

MAJID AL FUTTAIM – SUSTAINABILITY

# **Near-Zero Policy**

# New Fit-Outs and Major Refurbishment

Projects



## About the Policy

At Majid Al Futtaim Group (referred to hereinafter as **we**, **our**), we are committed to the implementation and delivery of our sustainability strategy, *Dare Today, Change Tomorrow*, where we manage the socio-economic and environmental issues that are most material to our business. Majid Al Futtaim Group means Majid Al Futtaim Group LLC and any entity that is directly or indirectly controlling it, controlled by it or under common control with it by another Majid Al Futtaim entity.

Dare Today, Change Tomorrow has three fundamental business priorities:

- Transforming Lives in the communities we serve, to provide a healthy, fulfilling and sustainable way of life.
- Rethinking Resources where we address our use of resources to make a Net Positive impact.
- Empowering Our People to unlock their full potential.

Developing and operating a Near Zero Policy for New Fit-outs and refurbishment projects not only contributes to these business priorities but also reduces operational costs and delivers enhanced rental and capital value in the long term. Adopting this policy is one of the ways we are Rethinking the Resources that we use in our business activities.

### Scope of the Policy

The Policy addresses our intent of fulfilling our long-term target under Rethinking Resources by addressing the following material issues and sustainable business commitments;

- Net Positive Carbon: to become net positive in carbon for all operations, fit-outs, major refurbishment and development activities
- Net Positive Water: to become net positive in water for all operations, fit-outs, major refurbishment and development activities
- Circular economy: to embed circular economy principles into business operations to minimise harmful impacts on the environment and generate new streams
- Climate Adaptation: to understand the impacts of climate-related risk and opportunities on the project and explore potential risk management options

As part of our sustainability strategy, it is our expectation that the Near Zero fit-out policy for new fit-outs and major refurbishment projects will be adhered to by all departments involved in the design, delivery, and operation of our properties/assets and leased spaces.



### The objective of the Policy

#### General

- a) All new fit-outs by Majid Al Futtaim to achieve a near-zero performance on top of the Majid Al Futtaim Green Star Rating System where applicable. This will contribute to our 2040 Net Positive commitment while adhering to science-based targets.
- b) The policy applies to all Majid Al Futtaim owned fit-outs projects, including Carrefours Stores, Offices, Entertainment Assets, Lifestyle Stores, Standalone Mall Developments (e.g., Hyper box, Malls, etc.), and any major refurbishment projects by Majid Al Futtaim Operating Companies (OpCo's)
- c) The shopping mall tenants should comply with the latest Majid Al Futtaim Green Star Rating, which will be aligned with the fit-out policy.
- d) The policy will enable the new fit-out and refurbishment projects to increase operational efficiency in terms of energy, water, and waste in line with Majid Al Futtaim's sustainability goals.
- e) This policy shall be reviewed at least every two years and updated according to the progress made against Majid Al Futtaim's 2040 Net Positive Commitment and the science-based targets' requirements.

#### **Governance of the Policy**

A sustainable building working group has been initiated in order to conduct the kick-off workshop and frequent meetings to discuss the updates and improvements in this policy. The working group has representatives from each Operating Company and the corporate sustainability team. All the specific requirements from various Operating Companies are incorporated in the policy document, facilitated through one-to-one meetings and workshop discussions. Wherever possible, site visits have been conducted to understand the operational requirements.

The policy, including its Appendix-1, must be complied with in full, and any minor variance shall be justified and sent to approval by the corporate sustainability team. However, major variance is subject to approval by the Chief Sustainability Officer and Operating Company's CEO.

The policy, including the appendix, must be part of the consultant and main construction contractor's RFP, tender documents, contract and specifications. The policy action plan may work as a tool for the teams to assist in the effective implementation and compliance check.

The policy must be read with existing sustainable fit-out standards, existing Majid Al Futtaim's policies, design standards, and local codes and regulations; if there is any conflict of information, the most stringent requirement applies.



# Appendix -1: Near Zero Requirements for New Fit-out and major refurbishment project

ltems	Purpose	Near Zero Requirements
		(Exceeding the performance over and above Green Star)
General All new fit-outs and refurbishment assets	To ensure all new retail, LEC and Lifestyle fit-out development and major refurbishment projects meet the green star requirement as a	Green star rating system- 5-star rating for all the Majid Al Futtaim OPCO's stores within Majid Al Futtaim malls and for any store outside Majid Al Futtaim malls to inspire to achieve 5 stars to be achieved as a minimum to enhance the performance further to make near zero for all future fit-out projects and refurbishment.
	minimum.	
Climate Risk Analysi Climate Risk Reduction Strategies	S Ensure the asset site and location is evaluated against all climatic risk.	<ul> <li>Asset level climate risk assessment to be performed before finalising the project location.</li> <li>Any standalone asset, including, malls, Carrefour etc., must go through the climate risk study.</li> <li>Adopt the principles of ISO 14001:2015 as a standard for environmental management in support of the Green Star Rating System requirements.</li> <li>Physical climate risks that should be assessed in full include coastal flooding, fluvial flooding, temperature extremes and heat stress, drought and water stress, and supply chain disruption.</li> <li>To address transition-related climate risks, conduct a technology review to identify suitable low carbon technologies to implement onsite, perform a building performance assessment to identify opportunities to improve efficiencies and where possible, introduce onsite renewable energy generation</li> </ul>
Flood risk strategies	Ensure urban stormwater and flood management solutions are installed at all sites where flooding (coastal or fluvial) is a material risk	<ul> <li>Based on Physical climate risk analysis for standalone assets, install, retrofit or enhance urban stormwater drainage systems to handle a 1-in-1 year rainfall event flow and 1-in-100 year rainfall event flow.</li> <li>Identifying the most appropriate solutions for location, install or enhancing engineered flood defence measures (e.g. flood barriers, bund walls, removable barriers, concrete fences, permeable surfaces) and nature-based solutions (e.g. green roofs, sustainable urban drainage systems, green spaces, bioswales, wetland restoration/creation, mangrove/seagrass restoration/creation).</li> </ul>
Water Use Reduction	on Strategies (Net Positive	Water)
Low Flow Fixtures & Efficient Water Saving Technologies	Maximise Indoor and Outdoor Water Use Reduction.	<ul> <li>All indoor/outdoor water flow and flush fixtures should be Water Sense labelled or equivalent high-efficiency fixtures</li> <li>All fixtures with automated sensor technology/self-closing</li> </ul>



		efficient flow and flush fiz	itions to be used for water- xtures (each country should go as availability in their respective
		Water Fixture or Fitting	Ultra-Efficient Flow Recommendation, @ 415kPa as applicable
		Water closet (WC) Dual flush	4.5 L/flush at Full & 3 L/flush at low flush
		Urinal	0.5 L/flush or Waterless
		Public lavatory faucets	1.0 L/min recommended
		Private (only used by staff) washroom faucets	1.0 L/min recommended
		Showerheads	6.5 L/min @550kpa
		Kitchen faucets	5.5 L/min
		Kitchen pre-rinse spray valves	3.5 L/min
Water Metering and Leak detection	Monitoring and tracking the water consumption to explore more opportunities to reduce the consumption, also for Integrated Reporting, Net Positive Water commitment compliance.	<ul> <li>of all fit-out stores, with the communicating parameter the corporate head office. Additionally, suitable wath for significant water usage area.</li> <li>All water meters are suitate system or central monito.</li> <li>Provide a water leak deter litre/day consumption) with major water leak on the meter is installed. A water alert the building operational structure and the structure of t</li></ul>	ter submetering must be provided ges, such as in the kitchen or F&B able to connect to the BMS
Water Reuse and Recycling	To explore and identify the technologies that can be suitable to achieve the Net Positive water commitments.	and installation of air con systems and/or grey wate appropriate.	hall be conducted on the design ditioning condensate recovery er treatment systems where be used for irrigation purposes.
Water Generation Feasibility Study	To explore and identify technologies that can contribute to the company's Net Positive Water targets and assess its feasibility.	stage, the project develo study to assess the differ	s, at the project's initial design pment team must undertake a ent systems /technologies to otable water consumption to be ition.



Natural Water Retention	To explore and identify feasibility of green spaces to slow water runoff, increase water infiltration and enhance	<ul> <li>Consider the technologies that generate water, e.g. Air to Water generation machines etc., that would be beneficial to the project in line with the net positive target.</li> <li>Implement such technology if deemed financially and technically feasible.</li> <li>For Standalone assets a feasibility assessment shall be conducted to identify appropriate spaces to introduce green spaces, including grass, trees and shrubs, which will help reduce evapotranspiration rates and raise water table</li> <li>Planted species must be suitable for the climate. If</li> </ul>
	groundwater recharge to address water stress	<ul> <li>possible, design a landscape that does not require</li> <li>permanent irrigation system beyond a maximum two-year</li> <li>establishment period</li> <li>If required, green spaces must only be watered artificially</li> <li>using greywater sources</li> </ul>
Energy and Carbon	Reduction Strategies (Net	Positive Carbon)
Passive Design Strategies	Building heating & cooling demand reduction by efficient use of passive design strategies and use of nature-based solutions	<ul> <li>For Standalone Buildings' Orientation: an asset to be oriented E-W axis with windows facing north (within the limitation of building plot and site boundary etc.)</li> <li>External Shades: horizontal shades for the south orientation and vertical shades for the west façade to cut off the direct solar exposure</li> <li>Internal Shades: manual or automatic shades to limit solar infiltration – solar gain with double glazed windows can be reduced from 0.85 to 0.25 by using shading</li> <li>Window area: not more than 40% of the façade area</li> <li>Free cooling: explore the feasibility of implementing free cooling or an alternative AC system that would reduce building cooling demand</li> <li>Install green building systems, e.g. green roofs, façade greenery and living walls, that help lower the building façade's temperature</li> <li>Plant native trees near the building to provide shading and decrease the urban heat island effect</li> </ul>
Insulated Envelope and Airtightness	Building heating & cooling demand reduction by maximising the thermal performance of the envelope	<ul> <li>For standalone buildings, the building's external envelope (roof, external wall, and glazing) U-values must comply with the following as a minimum:</li> <li>Wall U value: 0.18 W/m2K</li> <li>Roof U value: 0.15 W/m2K</li> <li>Floor U value: 0.25 W/m2K</li> <li>Glazing Parameters</li> <li>U value (including frame): 1.8 W/m2K</li> <li>Glazing SHGC: 0.17</li> <li>Visual Light Transmittance: 0.3 to 0.4</li> <li>Infiltration: Airtight building: 0.1 ACH @ 50 pa</li> </ul>
Lighting and Sensor-Based Controls	To specify and install energy-efficient lighting and controls.	<ul> <li>Install energy-efficient lighting to achieve a minimum 30% reduction over ASHRAE 90.1 (latest version), selecting high-efficiency LED fixtures for all visual comfort lights.</li> </ul>



#### GREAT MOMENTS FOR EVERYONE, EVERYDAY

		<ul> <li>Process lighting, which is outside LPD calculations, such as spotlight, lighting in the cabinets, product display, decorative lights etc., must be selected with high lumen efficacy LED lights.</li> <li>Avoid providing the Cove lighting, which is indirect lighting concealed within the ceilings primarily for decorative purposes.</li> <li>Occupancy sensors must be installed in office areas, toilets, and pantries to switch off the artificial lights when the area is unoccupied. Additionally, occupancy sensors must be installed in back-of-house areas, storage spaces and corridors except in areas where security /safety mandates otherwise.</li> <li>Daylight photocell sensor must be installed to dim the light if there is sufficient daylight lux level during the daytime. (3 levels of control shall be provided according to 30%-70%-100% lux levels)</li> <li>Time-based control to operate separate lighting circuits at non-operational periods (Stocktaking activity, Janitorial activity etc.)</li> </ul>
Miscellaneous and Process Equipment, Kitchen Equipment & Appliances,	To specify and install energy-efficient equipment and appliances to ensure optimum performance during operations	<ul> <li>Ensure the procurement of Energy star rated (5 stars) or ESMA 5 star rated or EU energy efficiency labelling scheme or equivalent labelled energy efficient equipment to achieve the optimum operational energy performance for the following types of appliances and equipment: <ul> <li>a) Office equipment, small power and plug-in equipment</li> <li>b) Cash counters, if available</li> <li>c) Air curtains</li> <li>d) Laptop and digital LED screens for marketing</li> <li>e) Ironing and Laundry</li> <li>f) Packing and wrapping machines</li> <li>g) Commercial refrigerators</li> <li>h) Coolers and water dispensers</li> <li>i) Dishwashers</li> <li>j) Kitchen equipment such as ovens, cookers, mixers, blenders, fryers, grills, rotors, heaters, ice-making machines etc.</li> </ul> </li> <li>If any specialised equipment specific to operation is not included in the energy star or equivalent rating, the latest energy-efficient technology shall be selected to install the equipment.</li> </ul>
Vertical Transport Systems (Lifts and Elevators)	To specify and install energy-efficient Vertical Transport Systems.	<ul> <li>Conduct an early stage analysis of the transport demand and usage pattern to decide the optimum number of lifts and their size</li> <li>Install Variable frequency drives for dynamic operations</li> <li>Provide soft starters for smooth operations</li> <li>Install motion or occupancy sensors for escalators to avoid empty operations</li> <li>Provide intelligent controls for lift operations</li> </ul>



Minimum ventilation and Heat Recovery	To maximise the indoor air quality and energy efficiency in fan operations	<ul> <li>Provide minimum fresh air per ASHRAE 62.1 (latest version) requirements with a demand-based ventilation system to address the poor indoor air quality issues without increasing the energy demand.</li> <li>For all new fit-out projects, fresh air handling units (where present) with a capacity of 1000 L/s and above must be equipped with an energy recovery unit with a minimum heat recovery efficiency of 75% for both sensible and latent.</li> </ul>
Kitchen Exhaust Ventilation	To maximise the indoor air quality and energy efficiency in fan operations.	• All kitchens, F&B and food stores to conduct a feasibility study to provide demand-based ventilation systems with a variable frequency drive (VFDs).
HVAC System	efficiency in fan operations.	<ul> <li>A variable frequency drive (VFD) must be installed for all major HVAC motors (fans and pumps)</li> <li>The air conditioning system must achieve the following efficiency as a minimum,</li> <li>a) Water Cooled Chillers (minimum COP &gt; 6.5) (depends on water availability) feasibility for hermetic compressor or VSD chiller to be done for appropriate implementation.</li> <li>b) Variable speed Air-cooled chiller (minimum COP &gt; 3.5).</li> <li>c) VRF system minimum COP &gt; 3.8 (replacement system to all DX split units).</li> <li>Pressure Independent Control Valves (PICV) must be installed for fan coil units. PICV Valves shall be rotary type and Equal percentage by the valve itself (Conversion of the equal percentage through Activator is not accepted).</li> <li>All central air handling systems must be installed with VFDs and FCUs with variable speed EC motors.</li> <li>All HVAC motors should be minimum IE class 4 efficiency</li> <li>Based on climate analysis and future scenarios, the increase in temperature should be taken into consideration when selecting the air conditioning. The air conditioning system must be able to cope with future temperature could reach 29°C under RCP 8.5 heating scenarios, e.g. for the UAE in 2050, the average annual temperature could reach 29°C under RCP 4.5 and 31°C under RCP 8.5.</li> <li>Following are the specific fan power consumption to be used for near-zero assets fan specifications;</li> </ul>
		Central mechanical ventilation, including heating 2.1 and cooling and heat recovery (FAHUs)
		Central mechanical ventilation, including heating 1.8 and cooling (AHUs)



#### GREAT MOMENTS FOR EVERYONE, EVERYDAY

		All other systems	1.5
		Local ventilation units within the local areas, such as window/wall/roof units, serve one room/area (Split AC/Ductable)	0.4
		Local ventilation units remote from the local area, such as ceiling void or roof mounted units, serving one room/area	1.0
		Fan coil units (rating weighted average)	0.6
Energy Modeling and Simulation	To use energy modelling to identify the potential energy and load reduction strategies.	<ul> <li>All standalone buildings, dynamic energy be performed in order to balance energy cost. All values here should be validated simulation. This should be mandatory fo above 1,000 sq. feet gross sellable area.</li> <li>Develop the comprehensive energy mod appropriate dynamic simulation modellin calculate the baseline performance using rating method as outlined in ASHRAE 90 (latest version).</li> <li>Demonstrate the project energy perform against the Baseline model using the spe provided in the above sections.</li> <li>Energy simulation can aid in value engine</li> </ul>	y performance and during the actual r all new assets lel using ng software and g the performance .1 appendix-G nance (% savings) ecifications
Refrigeration System	To specify and install an energy-efficient refrigeration system.	<ul> <li>All chilled cabinets must be served by a hrefrigeration system. The refrigeration system. The refrigeration system is the refrigeration system. The refrigeration system is the set as the set of th</li></ul>	ystem's energy 20.1 latest version in energy use limits d negative lass doors to limit alled for all nust be installed ). nust be installed ).
Smart Energy Metering	Specify and install smart energy metering and sub-metering to monitor energy consumption.	<ul> <li>BMS integrated smart energy submeters must be monitor the following end-uses separately:</li> <li>Lighting</li> <li>Space cooling</li> <li>Refrigeration</li> <li>Ventilation</li> <li>Water heating</li> </ul>	be installed to



Digital Transformation Technologies	Implementing digital technologies to control, operate and monitor the asset performance remotely.	<ul> <li>Individual energy end-uses representing &gt; 10% of the total annual consumption or more than 10 kW, whichever is lower</li> <li>Electricity meters must record both consumption (kWh) and demand (kW) to understand the operational pattern and peak usage. The metered data will be used for integrated reporting and environmental assurance purposes.</li> <li>Implement the following digital transformation technologies if deemed technically and financially feasible:         <ul> <li>Internet of things</li> <li>Machine learning and preventive analysis</li> <li>Mobile technology and remote control &amp; monitoring</li> <li>Digital twin technology</li> </ul> </li> </ul>
Environmentally friendly Refrigerants	To minimise the carbon emissions associated with refrigerant usage and reduce the Global warming potential.	<ul> <li>All new Projects/fit-outs are recommended to use more environmentally friendly and natural refrigerants with a lower GWP, such as Ammonia, Propane or Carbon Dioxide, for the Refrigeration system. Moreover, lower GWP refrigerants must be selected based on availability in the specific country of operation.</li> <li>Only in case of unavailability of Carbon Dioxide based refrigerant systems, R448A (or equivalent GWP) refrigerant shall be selected.</li> <li>During maintenance or upgrade of HVAC systems, refrigerants must be carefully handled to prevent discharge into the Atmosphere, e.g. by collecting refrigerants in a recovery and filtration tank.</li> <li>Provide a refrigerant leakage system (based on pressure drop) to warn &amp; act on the refrigerant leakages and reduce extra refrigerant charge up.</li> </ul>
Energy Generation & Renewable Feasibility Study	To explore and identify technologies that can contribute to the company's Net Positive Carbon targets and assess its feasibility.	<ul> <li>For any standalone assets, at the project's initial design stage, the project development team must undertake a study to assess the different systems /technologies to reduce the project's energy consumption significantly.</li> <li>Consider the onsite renewable technologies that generate clean power or hot water, e.g., onsite PV panels-roof /parking, wind power, combined heat and power (CHP), biofuels, etc., that would be beneficial to the project in line with the net positive target.</li> <li>For all the major refurbishments, A feasibility study must be carried out to establish the most appropriate local (onsite or near-site) LZC energy source for the Asset where relevant. the selected renewable technology should be maximized if feasible and in compliance with local regulations. We suggest the following point to be taken in to account: a. Energy generated from LZC energy source per year</li> </ul>



		<ul> <li>b. Payback</li> <li>c. Land use</li> <li>d. Local criteria</li> <li>e. Noise</li> <li>f. Feasibility of exporting heat/electricity from the system</li> <li>g. Life cycle cost/lifecycle impact of the potential</li> <li>specification in terms of carbon emissions</li> <li>h. Any available grants</li> <li>i. All technologies are appropriate to the site and energy</li> <li>demand of the development.</li> <li>j. Reasons for excluding other technologies.</li> </ul>
Embodied Carbon	To optimise the emissions associated with construction materials and project development to achieve the ambitious targets for becoming net positive in 2040	<ul> <li>For any standalone assets, a materials Life Cycle Analysis (LCA) should be carried out at the early design stage using either Majid Al Futtaim's Embodied Carbon calculator or internationally recognised software (e.g., OneClick LCA etc.)</li> <li>The analysis should cover stages A1-A5 as follows: <ul> <li>Stages A1-A3 consider the manufacturing of a material (cradle to gate approach)</li> <li>Stages A4-A5 consider the carbon footprint during the construction and transportation of the materials to the site.</li> </ul> </li> <li>Some mitigation measures to be considered to reduce the project embodied carbon: <ul> <li>Locally sourced materials to reduce the emissions associated with transportation</li> <li>Specifying the materials with recycled content (recycled steel, glass, green concrete-GGBS etc.)</li> <li>Specifying the materials with low carbon intensity</li> </ul> </li> </ul>
Waste Reduction St	trategies and True Zero Ce	ertification (Circular Economy)
Waste During Fit- Out and refurbishment	Minimise the waste that goes to landfill during construction and demolition (C&D)	<ul> <li>For any standalone assets, conduct a pre-refurbishment audit (PRA), which is an important waste-management (or component-management) tool in any refurbishment project.</li> <li>a) The information from the audit may be used to assist in identifying options for reuse, recovery or recycling of those materials or items.</li> <li>Reuse Third Party and Reuse platform can be used to divert fit-out and refurbishment waste from landfill</li> <li>a) A "reuse third party" is a supply-chain participant that promotes the reuse or repurposing of building items in construction or refurbishment projects.</li> <li>b) A "reuse platform" is defined as an online platform to connect supply with the demand of end-of-life products, otherwise normally discarded. For example, Dubai Recycle is a platform that Dubai Municipality launched</li> </ul>



		Development of onsite C&D waste separation techniques     and practice
Waste Management designing	Designing to eliminate, reuse, recycle, and reduce waste.	<ul> <li>For any standalone assets, modularisation and size standardisation would increase the circularity potential of building materials and components.</li> <li>a) Employing modular materials and systems to enable their reuse and creating connections and systems that are simple to separate.</li> <li>b) Designing for disassembly allows for the non-destructive removal of building materials and components.</li> <li>Concepts such as open building, designing in layers or designing for adaptability entail that building spaces (and structures) should be designed to allow the replacement of a building layer or system without affecting other layers.</li> <li>Implementing mechanisms for better onsite waste segregation.</li> <li>a) Design a area for recycling bin stations (food waste, compostable, plastic, general waste etc.) that make recycling easy for staff/tenants.</li> <li>b) Design a storage room for waste sorting depending on different type of waste stream collected.</li> </ul>
The site and Comm	unity Impact	
Enhancing Site Ecology	To conserve existing natural areas and restore damaged areas to provide habitat and promote biodiversity	<ul> <li>For Standalone assets and where relevant, a Suitably Qualified Ecologist (SQE) should be commissioned to provide an ecology report with appropriate ecological recommendations for the enhancement of the site's ecology. The report is based on a site visit or survey by the SQE.</li> <li>Where opportunities exist to simultaneously enhance/restore natural areas and address Majid Al Futtaim's material climate risks, these should be considered in the refurbishment and future building upgrades</li> </ul>