

MINING DECARBONISATION AND THE AUSTRALIAN CARBON MARKET

Energy and Mines presentation, Perth, May 2024

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RepuTex
ENERGY

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 - Emissions reduction opportunities
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Section 1.

Introduction to RepuTex

Company background and our experience

Introduction to RepuTex

- **RepuTex is the leading provider of price information, forecasts and analysis for the Australian carbon market. We work across three streams:**
 - Market data & intelligence (price reporting)
 - Bespoke advisory (forecasts, cost curves and analysis)
 - Procurement and investment support (market access, M&A etc.)
- **We publish market data, pricing & outlooks via our EnergyIQ Platform**
 - Some quick hits --->
 - Over 1,000+ users of our EnergyIQ platform
 - Over 150 customers – high emitters, traders, investors, policymakers.
 - Our clients make up over 60% of Safeguard Mechanism covered emissions
 - Our clients make up over 80% of OTC traded carbon volumes
 - Our clients represent over two-thirds (65%) of all ACCUs issued in Australia.

Our market experience

Our carbon and energy market advisory team has supported major Australian policy and regulatory developments, including:

Design of the Safeguard Mechanism policy reform

In 2022-23 we advised the Federal Government on the design of its Safeguard Mechanism reforms including baseline settings, decline rates, and abatement and offset uptake and market dynamics.

Setting Australia's 43% emissions reduction target / NDC

RepuTex was engaged by the Australian Government to model emissions reductions across all sectors of the economy to 2030, establishing Australia's -43% emissions target and NDC.

M&A transactions / Placement of over \$350m in investment

RepuTex has led commercial and technical due diligence for the placement of over \$450 million of investment in the Australian carbon sector via private equity and pension funds..

Development of Australia's first ACCU price benchmark

In 2019 RepuTex launched the first price assessment for OTC traded ACCUs (IOSCO aligned), referenced by Australia's most active traders.

Development of Australian carbon exchange

RepuTex advised on the creation of standardised carbon offset products for exchange-based spot and futures trading.

Our modelling underpins Australian emissions projections

RepuTex supports DCCEEW's annual emissions projections via the modelling of industrial (Safeguard) abatement and offset supply.

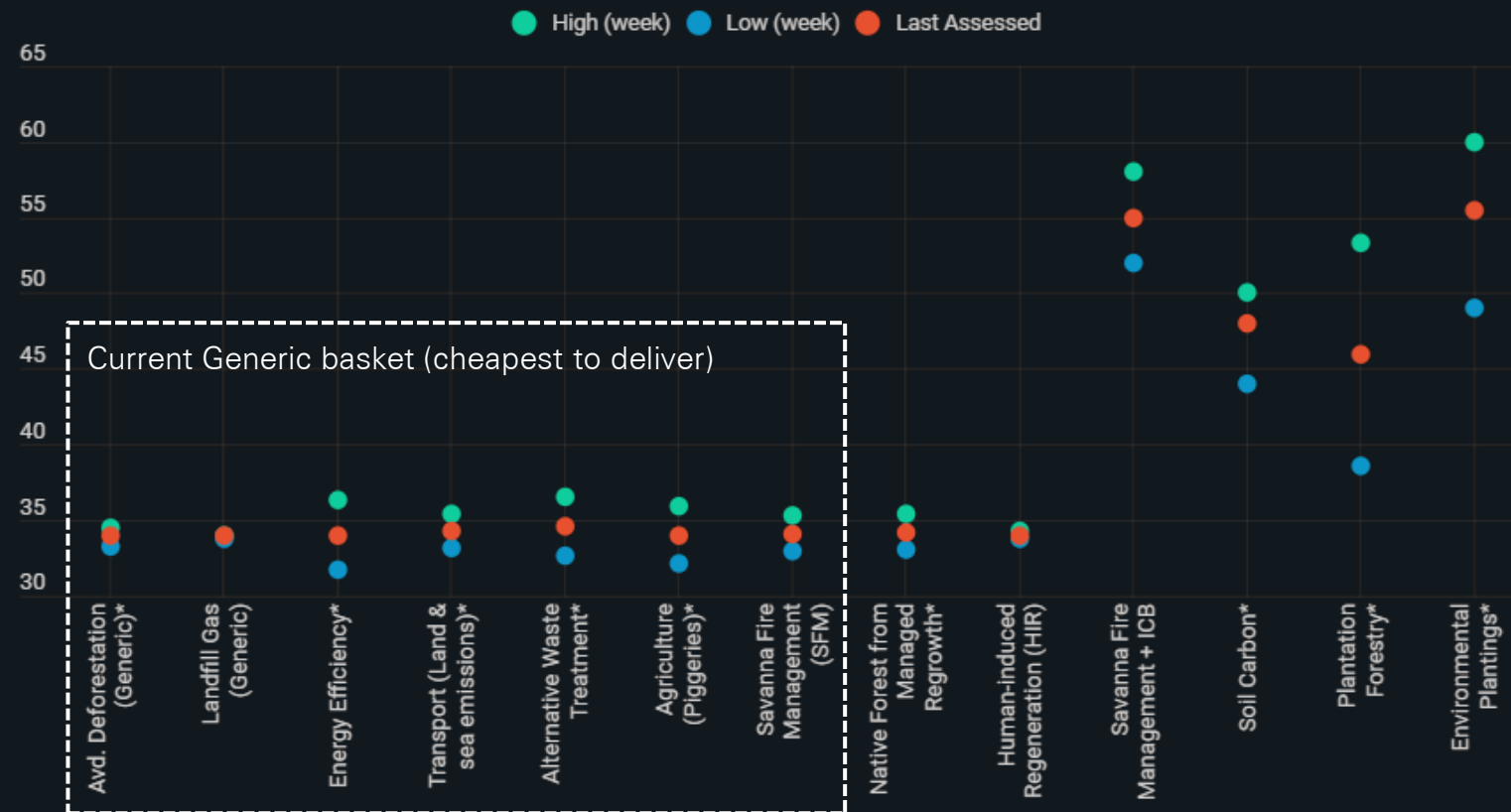
Section 2.

Current / future market dynamics

The current state of play in the Australian carbon market

Current ACCU prices are highly stratified, by method, and by venue...

ACCU price spreads by method (weekly)

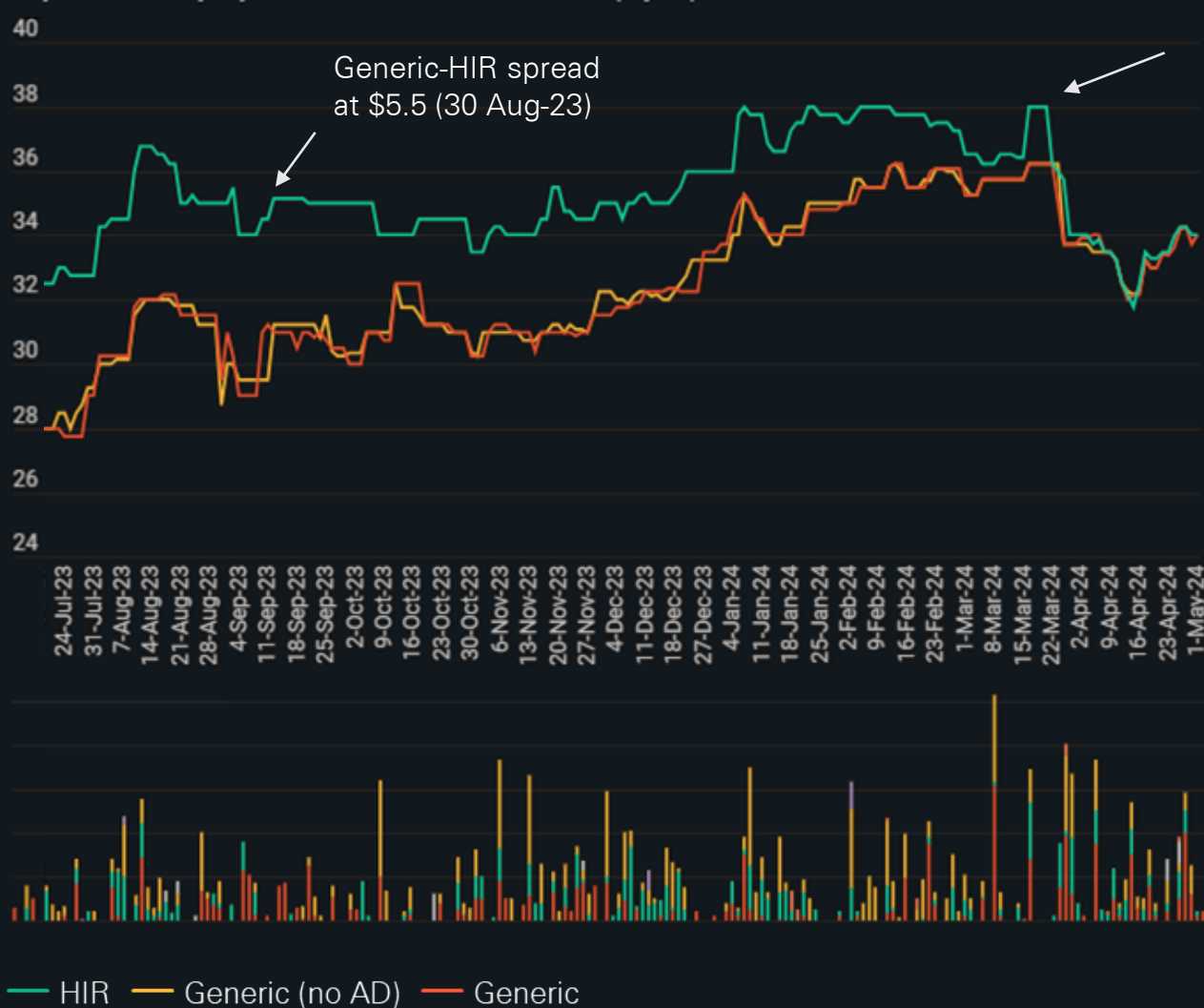


More premium and/or illiquid methods (pricing can reflect scarcity)

Spread of prices reflects quality, location, and market venue (e.g. brokered/non-brokered)

Spreads are tightening for liquid methods...

RepuTex ACCU spot price and volumes - broker traded (1 year)



What are the key dynamics that will shape future price development?

1. The market is 'oversupplied'... but this may be temporary

- Supply will tighten over time as some older methods conclude.
- Compliance demand from large Safeguard Mechanism buyers is increasing
- This should tighten the market mid-decade → increase prices

2. Prices expected to average \$60/t under our Central Case to 2033

- Offsets will be therefore be key in the short term... ahead of direct action.
 - On-site abatement is a more permanent hedge against higher carbon prices
 - But is subject to availability/cost of technology
 - Proactive companies are exploring offset investments – project origination on land, JVs with project developers, and/or accumulation of offsets.
 - This includes many non-compliance companies (between 25,000 – 100,000/t)

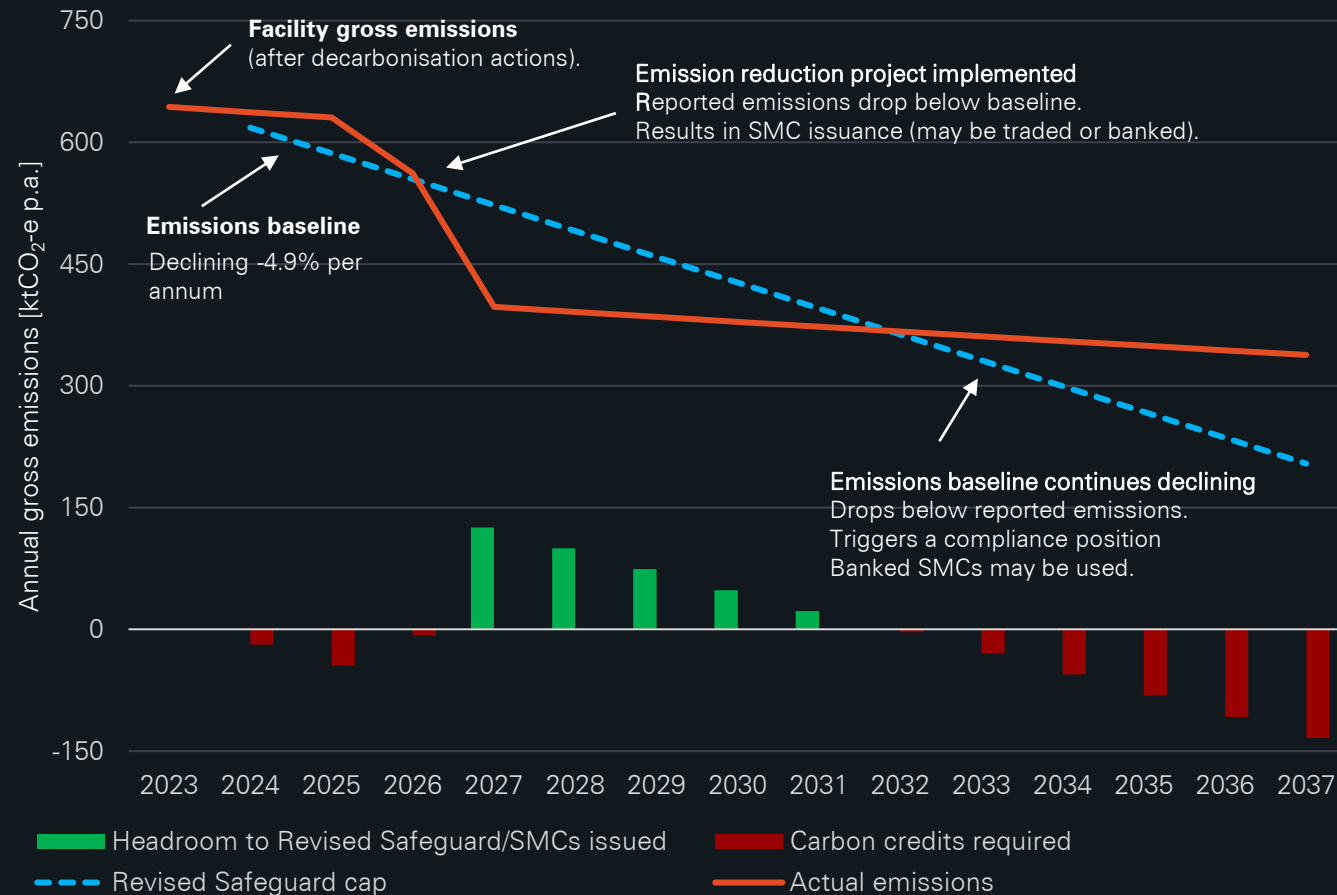
Section 3.

A closer look at decarbonisation

Mining decarbonisation will be critical to market dynamics

What is the “Safeguard Mechanism”?

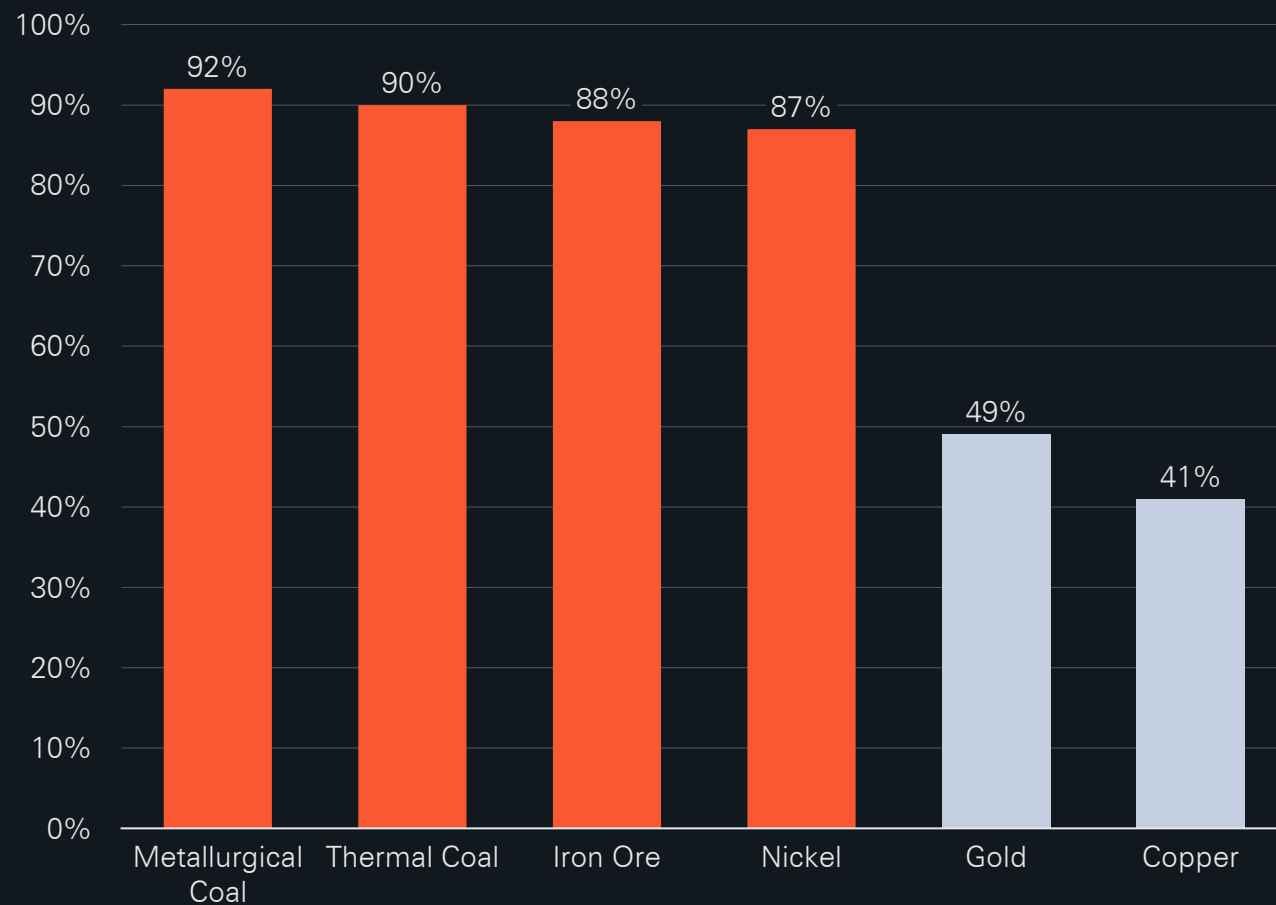
Australia’s new (old) compliance scheme



- “Baseline and credit” ETS.
- Implemented in 2016 → reformed in 2022 by new Labor Government.
- Metal and Coal Mining = 32% of total emissions.
- Emissions intensity baselines decline linear 4.9% from 2024-30, uncertain after.
- Crediting for below-baseline performance (SMCs).

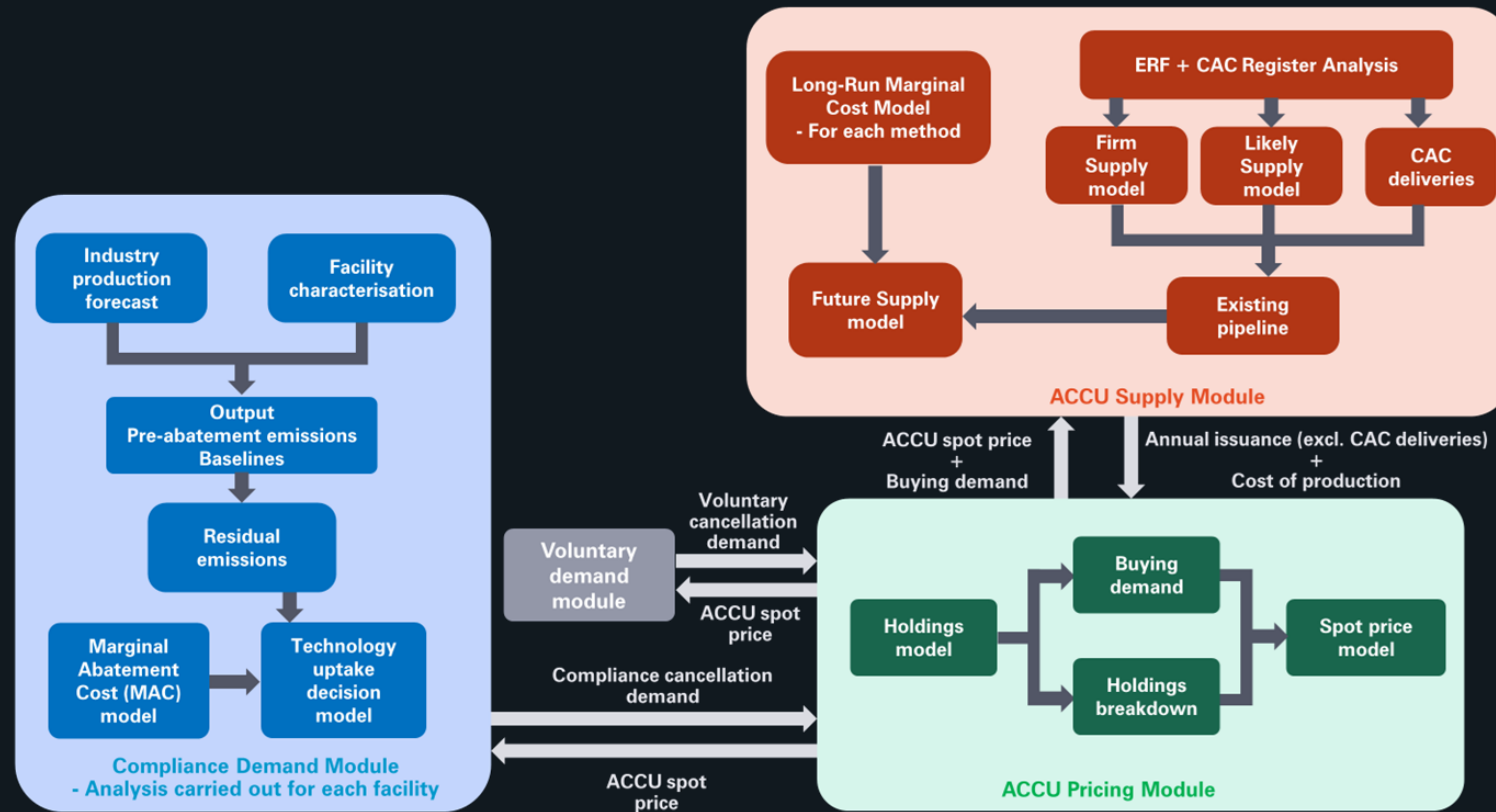
Most coal, iron ore, and nickel production falls under Safeguard Mechanism coverage

Proportion of national production under Safeguard coverage



- Larger and/or more emissions-intensive commodities currently have the highest levels of coverage by the Safeguard Mechanism.
- The proportion of covered emissions may increase further should Safeguard threshold decrease to 25,000 tCO₂-e p.a.

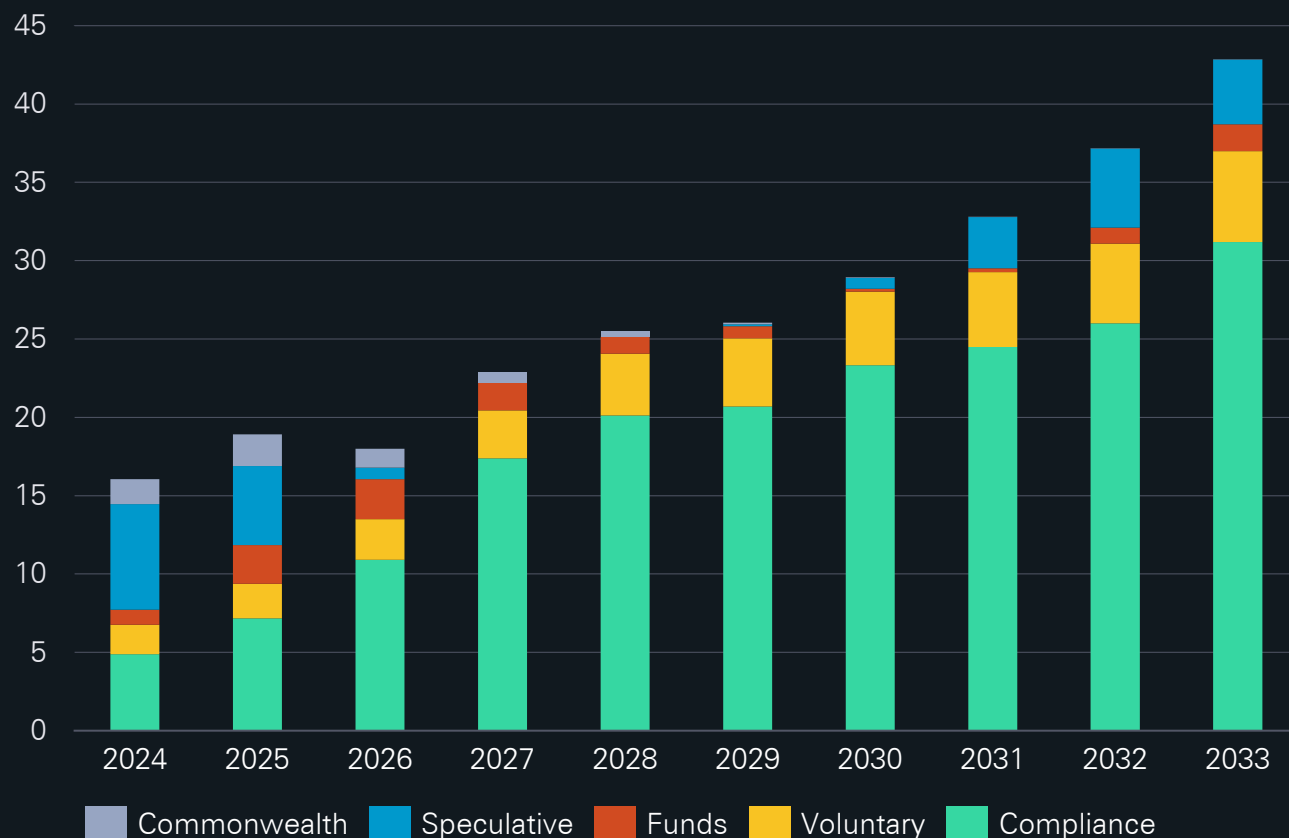
We holistically model the ACCU market through our four interconnected modules



- Compliance demand, voluntary demand, supply, and pricing.
- Key interdependent relationships are between ACCU pricing, decarbonisation, and new ACCU generation projects.
- This holistic modelling approach is critical to accurately simulate market developments.
- Decarb + supply costs informed by our in-house MAC and LRMC models (among others).

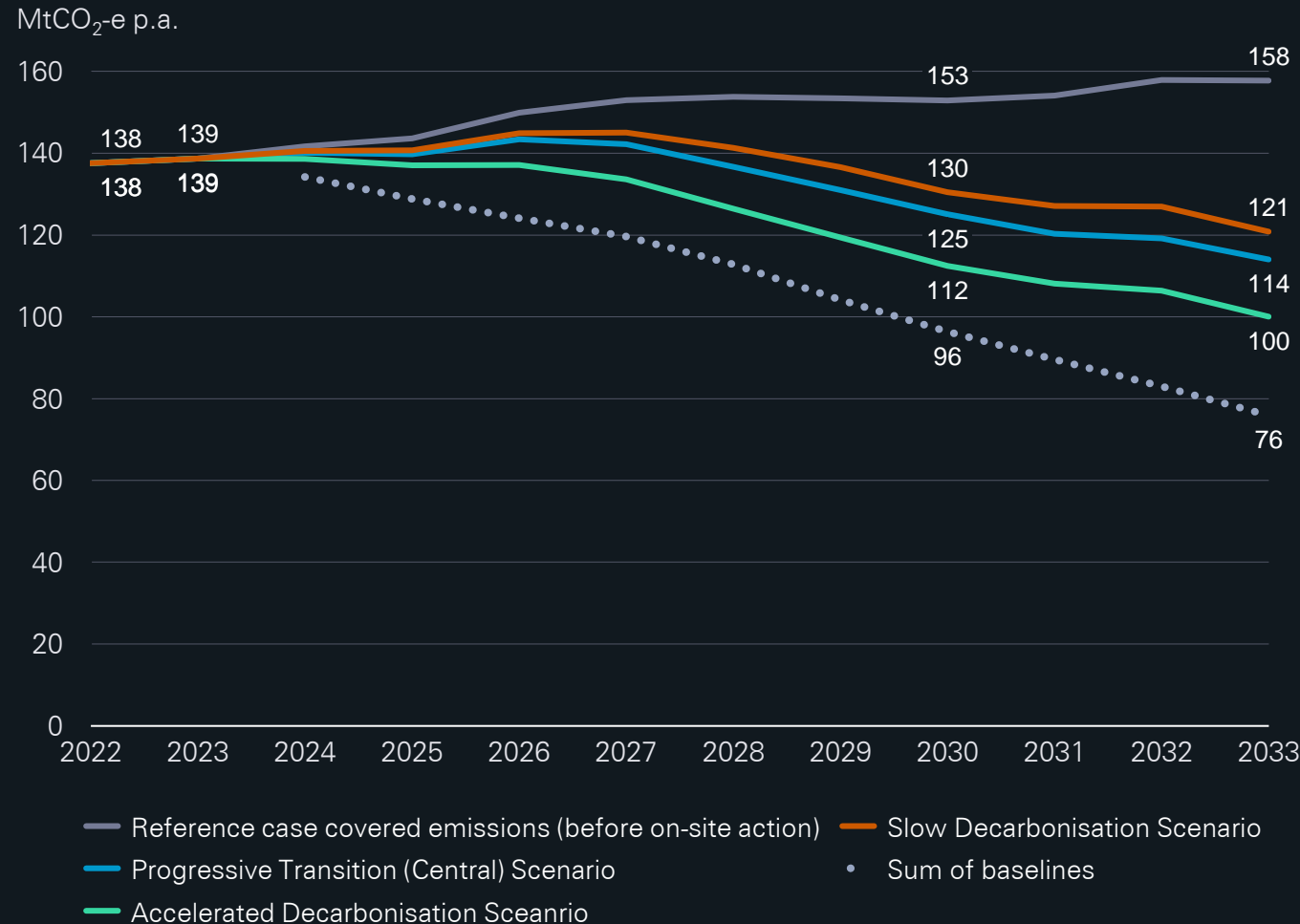
High emitting “compliance buyers” are key to market development going forward

Buying demand [million ACCUs p.a.]



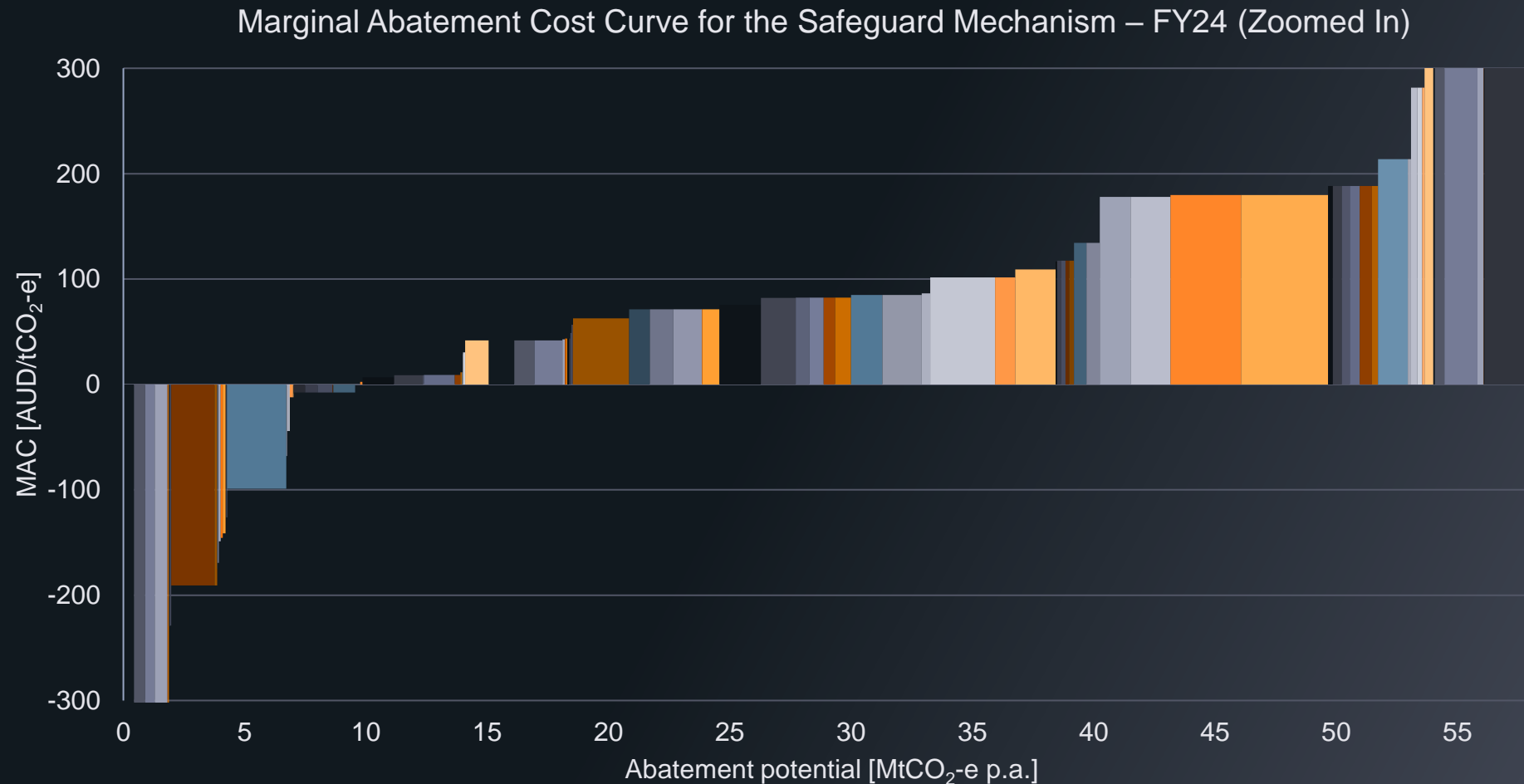
- We model “buying demand” to better account for accumulated holdings, hedging, and behaviour across different market entities.
- **Compliance buyers will make up ~70% of demand for ACCUs between 2024-33**, voluntary (e.g., Climate Active) at ~14%.
- Investors & funds will support liquidity while building portfolios to around 20% of total holdings.

The 'scale' and 'pace' of industry decarbonisation is therefore a key driver of the ACCU market

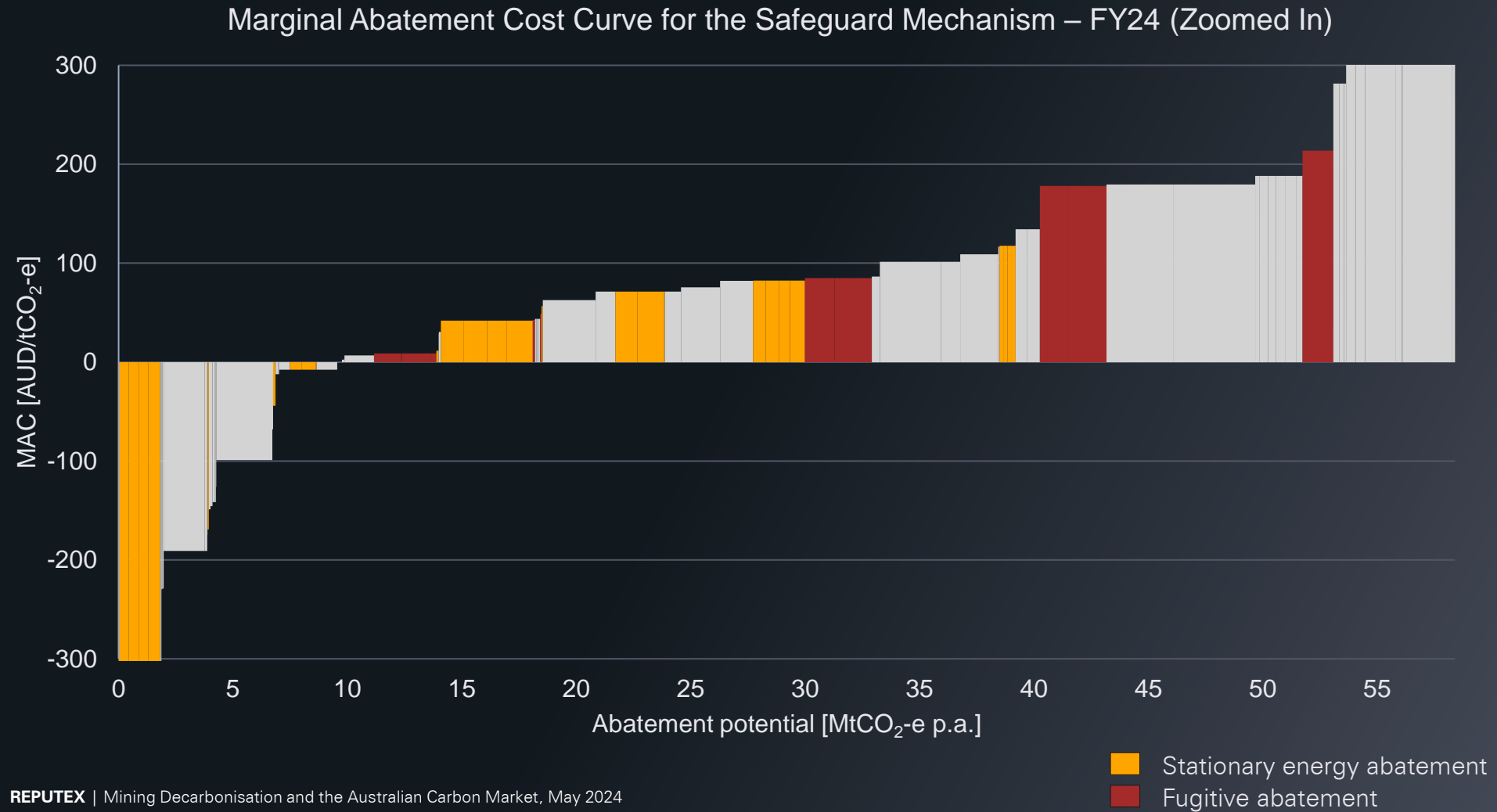


- Our scenarios vary the cost of non-mature and emerging abatement technologies.
- By 2030, we expect internal decarbonisation to account for 33-42% of the annual abatement task.
- Leaves an annual short of 4-6 Mt in 2024, 24-45 Mt by 2033.
- Total cumulative short of 85-159 Mt by 2030, to 151-285 Mt by 2033.
- Shortfall made up by the lowest cost combination of ACCU offsets and SMCs – subject to availability.

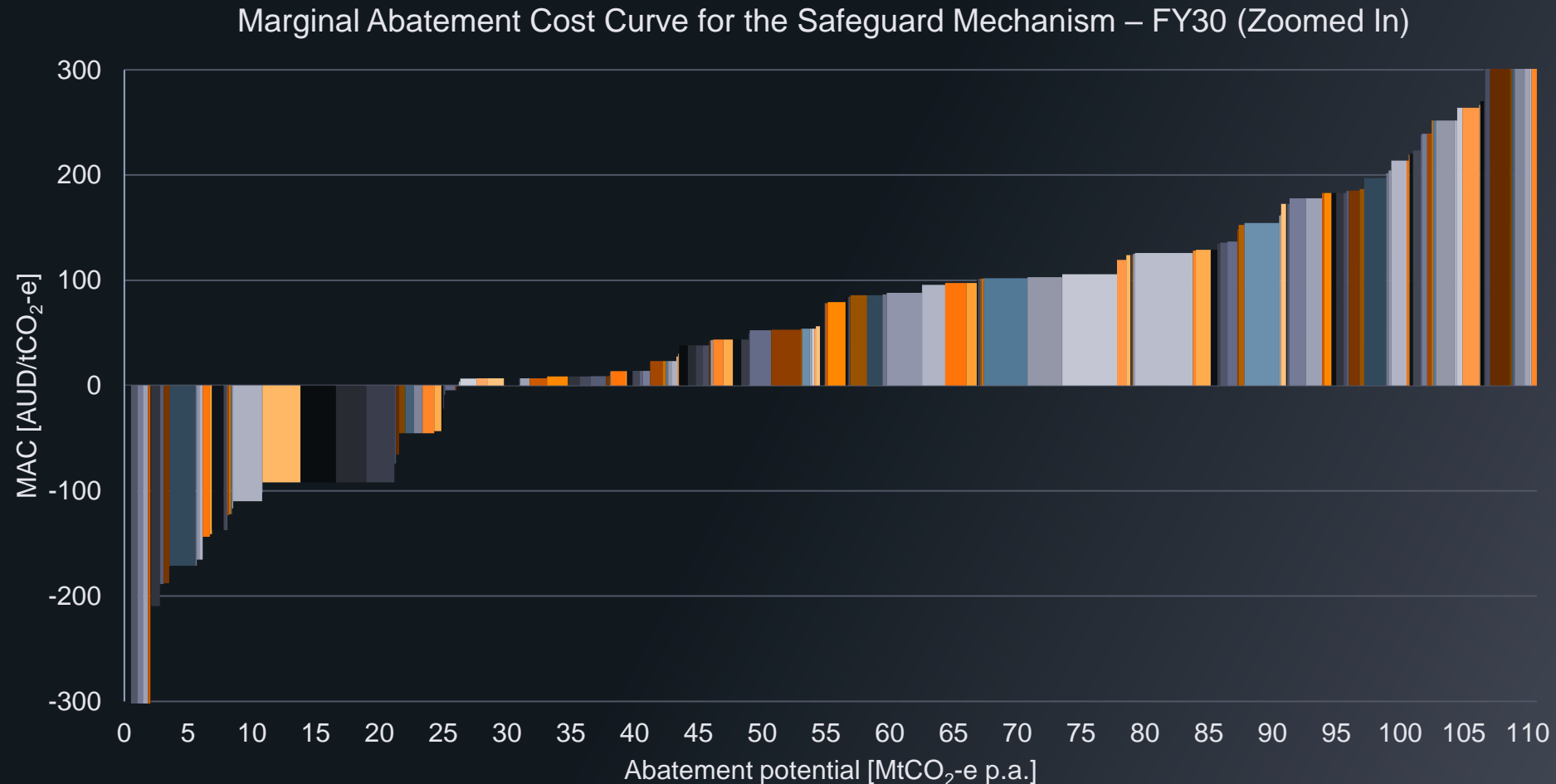
Using available technology ~40% of Safeguard emissions are abatable, at a wide range of costs



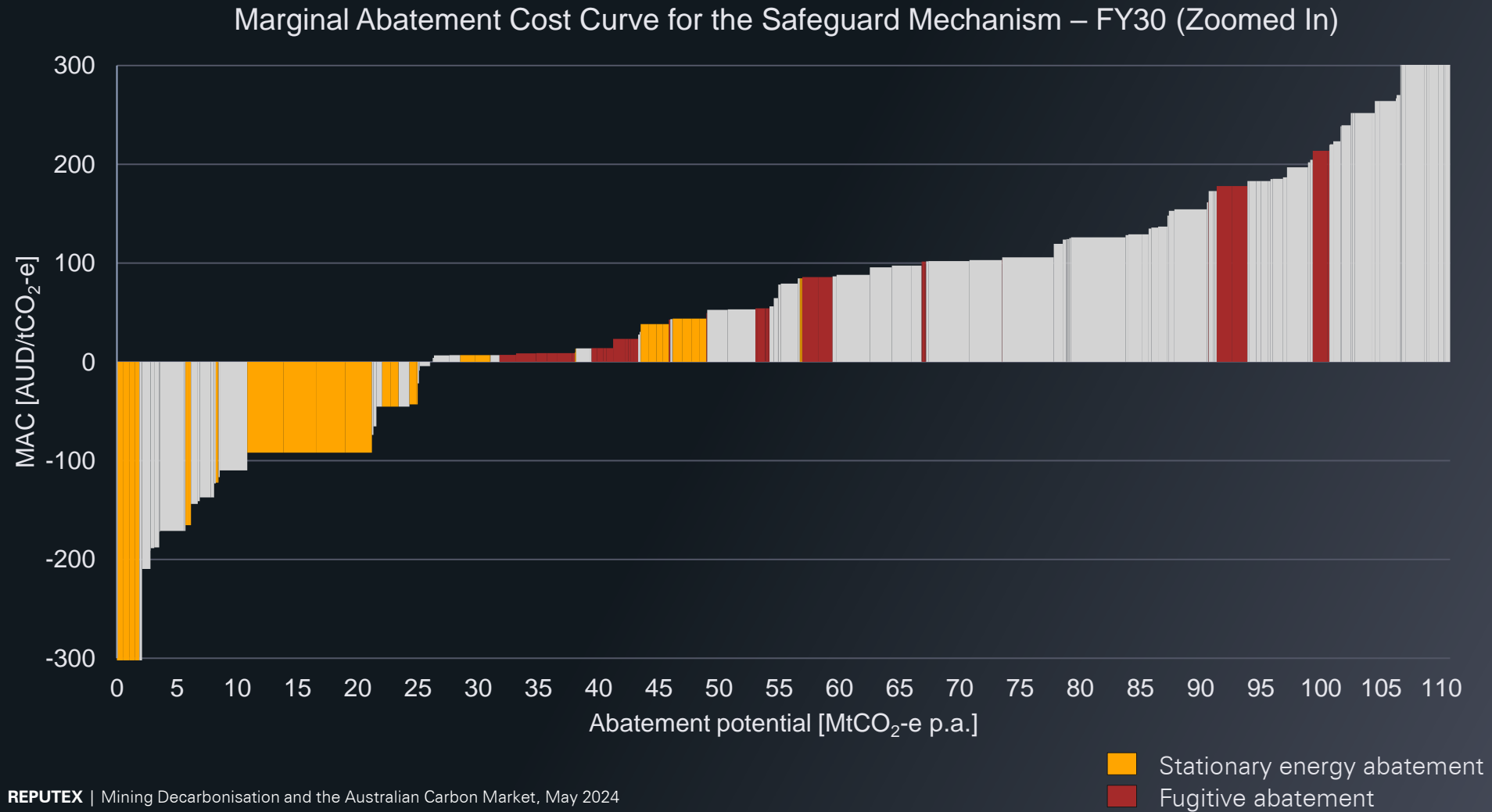
... mining sectors account for 35% of sub-\$100/t abatement



By 2030, total abatement potential is expected to grow to ~75% of Safeguard emissions

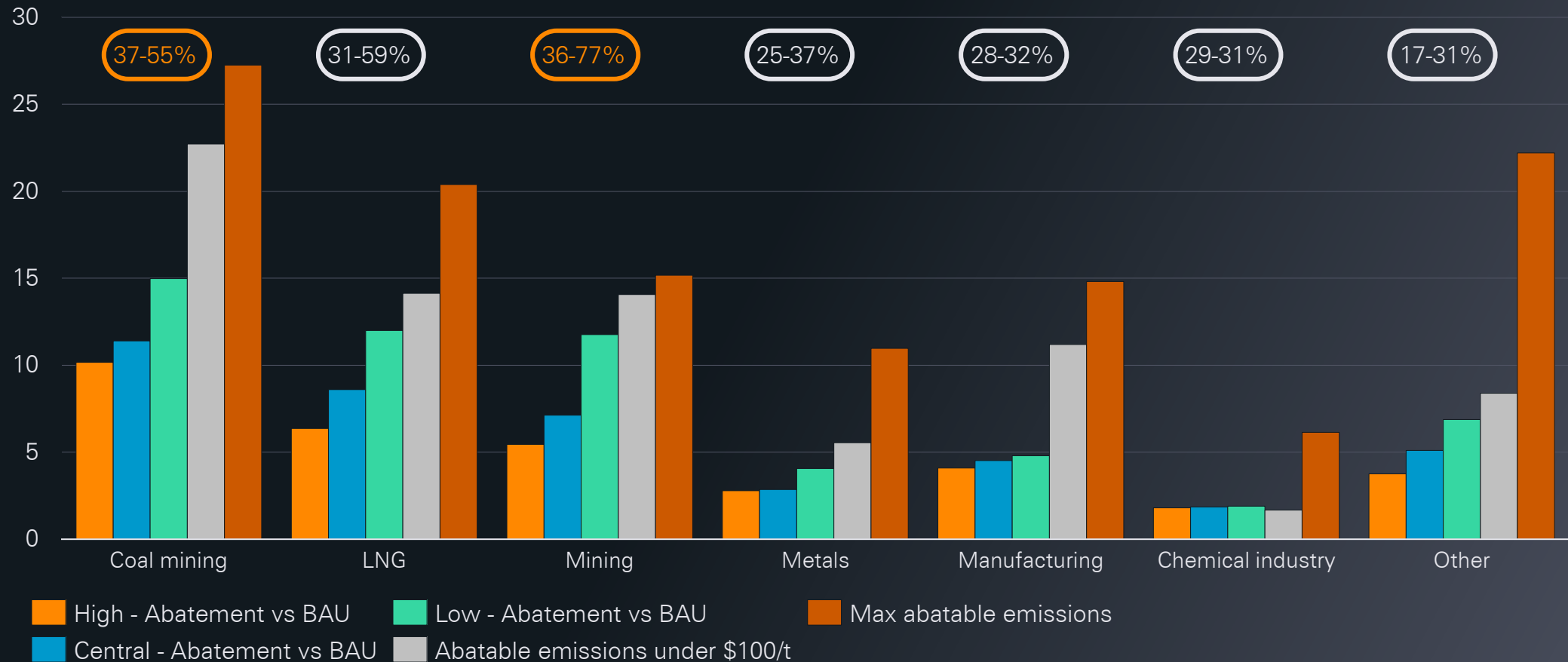


... with mining sectors expected to retain a large share of low-cost abatement potential



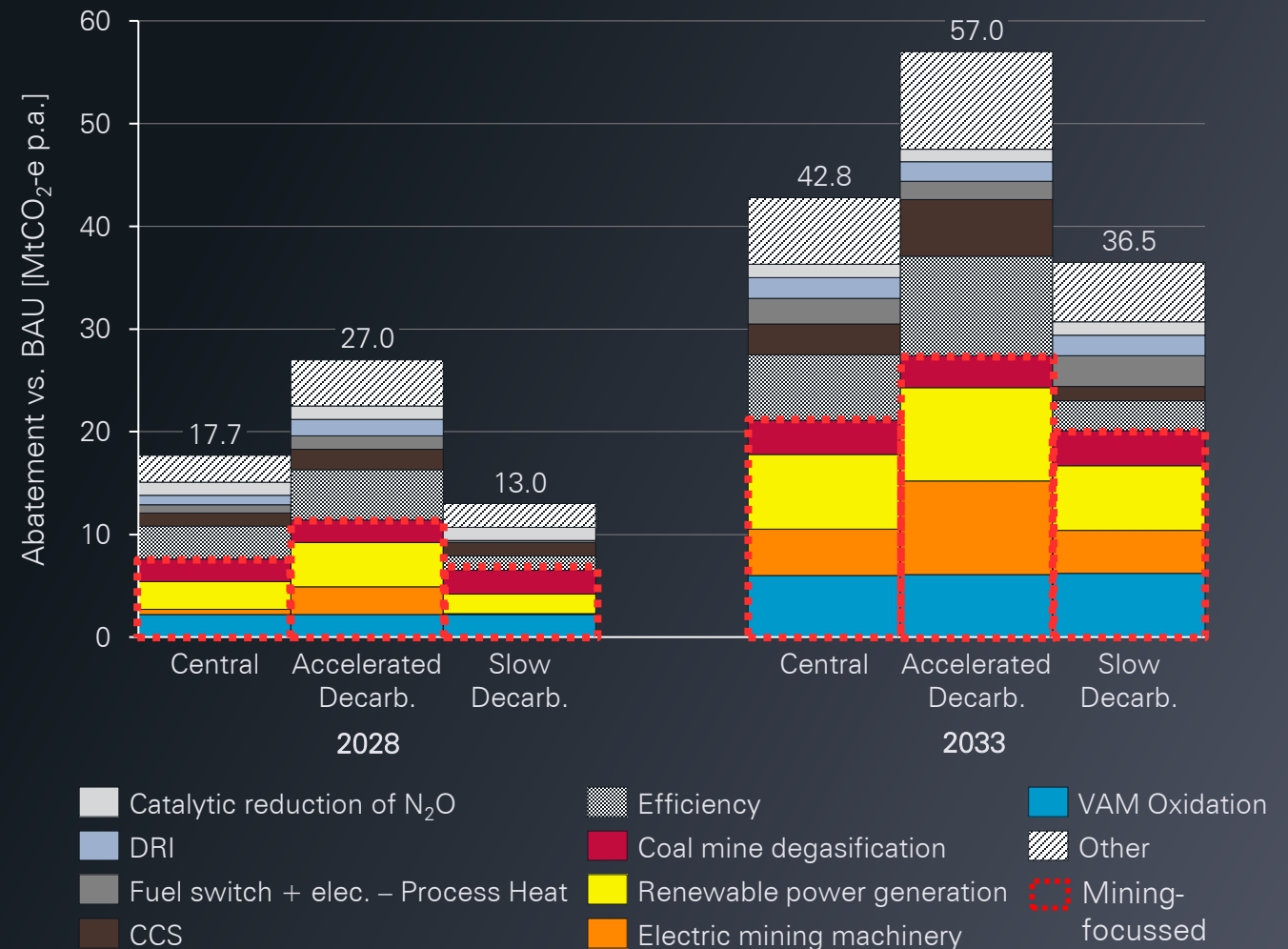
We expect most sectors to uptake between 20% and 40% of potential abatement by 2033

Abatement in 2033 [MtCO₂-e p.a.] & Uptake as % of maximum abatement

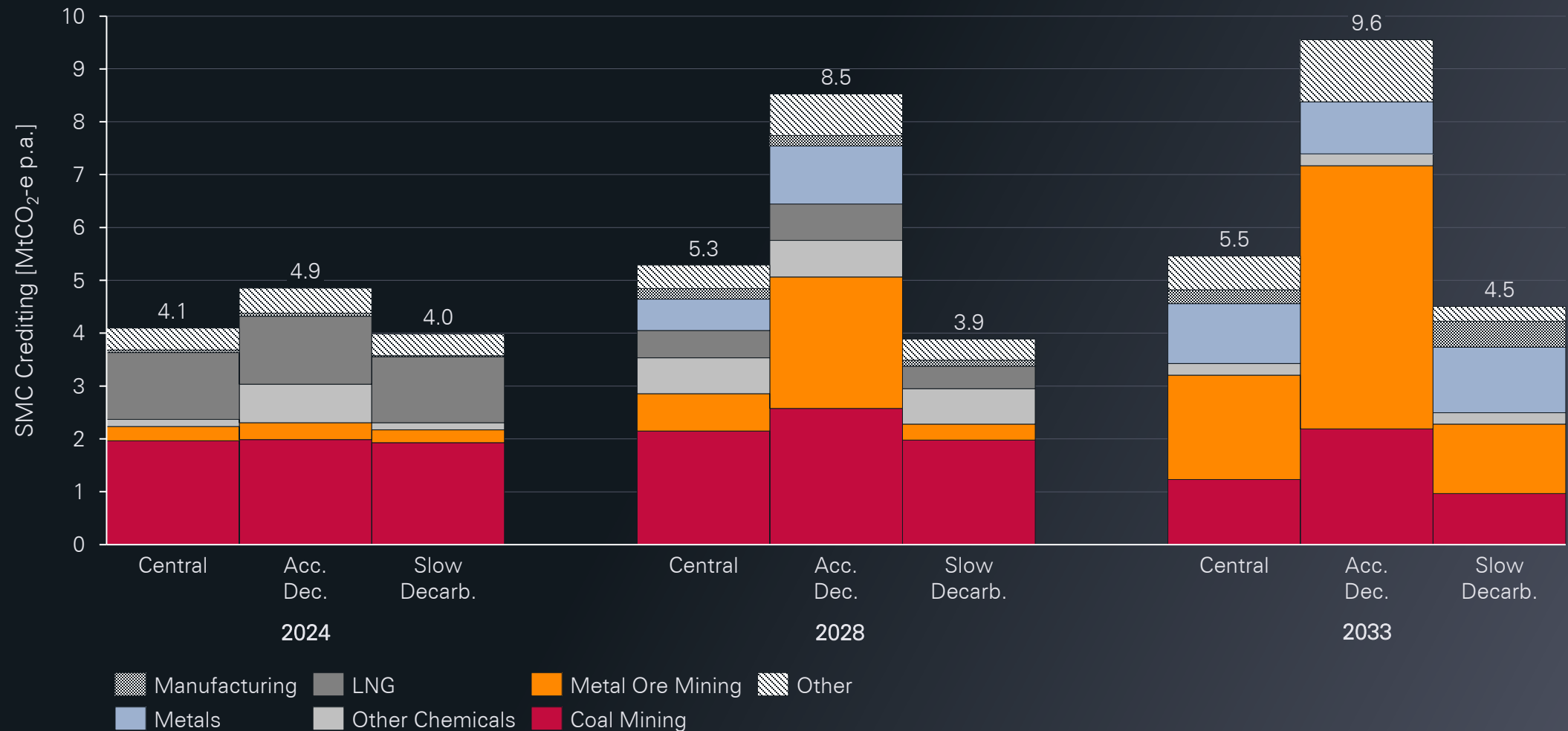


In all scenarios, abatement is driven by a mix of different technology types

- No “silver bullet”
- Short-term driven by high-payback projects, incremental efficiency improvements, and pre-existing projects (Moomba, N₂O reduction).
- Longer-term many sources of abatement in mining applications, expected to become more widely available from late 2020s.



Abatement action = SMCs! Mining industries are expected to generate the majority of SMCs



Thanks for listening!

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