIS MK | 32,268 | Hold | 4.12 | 4.00 | 25.4 | 23.5 | 21.4% | 4.1% | 31 | 46 | 33 | 0 | 27.8 | Yes |
| MyNews Holdings | MNHB MK | 344 | Hold | 0.51 | 0.51 | nm | nm | nm | 0.0% | 28 | 32 | 50 | 0 | N/A | No |
| Cahya Mata Sarawak | CMS MK | 1,150 | Buy | 1.07 | 1.47 | 10.8 | 8.2 | 4.2% | 2.8% | 18 | 19 | 33 | 0 | 36.1 | No |

** derived from leading external ESG research & data provider Sustainalytics*

*^ FTSE4Good Bursa Malaysia (F4GBM) Index (98 constituents as of Jun 2023)*

*Source: Sustainalytics, Maybank IBG Research. Bloomberg (as at 15 Sep)*

# APPENDIX 1: ESG Scoring Methodology

We evaluate the ESG ratings based on quantitative, qualitative and ESG targets. We assign a score for each of these three parameters. The overall rating is based on the weighted average of the scores: quantitative (50%), qualitative (25%) and ESG target (25%).

For the quantitative, qualitative and ESG target, the sub-parameters are assigned a score - ‘0’ for data not available, ‘+1’ for improving trajectory, positive change, ‘Yes’, better than peers or a positive number if historical is not available and ‘-1’ for declining trajectory, negative change, ‘No’, lower than peers or a negative number. The total of the scores of all the sub-parameters is divided by the total number of sub-parameters is the score of each of the three parameters.

The sub-parameters may be different for different industries depending on the key areas to monitor for each industry. A company should achieve a minimum score of 50 for an average ESG rating.

# APPENDIX 2: Malaysia: MIBG coverage companies satisfying all 3 filters

List of the 38 companies within Maybank IBG Research coverage that satisfy all the three filters namely:

1. Sustainalytics ESG risk ratings (negligible, Low and medium risk only)
2. Controversy score (no mention and score 1 only)
3. Management quality (high and average only)

| Stock | BBG Code | Mkt Cap. (MYRm) | Rec. | Price (MYR) | TP (MYR) | Sustainalytics Risk Score | Management Quality | Controversy Score |
|---|---|---|---|---|---|---|---|---|
| Public Bank Bhd. | PBK MK | 81,330 | Buy | 4.14 | 5.05 | medium | average | 1 |
| Petronas Chemicals Bhd. | PCHEM MK | 59,440 | Hold | 7.22 | 7.00 | medium | strong | 0 |
| CelcomDigi Bhd. | CDB MK | 51,970 | Hold | 4.47 | 4.60 | medium | average | 0 |
| Hong Leong Bank Bhd. | HLBK MK | 43,484 | Buy | 19.82 | 23.00 | low | strong | 0 |
| Petronas Gas Bhd. | PTG MK | 33,559 | Hold | 17.14 | 17.00 | medium | strong | 0 |
| Maxis Bhd. | MAXIS MK | 32,268 | Hold | 4.18 | 4.00 | medium | average | 0 |
| Nestlé (Malaysia) Bhd. | NESZ MK | 30,414 | Sell | 130.40 | 118.80 | medium | strong | 1 |
| Axiata Group Bhd. | AXIATA MK | 23,015 | Buy | 2.47 | 3.40 | medium | average | 1 |
| HL Financial Group Bhd. | HLFG MK | 20,379 | Buy | 18.00 | 21.70 | medium | average | 0 |
| Genting Malaysia Bhd. | GENM MK | 14,904 | Buy | 2.52 | 2.77 | medium | average | 1 |
| AMMB Holdings Bhd. | AMM MK | 12,361 | Hold | 3.66 | 4.20 | medium | average | 1 |
| Malaysia Airports Hldgs Bhd. | MAHB MK | 12,013 | Buy | 7.10 | 7.96 | medium | average | 1 |
| Westports Holdings Bhd. | WPRTS MK | 11,218 | Hold | 3.23 | 3.68 | low | strong | 0 |
| Inari Amertron Bhd. | INRI MK | 10,676 | Hold | 2.86 | 3.00 | medium | average | 0 |
| TIME dotCom Bhd. | TDC MK | 9,917 | Hold | 5.32 | 5.30 | medium | average | 0 |
| Heineken Malaysia Bhd. | HEIM MK | 7,183 | Buy | 23.5 | 30.8 | medium | average | 0 |
| Vitrox Corp. Bhd. | VITRO MK | 7,089 | Hold | 7.62 | 8.10 | low | strong | 0 |
| IGB REIT | IGBREIT MK | 5,850 | Hold | 1.65 | 1.70 | low | average | 0 |
| My E.G. Services Bhd. | MYEG MK | 5,832 | Buy | 0.78 | 1.16 | medium | average | 0 |
| Bursa Malaysia Bhd. | BURSA MK | 5,600 | Hold | 6.93 | 6.55 | low | strong | 0 |
| UMW Holdings Bhd. | UMWH MK | 5,572 | Buy | 4.81 | 6.02 | medium | average | 0 |
| Greatech Technology Bhd. | GREATEC MK | 5,496 | Buy | 4.34 | 5.20 | low | average | 0 |
| Alliance Bank Malaysia Bhd. | ABMB MK | 5,248 | Buy | 3.37 | 4.10 | medium | average | 1 |
| Frontken Corp. Bhd. | FRCB MK | 5,182 | Hold | 3.24 | 3.50 | medium | average | 0 |
| Sunway REIT | SREIT MK | 4,965 | Hold | 1.49 | 1.54 | low | average | 0 |
| Bank Islam Malaysia Bhd. | BIMB MK | 4,872 | Hold | 2.12 | 2.20 | medium | average | 0 |
| Sime Darby Property Bhd. | SDPR MK | 4,760 | Buy | 0.68 | 0.75 | low | strong | 0 |
| V.S. Industry Bhd. | VSI MK | 3,781 | Hold | 0.99 | 0.80 | negligible | strong | 0 |
| S P Setia Bhd. | SPSB MK | 3,611 | Buy | 0.86 | 1.20 | low | strong | 0 |
| CTOS Digital Bhd. | CTOS MK | 3,349 | Buy | 1.42 | 2.00 | medium | average | 0 |
| Axis REIT | AXRB MK | 3,203 | Buy | 1.79 | 2.16 | low | average | 0 |
| Bermaz Auto Bhd. | BAUTO MK | 2,806 | Buy | 2.30 | 4.14 | low | average | 0 |
| Padini Holdings Bhd. | PAD MK | 2,598 | Buy | 3.95 | 5.25 | low | average | 0 |
| Astro Malaysia Holdings Bhd. | ASTRO MK | 2,555 | Sell | 0.50 | 0.59 | low | average | 1 |
| Sports Toto Bhd. | SPTOTO MK | 2,080 | Hold | 1.57 | 1.53 | medium | average | 1 |
| Magnum Bhd. | MAG MK | 1,610 | Buy | 1.14 | 1.25 | medium | average | 0 |
| Ta Ann Holdings Bhd. | TAH MK | 1,525 | Buy | 3.41 | 3.75 | medium | average | 0 |
| AEON Co. (Malaysia) Bhd. | AEON MK | 1,460 | Buy | 1.03 | 1.75 | low | average | 0 |

*Source: Sustainalytics, Bloomberg (as at 15 Sep)*

# GLOSSARY: Key Sustainability-related terms

| No | Term | Definition |
|---|---|---|
| 1 | **Environmental, Social and Governance (ESG)** | The three factors that are considered by an increasing number of businesses, investors, and other stakeholders (alongside more traditional factors) in a variety of decision-making processes (e.g., the undertaking of ESG due diligence as part of an investment, the preparation of ESG-related disclosures by a company, or the preparation of a report by ESG Research Providers). Examples of ESG considerations include a company's sustainability policies (including GHG Emissions), approach to supply chains and ensuring supply chain resilience (including modern slavery issues), labor policies, and governance issues (such as board diversity, reporting systems and processes and good Corporate Governance). A number of organizations establish ESG principles and/or standards that companies can use to guide their ESG-related actions and reporting (e.g., PRI and Sustainable Development Goals).<br><br>ESG stands for Environmental (e.g. energy consumption, water usage), Social (e.g. talent attraction, supply chain management) and Governance (e.g. remuneration policies, board governance). ESG factors form the basis for the different SI approaches. |
| 2 | **Sustainability** | All activity that meets the needs of the present generation without compromising the ability of future generations to meet their needs. |
| 3 | **Task Force on Climate-related Financial Disclosures (TCFD)** | An organization devoted to establishing and promoting guiding principles for companies to voluntarily disclose climate-related risks. This information is important to investors because it tells them whether a company is susceptible to climate-related risks and whether the company is developing or has developed plans to mitigate such risks.<br><br>The Task Force on Climate-related Financial Disclosures (TCFD) has developed voluntary, consistent climate-related financial risk disclosures for use by companies in providing information to investors, lenders, insurers, and other stakeholders. |
| 4 | **Net Zero** | A situation in which any greenhouse gas (GHG) emissions are counterbalanced by sequestration efforts, i.e. reforestation.<br><br>Net zero emissions are achieved when anthropogenic emissions of greenhouse gases to the atmosphere are balanced by anthropogenic removals over a specified period. |
| 5 | **Green Building Certification** | Green buildings are designed, built and used in a way that is energy efficient, minimises the use of resources and water, encourages biodiversity and provides a healthy indoor environment.<br><br>Buildings designed, constructed, operated, maintained, renovated and destroyed using environmentally-friendly and resource-efficient processes. |
| 6 | **Carbon Pricing** | Carbon price is the price per unit of avoided or released carbon dioxide (CO2) emission, or its CO2 equivalent (IPCC, 2014).<br><br>Carbon pricing is an instrument that captures the external costs of greenhouse gas (GHG) emissions— the costs of emissions that the public pays for, such as damage to crops, health care costs from heat waves and droughts, and loss of property from flooding and sea level rise—and ties them to their sources through a price, usually in the form of a price on the carbon dioxide (CO2) emitted. |
| 7 | **Sustainalytics** | A private company that supports sustainability-minded investors and the Sustainable Finance market, as a form of outsourced ESG diligence, by providing ESG ratings and research. |
| 8 | **Financed emissions** | Financed emissions are emissions generated as a result of financial services, investments and lending by investors and companies that provide financial services. They fall under scope 3, category 15 from the Greenhouse Gas Protocol (GHGP). |
| 9 | **Transition Risk** | Transition risk occurs as a result of adjustment to a low-carbon economy.<br><br>Risks associated with the transition to a lower-carbon global economy, the most common of which relate to policy and legal actions, technology changes, market responses, and reputational considerations. This is in line with the TCFD's definition. |
| 10 | **Scope 1-3 emissions** | Categorisation of GHG emissions into where they are emitted along a company's value chain: Scope 1 - direct emissions, scope 2 - indirect emissions from the generation of purchased electricity, scope 3 - other indirect emissions e.g. in supply chain or by customers' use of product. |
| 11 | **Sustainable Finance** | Sustainable Finance incorporates climate, green and social finance while also adding wider considerations concerning the longer-term economic sustainability of the organisations that are being funded, as well as the role and stability of the overall financial system in which they operate.<br><br>The process of taking due account of environmental and social considerations when making investment decisions, leading to increased investment in longer-term and sustainable activities. |

| | | |
|---|---|---|
| 12 | **Carbon Neutral** | Carbon Neutral is also known as Net Zero CO2 emissions. Net zero carbon dioxide (CO2) emissions are achieved when anthropogenic CO2 emissions are balanced globally by anthropogenic CO2 removals over a specified period. In other words, an individual, organisation or nation is said to be Carbon Neutral when the amount of CO2 removed from the atmosphere is equal to the amount of CO2 emitted into the atmosphere.<br><br>Having a net zero Carbon Footprint, or in other words, balancing the amount of carbon Emissions released into the Atmosphere with an equivalent amount of carbon removal, or simply eliminating carbon Emissions altogether. |
| 13 | **Global Reporting Initiative (GRI)** | Global Reporting Initiative is an international independent standards organization that helps businesses, governments and other organizations understand and communicate their impacts on issues such as climate change, human rights and corruption.<br><br>The nonprofit organization that created the GRI Sustainability Reporting Standards to guide voluntary corporate sustainability reporting. |
| 14 | **Decarbonization** | The process of reducing dependency on carbon power sources in an effort to reduce carbon dioxide emissions specifically, and GHG Emissions in general. |
| 15 | **Principles for Responsible Investment (PRI)** | A set of six principles outlined by the United Nations as "voluntary and aspirational" guidelines for "incorporating ESG issues into investment practice." The principles are as follows: (i) incorporate ESG issues into investment analysis and decision-making, (ii) incorporate ESG principles into ownership and management practices, (iii) seek appropriate disclosure on ESG issues by the subjects of the investment, (iv) promote the PRI within the investment industry, (v) collaborate to optimize effectiveness in implementing the PRI, and (vi) report progress on implementing the PRI.<br><br>The UN-supported Principles for Responsible Investment (PRI) initiative was launched in 2006. The world's leading proponent of responsible investment, the PRI is an independent organisation bringing together and supporting an international network of investors to put the six Principles for Responsible Investment into practice. The six Principles are to: Incorporate ESG issues into investment analysis and decision-making processes be active owners and incorporate ESG issues into ownership policies and practices seek appropriate disclosure on ESG issues from invested entities promote acceptance and implementation of the Principles within the investment industry enhance effectiveness in implementing the Principles report on activities and progress towards implementing the Principles. |
| 16 | **Nature-Based Solutions** | Actions designed to sustainably manage, protect, and restore ecosystems, addressing societal challenges effectively and adaptively, while also providing human well-being and biodiversity benefits. |
| 17 | **Circular Economy** | An economic system concerned with eliminating waste and continued use of resources.<br><br>An economic framework aimed at eliminating waste. The framework calls for keeping resources in use for as long as possible, to extract the maximum value from them, then recovering and regenerating products at the end of each service life. Implementing a Circular Economy can result in a more competitive economy, as it addresses Climate Change, decreases the amount of waste, drives productivity, allows for growth, and offers a solution to potential resource scarcity. |
| 18 | **International Energy Agency (IEA)** | The International Energy Agency works with countries around the world to shape energy policies for a secure and sustainable future. |
| 19 | **Green Finance / Bonds** | Any financial initiative, process, product or service that is either designed to protect the natural environment or to manage how the environment impacts finance and investment.<br><br>Green Finance is broader than Climate Finance in that it also addresses other environmental objectives such as natural resource conservation, biodiversity conservation, and pollution prevention and control. |
| 20 | **Electric vehicles** | A vehicle that runs at least partially on electricity. An EV's electric motor is powered partially or fully by batteries or a fuel cell, which means the vehicle has lower GHG Emissions compared with a motor that is powered by gasoline or diesel. |

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