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SOURCE SOURCE MALAYSIALT-LEDS. BTR

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The Edge, Malaysia

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Malaysia has committed to two climate targets. One is to achieve net zero emissions by 2050 and the other is the nationally determined contribution (NDC) target of 45% carbon intensity reduction (against GDP) by 2030, which is submitted to the United Nations Framework Convention on Climate Change.

How the country planned to achieve these goals was an open question — one the government said would be addressed in its NDC Roadmap and Long-Term Low Emissions Development (LT-LEDS) report.

The two strategic documents, released early this month, highlight how much more Malaysia must do to achieve its climate targets. Here are some key highlights:

NDC TARGET		CURRENT STATUS (AS AT 2021)
45% reduction in carbon inten measured against GDP by 203	isity (2005 baseline) 30	37.12%
NET ZERO TARGET		CURRENT STATUS (AS AT 2021
Net zero emissions by 2050		115,388.04 Gg CO2 eq

WITH ADDITIONAL

policies and measures announced from January 2023 to the documents' concluding period, and those planned but not

implemented yet. Even in this scenario.

this scenario.

SOURCE MALRYSA UT-LEI Malaysia's net emissions' including land use, land-use change and forestry (LULUCF), MtCO2e



Pre-2020

data in the scenarios reflect actual historical

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SOURCE: MALAYSIA LT-LEDS, NDC ROADMAP, BTR Notably, achieving the WAM scenario will require significant a reduction in emissions from the oil and gas, transportation and power sectors, with these assumptions by 2050:

ASSUMPTIONS IN WAM SCENARIO	CURRENT POLICIES	STATUS	
Renewable energy (RE) penetration of 40% to 70%	The National Energy Transition Roadmap's (NETR) target is 70% RE installed capacity	RE was 4.2% of primary energy supply (2021)	
80% electric vehicle (EV) sales penetration	Aligned with NETR target	5.6% of total industry volume in 2023, according to Malaysian Automotive Association	
Greater carbon capture, utilisation and storage (CCUS) and plant electrification in oil and gas sector	Required amount not specified; NETR targets 3 CCUS hubs and 3 carbon capture hubs, 80MTPA of CO2 storage capacity	10 planned projects	
Shift to low-carbon alternatives in manufacturing sector and increased decarbonisation in industrial processes and product use (IPPU)	Required amount not specified; no current policy target		
Retention of agriculture, forestry and other land use (AFOLU) as vital sink, with additional forest cover based on lower projected deforestation and improved forest management	Required amount not specified: Malaysia Forestry Policy and REDD+ Strategy aims for retention of at least 50% forest cover and for rate of deforestation to be reduced to 55,000ha per year	54.6% of Malaysia's total land area covered by forests (2020)	

NET ZERO SCENARIO

To truly achieve net zero, existing policies (Scenario A) are insufficient. The ambitious scenario (Scenario B) would bring Malaysia there, but much more needs to be done.

Overview of key strategies for each net zero scenario

KEY STRATEGIES BY 2050 (NON-EXHAUSTIVE)		SCENARIO A CURRENT TRAJECTORY -IMPETUS DRIVEN BY CUBRENT AND ANNOUNCED POLICIES, NET ZERO CANNOT BE ACHIEVED	SCENARIO B TRANSFORMATIONAL SHIFT - MALAYSIA AS A 'NET ZERO' LIGHTHOUSE IN ASIA
Scale existing, proven tech	RE capacity mix ¹ (%)	70% by 2050	70%-75% by 2050 and 20%-30% Gas CCUS
	EV sales penetration (%)	80% by 2050	80% by 2040
Deploy new green tech with enabling policies	Hydrogen (low carbon, green) production, million tonnes per annum (MTPA)	1.5 MTPA used	2-2.5 MTPA
	Agricultural land use	51% forest cover, restore 10,000ha peat	52% forest cover, via protection and afforestation: restore 50,000ha peat
	CCU/S. MTPA	5–10 MTPA eg. in upstream O&G	35-60 MTPA + in steel, power, cement
Limit brown industry growth*	Industries		Limit plant-ups of brown plants eg 13MT of **BF-BOF steel capacity
Impact	2050 estimated essions, MtCO2e	86	0

*Limit brown industry growth in scenario A refe **BF-BOF: blast furnace-basic oxygen furnace

Decarbonisation required across industries in Scenario B by 2050

Power	80-85% RE capacity share			
Transport	80% electrified vehicles (four and two wheelers) share of sales	10% fuel cell EV sales penetration	B30 blending (30% biodiesel blend in diesel fuel, targeted in NETR)	10% sustainable aviation fuel/ green marine fuel blending
Oil and gas	75% flaring, venting reduction			
Industriais	Up to 20% energy efficiency	75% clinker-to-cement ratio		
AFOLU	At least 52% forest cover, no deforestation for cropland, no new planting on peatland	Sustainable forest management: Reduction In annual allowable cut by -0.8% pa and lower cutting limit from 85 to 75 m2/ha	At least 20% of terrestrial areas and inland waters protected; 40,000ha of degraded peatland rehabilitated	
Waste	10-14 waste-to-energy plants	60% recycling rate		
New green tech	15-20 MTPA CCUS	Up to 7 MTPA H2 production		

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