PORTUGAL RENEWABLE ENERGY SUMMIT 2025

APREN Associação de Energias Renováveis

2-3 OUT

CULTURGEST LISBOA

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Descarbonização dos consumos de energia

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Europe has recently accelerated the path towards Net-Zero, defining increasingly ambitious objectives

- **2007** *2020 Climate & Energy Package*
- **2014** *2030 Climate & Energy Framework*
- **2018** *A Clean Planet for All 2050 strategy*
- **2019** *European Green Deal*
- *COVID-19*
- **2021** *Fit-for-55 package*
- *Russian invasion*
- **2022** *REPowerEU*
- **2023** *REPowerEU revision (NZIA)*
- *Red sea crisis*

2030 TARGETS

	ENERGY EFFICIENCY[1]	RES QUOTA IN FINAL ENERGY CONSUMPTION	GHG EMISSIONS SAVINGS[2]
A Clean Planet for All 2050 strategy	-32.5%	>32%	40%
Fit-for-55 package	-39%	>40%	55%
REPowerEU	-38%	>45%	

Re-assessed on increasing energy requirements of RES

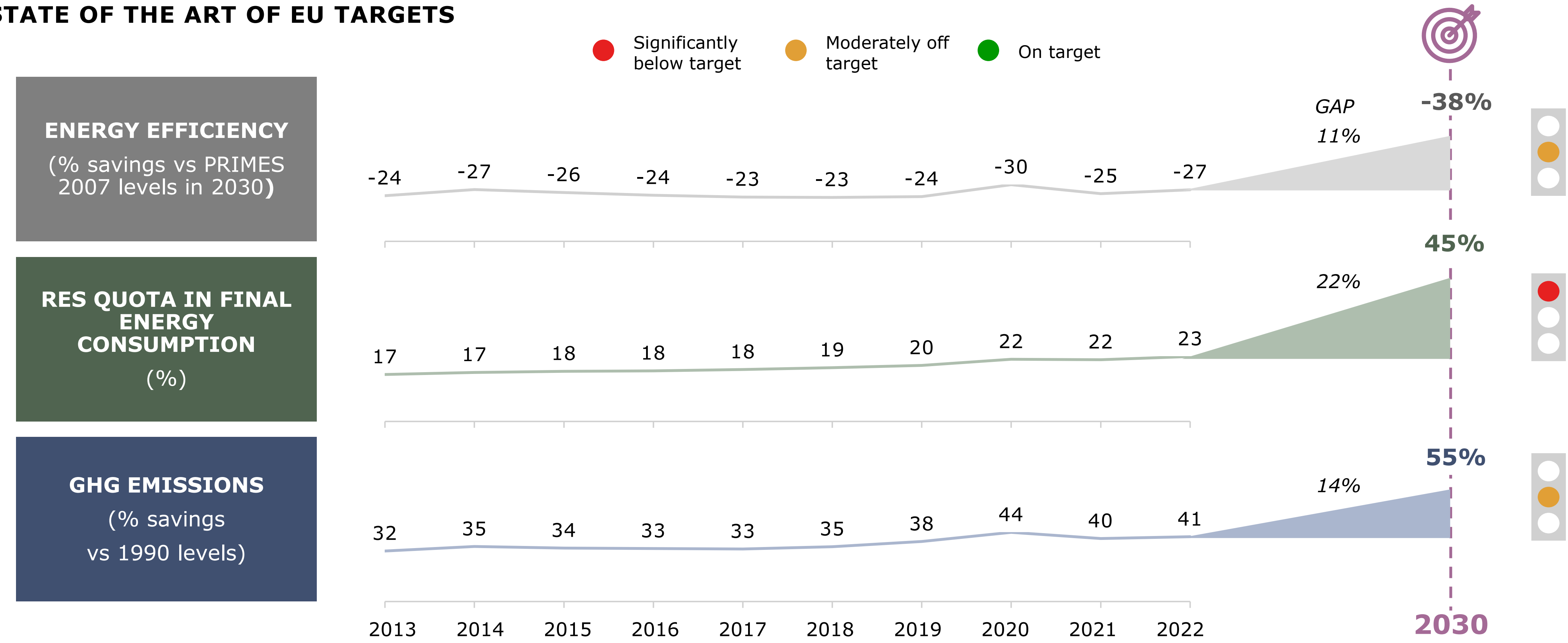
2050
Net Zero

Note: 1. Compared to the 2007 EU Reference Scenario "PRIMES" projections for 2030 in terms of final energy consumption (≈1.600 Mtoe) 2. Compared to 1990 levels (≈5.000 MtonCO2)
Sources: European Commission (years reported based on effective year of publication)

...NOT ON TARGET?

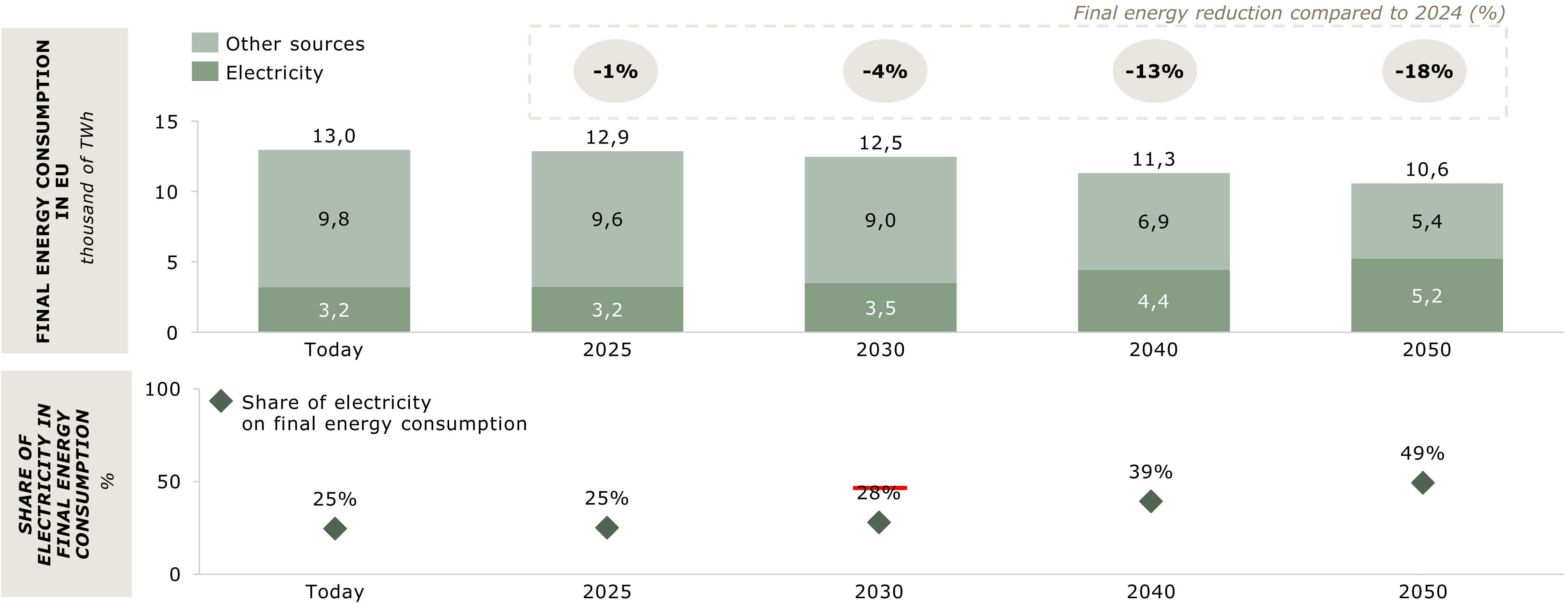
Europe is currently lagging behind the set targets; to reach the objectives the implementation pace of the necessary actions needs to grow significantly

STATE OF THE ART OF EU TARGETS



Source: Eurostat (EU27)

Electrification and energy efficiency measures will play a key role in the decarbonization of final energy consumption



Electrification of consumption through renewable energies results in an improvement in energy efficiency

Source: AFRY 2025 Q2 Scenario

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Europe's industrial decarbonization is uneven—some countries show strong ambition and support, others risk falling behind without urgent action

DECARBONISATION EVALUATION CRITERIA

	CURRENT SITUATION	DECARBONIZATION TARGETS (2030)	POLICIES
🟢	% RES final consumption in industry **aligned with Europe average**	**Ambitious** decarbonization targets compared to Europe average	**Strong support** for decarbonization
🟠	% RES final consumption in industry **below Europe average**	**Moderate** decarbonization targets compared to Europe average	**Moderate support** for decarbonization
🔴	% RES final consumption in industry **significantly below Europe average**	**Weak** decarbonization targets compared to Europe average	**Limited support** for decarbonization

EU INDUSTRY DECARBONISATION COMPARISON

	CURRENT SITUATION	DECARBONIZATION TARGETS (2030)	POLICIES
🇬🇧	🟢	🟢	🟢
🇵🇱	🟢	🟠	🔴
🇫🇷	🟠	🟠	🟠
🇮🇹	🔴	🟠	🔴
🇪🇸🇵🇹	🟢	🔴	🟠

Source: AFRY.

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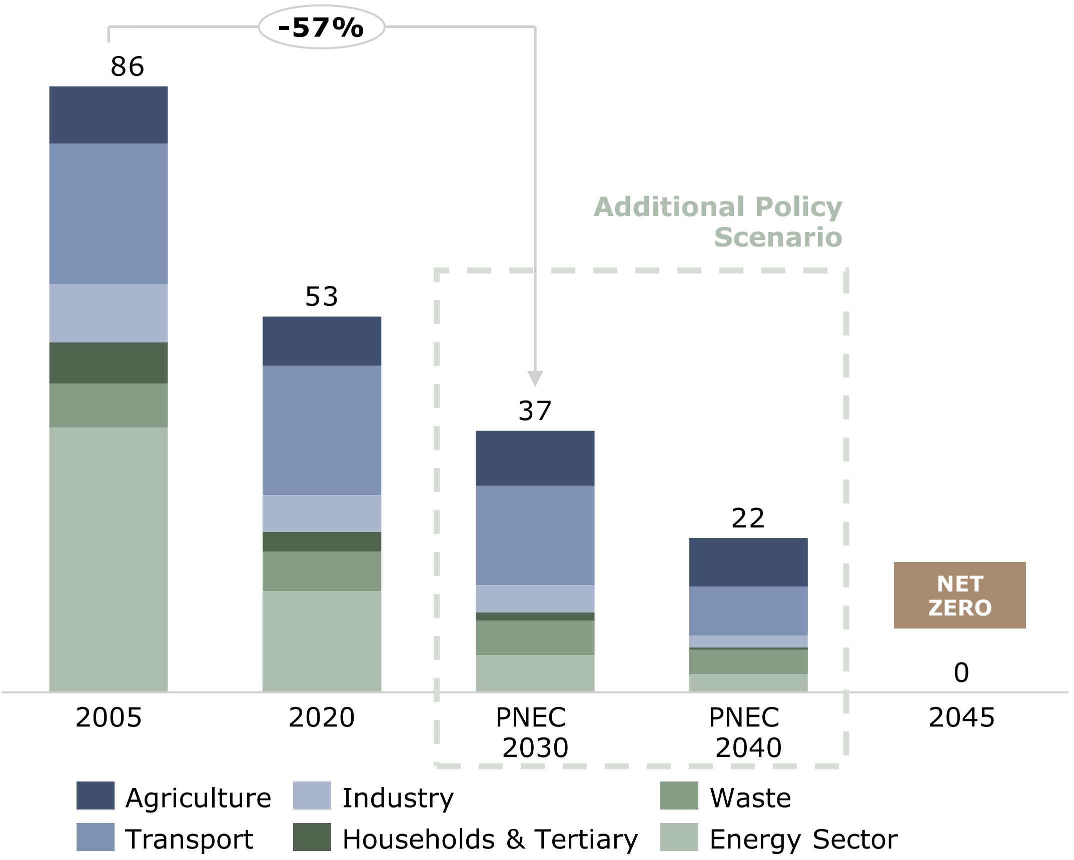
DECARBONISATION PATHWAY…

Portugal has brought forward its carbon neutrality target to 2045 and targets a 55% reduction in GHG emissions by 2030

CARBON EMISSIONS AND TARGETS (MTCO$_2$ EQUIVALENT)



Source: APA (Agencia Portuguesa do Ambiente); NECP (October 2024) – Additional Policy Scenario.

KEY DECARBONISATION AMBITIONS & POLICIES - NECP

- **Coal phase-out** happened in 2021
- **Emission reduction targets (no LULUCF)** to 55% by 2030, 65-75% by 2040 and net zero by 2050
- **Emission reduction target by sector by 2030:** -70% in Services, -35% in Residential and -40% in Transport
- **51% of RES share in gross final consumption** by 2030
- **93% of RES penetration** over total electricity generation by 2030
- **63% of RES share in heating and repair** by 2030

In view of the recent commitment to climate neutrality in 2045**, the targets set for the post-2030 horizon could be revised** in the context of the revision of RNC 2050 and also in line with the new Community target for 2040.

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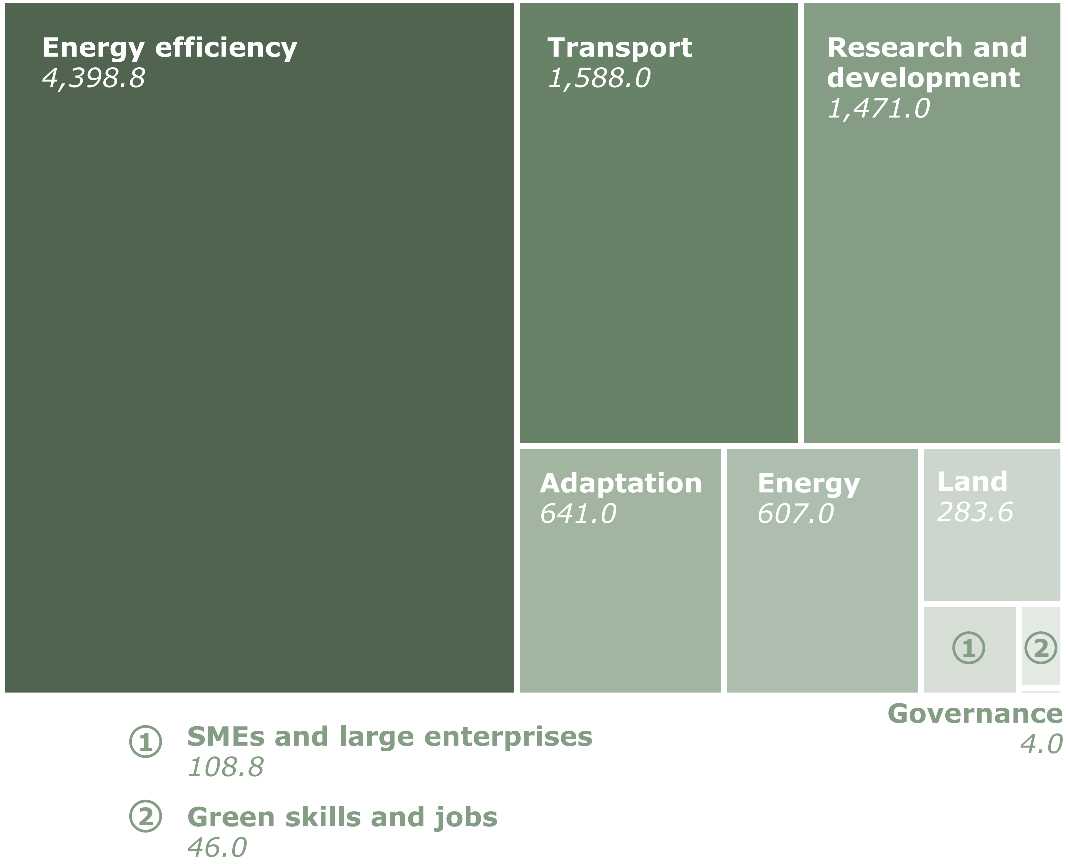
Portugal's NRRP allocates €9.2 billion to the green transition, highlighting government commitment and investment to meet decarbonisation targets

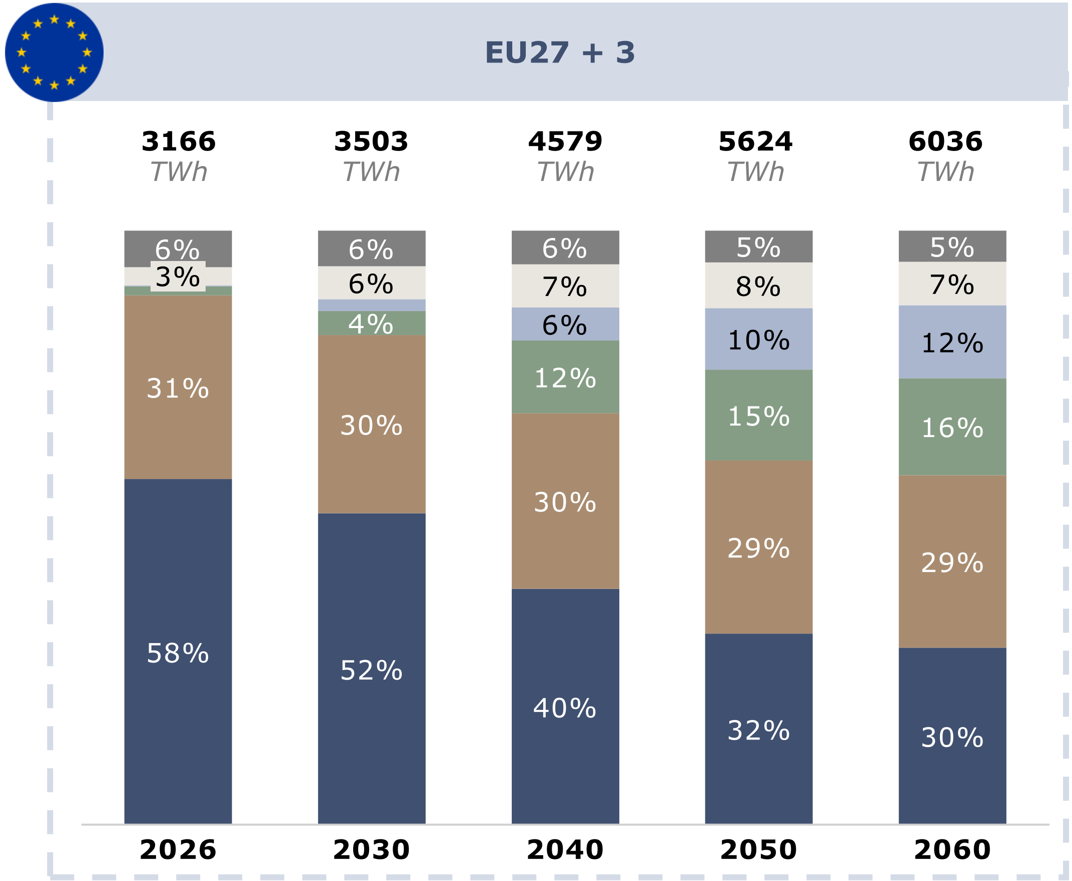
OVERVIEW

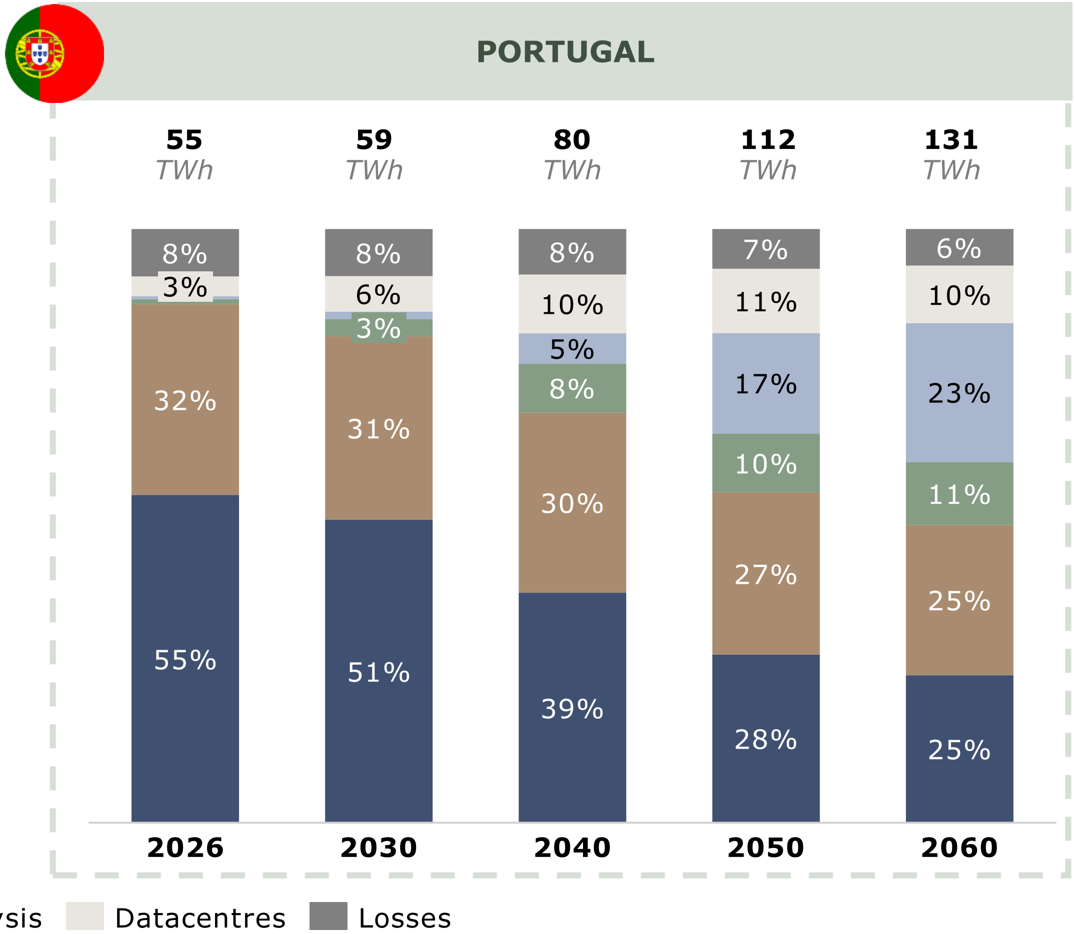
- Portugal submitted its National Recovery and Resilience Plan (NRRP) in April 2021, updated May 2023 with a REPowerEU chapter (€0.86 billion).
- Total funding to be received from the Recovery Resilience Facility (RRF): €22.2 billion (non-repayable grants 73.5%, loans 26.5%), equivalent to 10.7% of 2019 GDP.
- Green transition is a top priority, with related measures receiving €9.2 billion (41.2% of allocation) – above the RRF target of 37%.
- All of this underscores the Portuguese government's strong commitment to the energy transition and the need for investment to achieve the NECP's ambitious targets.

NRRP CLIMATE DIMENSION
€ MILLION



Electricity demand to EVs, datacenters, and electrolysis, with Portugal reaching much higher long-term electrolysis share than the EU

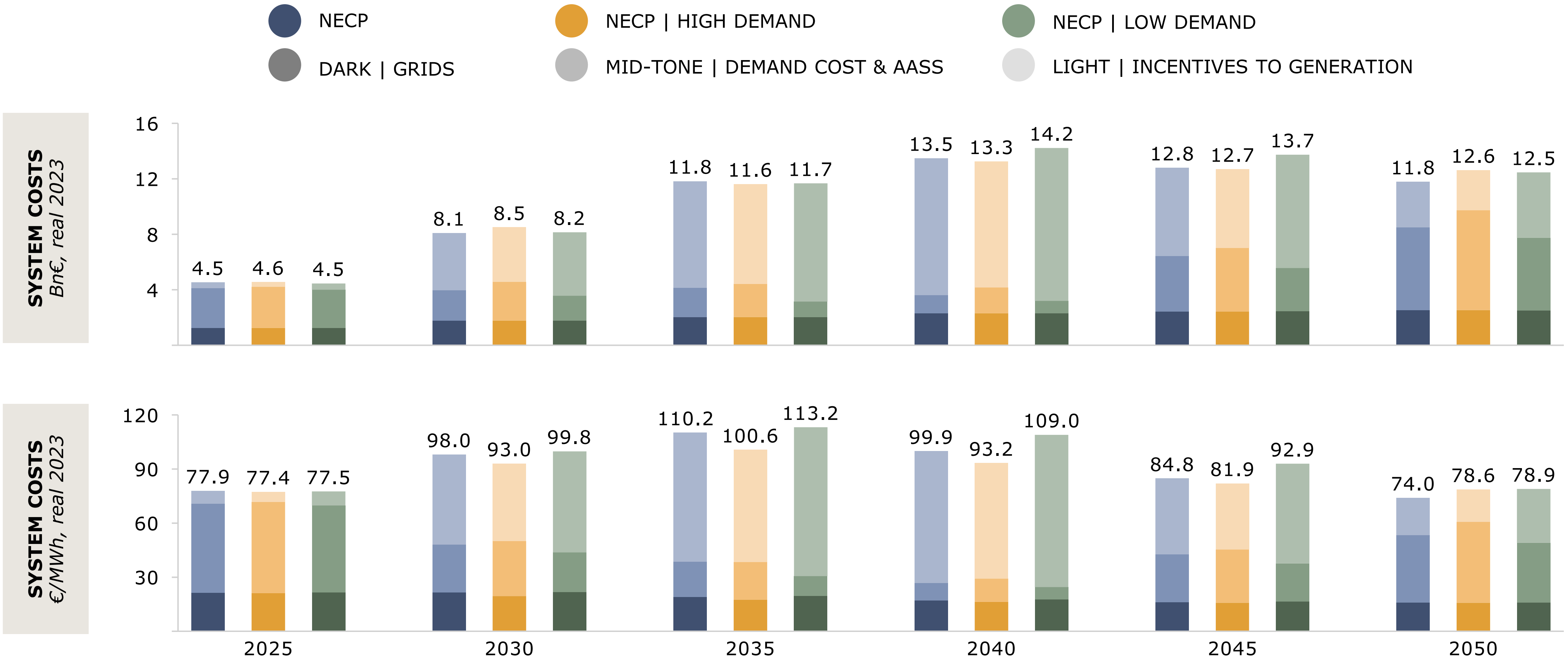




Source: AFRY central, Q2 2025

QUANTIFYING THE RISKS OF FALLING SHORT IN ELECTRICITY DEMAND

A lower demand scenario would lead to depressed prices, increasing system costs with the corresponding impact on the end consumer



1. Considered 3.25% of interest rate for NPV calculation, corresponding to 10y Portuguese bonds – consulted on June 12th. Source: AFRY.

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