



# Opportunities and Barriers to Transition in Hard-to-Abate Sectors



# Acknowledgements

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# Executive summary

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Existing sustainable finance taxonomies are valuable but insufficient. They classify environmentally sustainable activities but do not solve the financing problem for hard-to-abate sectors.

The analysis in this paper provides a common framework for governments, investors, and companies to identify where the marginal dollar of climate investment has the highest impact, and the policy and financial instruments needed to unlock that investment. The challenge is not a lack of solutions – it is one of political ambition, institutional coordination, and the ability to deploy proven instruments at scale.

The United Kingdom and China, as major financial centres, can play a catalytic role through the Common Ground Taxonomy framework and bilateral cooperation. While the UK dropped plans for its own taxonomy in July 2025 in favour of transition plans and sustainability reporting standards,<sup>1</sup> its financial sector continues to operate within the EU framework and provides a replicable model for policy makers.

Industry alliances and demand aggregation – such as the First Movers’ Coalition, with 101 global companies committing to purchase near-zero-emissions products – de-risk supply-side investment by providing offtake certainty.<sup>2</sup>

For investors, near-economic activities represent the next wave of investable climate opportunities. Early movers can position for this transition through transition bonds, sustainability-linked bonds, and sector-specific investment vehicles.

We have applied an analytical lens to the landscape of hard-to-abate sectors, using carbon price analysis to determine economic viability. This doesn’t imply that a simple carbon price (such as a carbon tax or emissions trading scheme) will be the most appropriate policy lever. Other incentives to support transition activities or disincentivise carbon-intensive activities may be more attractive without an explicit carbon price, but with an “implied carbon price” embedded in those policies.

## About The UK-China Green Finance Taskforce

The UK-China Green Finance Taskforce (GFT) is a bilateral platform for green finance collaboration, providing an important forum for members to exchange ideas and identify practical areas for cooperation; this report is a member-led contribution produced within the Transition Finance Workstream of the GFT.

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1 A&O Shearman: UK/EU ESG Priorities 2026, <https://www.aoshearman.com/en/insights/financial-services-horizon-report-2026/sustainability-and-esg-in-2026>

2 First Movers Coalition via WEF, <https://www.weforum.org/first-movers-coalition/>

# Backdrop:

## Action, but limited progress

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Most of the global economy is now covered by emission reduction targets – through nationally determined contributions under the Paris Agreement, net-zero pledges, and sectoral roadmaps – yet a persistent and widening gap exists between these targets, the policies needed to incentivise them, and the financing required to deliver them. Global greenhouse gas emissions reached approximately 57 GtCO<sub>2</sub>eq in 2023<sup>3</sup>, continuing a long-term upward trajectory despite accelerating deployment of clean energy technologies.<sup>4</sup>

Climate finance<sup>5</sup> has grown substantially, reaching a record \$1.9 trillion in 2023 according to the Climate Policy Initiative<sup>6</sup> but this remains far short of the levels needed to put the global economy on a path to the targets established in the Paris Agreement.

This challenge is made more acute by slowing political action and constrained fiscal spending. The United States formally withdrew from the Paris Agreement in January 2026,<sup>7</sup> the European Union has progressively weakened the instruments of its Green Deal through the 2025 Omnibus simplification package and sectoral rollbacks,<sup>8</sup> and anti-ESG sentiment has intensified in recent years. Consumer fossil fuel subsidies remain at approximately \$1.4 trillion per year – essentially matching total climate finance flows.<sup>9</sup>

Climate finance is heavily concentrated in a narrow set of commercially proven technologies. Between 2018 and 2022, 94% of total mitigation finance flowed to renewable energy, low-carbon transport, and buildings infrastructure.<sup>10</sup>

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3 Global GHG emissions reached a record 57.1 GtCO<sub>2</sub>eq in 2023, a 1.3% increase from 2022, UNEP Emissions Gap Report 2024

4 EDGAR v8 Global GHG Emissions 2024, [https://edgar.jrc.ec.europa.eu/report\\_2024](https://edgar.jrc.ec.europa.eu/report_2024)

5 Following the operational definition established by the Climate Policy Initiative (CPI) and the UNFCCC, "climate finance" refers to local, national, or transnational financing that explicitly targets climate change mitigation or adaptation.

6 CPI Global Landscape of Climate Finance 2024, <https://www.climatepolicyinitiative.org/publication/global-landscape-of-climate-finance-2024/>

7 The United States Exits Paris Agreement, January, 2026, <https://www.cfr.org/articles/united-states-exits-paris-agreement>

8 Delors Centre: Hollowing Out the Green Deal, Dec 2025, <https://www.delorscentre.eu/en/publications/detail/publication/eu-rome-is-hollowing-out-its-green-deal-leaving-a-vacuum-of-political-vision-for-others-to-exploit>

9 For primary data, see: International Energy Agency (IEA), "Fossil Fuel Subsidies Tracker" (2023); and International Institute for Sustainable Development (IISD), "The Cost of Fossil Fuel Reliance: G20 Government Support" (December 2023). When including implicit subsidies, the IMF estimates total global fossil fuel support reached \$7.4 trillion in 2024.

10 CPI Global Landscape of Climate Finance 2024

In 2025, solar PV alone attracted \$450 billion in investment – more than any single technology of any kind.<sup>11</sup> Private finance has driven this concentration, reaching 54% of mitigation flows in 2022, precisely because these sectors now offer commercial returns without public subsidy.

Hard-to-abate sectors – steel, cement, chemicals, aluminium, aviation, shipping, heavy industry, and agriculture – present a starkly different picture. They collectively represent approximately 40% of global GHG emissions and a similar share of the global economy, yet receive a tiny fraction of climate finance.<sup>12</sup> Industry receives only \$25 billion per year versus \$560 billion needed; agriculture, forestry and land use (AFOLU) receives only \$6 billion per year versus \$1.1 trillion needed.<sup>13</sup> Only 1% of the CCUS and clean hydrogen infrastructure required by these sectors is currently in place, and just 0.1% of hydrogen demand goes to new industrial applications.<sup>14</sup> These sectors will not decarbonise through market forces alone. They require targeted policy intervention, technological breakthrough and financial innovation.

### Existing frameworks don't fully address the problem

Over 60 national and regional sustainable finance taxonomies are now in use or in development worldwide, spanning every region.<sup>15</sup> These taxonomies perform an important function: they classify economic activities as environmentally sustainable, providing a common language for investors, issuers, and regulators. However, they share a fundamental structural limitation: they classify what is green, but not what is investable. Solar PV receives the same “green” label as green steel, yet their economics are entirely different – one is commercially competitive without any subsidy, the other requires a carbon price of \$130 per tonne or more to become viable.

The EU Taxonomy, the most developed framework globally, explicitly does not assess whether meeting its technical screening criteria is economically viable without policy support. The EU's own Technical Expert Group acknowledged this gap in its March 2020 final report: “Additional tools are needed to explain the necessary speed of reductions from highly emissions-intensive activities.”<sup>16</sup> The

11 IEA World Energy Investment 2025 via RMI, <https://rmi.org/five-takeaways-from-ieas-report-on-world-energy-investment/>

12 WEF Net Zero Industry Tracker 2024, <https://www.weforum.org/stories/2024/12/net-zero-transition-requires-a-30-trillion-investment-for-hard-to-abate-sectors/>

13 CPI Global Landscape of Climate Finance 2024

14 Iberdrola: Hard-to-Abate Sectors 2024, <https://www.iberdrola.com/about-us/our-sector/electrification/hard-to-abate-sectors>

15 Taxonomy Roadmap Initiative Progress Report, Nov 2025, [https://www.sbfnetwork.org/sites/default/files/2025/Nov/COP30\\_Taxonomy-Roadmap-Initiative\\_Progress-Report\\_Nov-2025\\_0.pdf](https://www.sbfnetwork.org/sites/default/files/2025/Nov/COP30_Taxonomy-Roadmap-Initiative_Progress-Report_Nov-2025_0.pdf)

16 TEG Final Report on EU Taxonomy, March 2020, [https://finance.ec.europa.eu/system/files/2020-03/200309-sustainable-finance-teg-final-report-taxonomy\\_en.pdf](https://finance.ec.europa.eu/system/files/2020-03/200309-sustainable-finance-teg-final-report-taxonomy_en.pdf)

BIS has noted that “existing taxonomies use binary approaches” that can “deter certain firms from investment,”<sup>17</sup> while DIW Berlin found that “only few taxonomies meet most criteria for supporting the transition to carbon neutrality.”<sup>18</sup> The EU Platform on Sustainable Finance itself stated that “the taxonomy cannot solve energy sector transition policy beyond environmental performance.”<sup>19</sup>

Taxonomies do not assess the carbon price gap, do not identify where the marginal investment dollar has the highest abatement impact, and do not address the specific barriers – technology risk, infrastructure absence, coordination failures, political economy – that prevent capital from flowing to hard-to-abate sectors. This paper provides a framework to connect capital needs, policy instruments, and investment prioritisation in the areas where they are most needed.



17 BIS Papers No. 118: A Taxonomy of Sustainable Finance Taxonomies, <https://www.bis.org/publ/bppdf/bispap118.pdf>

18 DIW Berlin: Sustainable Finance Taxonomies, May 2024, [https://www.diw.de/documents/publikationen/73/diw\\_01.c.902603.de/dp2083.pdf](https://www.diw.de/documents/publikationen/73/diw_01.c.902603.de/dp2083.pdf)

19 European Parliament Research Service: EU Taxonomy Briefing 2022, [https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/698935/EPRS\\_BRI\(2022\)698935\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/698935/EPRS_BRI(2022)698935_EN.pdf)

# Analysing the problem

Taxonomies have become a go-to tool for policy makers and industry groups globally. At least 60 formal taxonomies now exist with many others in development. These provide a recognisable starting point for our analysis, but to bring some consistency and structure, we have constructed a unified taxonomy of 38 economic activities across 6 sectors based on three primary classification systems:

<b>EU Taxonomy:</b>  over 150 activities across six environmental objectives, based on NACE codes. <sup>20</sup>	<b>Green Finance Endorsed Project Catalogue (2025 Edition):</b>  Primary reference for Chinese policy alignment. <sup>21</sup>	<b>IPCC AR6 WG3 / EDGAR v8 emissions inventory:</b>  A comprehensive global GHG database by sector and subsector. <sup>22</sup>
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We chose these systems for their relevance in two of the world’s largest centres of capital and emissions: Europe (including the United Kingdom, which while it officially abandoned its own taxonomy in July 2025,<sup>23</sup> has firms continuing to report against the EU framework) and China. The EU-China Common Ground Taxonomy (CGT), expanded to 96 activities at COP29 in November 2024, provides a bridge between these systems.<sup>24</sup> Each of our 38 activities maps to at least one EU Taxonomy activity and one China Taxonomy category.

We selected these 38 activities so that each is (i) coherent enough to attach a single dominant abatement pathway and carbon price estimate, and (ii) material enough to influence the global picture. The six sectors (Energy Supply, Industry, Transport, Buildings, AFOLU, Waste) follow the IPCC AR6 WG3 emissions inventory structure, ensuring full coverage of anthropogenic emissions without overlap. Where a sector has materially different abatement pathways at materially different cost points – for example, coal power phase-down versus

20 Ecobio Manager: EU Taxonomy Overview, Oct 2025, <https://ecobiomanager.com/eu-taxonomy-all-you-need-to-know/>

21 Open Library on Green Economy: China Green Bond Catalogue 2025, <https://wuhan.pbc.gov.cn/en/3688006/3995557/2025112114583967269/index.html>

22 IPCC AR6 WG3 Chapter 3, <https://www.ipcc.ch/report/ar6/wg3/chapter/chapter-3/>

23 Proskauer: UK Green Taxonomy Shelved, Jul 2025, <https://www.proskauer.com/blog/uk-green-taxonomy-shelved-as-transition-plans-take-centre-stage>

24 CGT Instruction Report 2024 (Climate Bonds), [https://www.climatebonds.net/files/documents/241113-common-ground-taxonomy-instruction-report\\_en.pdf](https://www.climatebonds.net/files/documents/241113-common-ground-taxonomy-instruction-report_en.pdf)

coal power with CCS – we split it into separate activities so that the carbon price estimate reflects the relevant technology choice rather than a blended average.

## Examining the economics of those activities

To compare the economic viability of each activity, we estimate the carbon price (\$/tCO<sub>2</sub>eq) needed to incentivise a 50% emission reduction. This draws on marginal abatement cost curve (MACC) methodologies, using data from IPCC AR6 WG3, Goldman Sachs Carbonomics 2025, and IEA technology roadmaps.<sup>25</sup> We use the carbon price at which half the emissions from an activity could be economically abated to provide a common benchmark, recognising that a complete transition (100%) may be significantly more costly in some cases. In practical terms, this represents the commercial ‘tipping point’ where transition technologies become cost-competitive with fossil-fuel incumbents for at least 50% of a sector’s global production.

In practice, the “carbon price” we have used as a reference may not represent an explicit and direct carbon price on emissions, such as through an emissions trading scheme or carbon tax. It may be an implied carbon price embedded into policy measures which support carbon intensive activities, barriers to investment or the implicit frictions created by other policy measures.

Activities are classified into four categories:

- **Already Economic** (50% reduction already economic around current carbon prices): Technologies that are commercially competitive today, requiring no additional policy support.
- **Near-Economic** (economically attractive at carbon prices of \$25–100/t): Activities that would become viable with moderate policy intervention.
- **Policy-Dependent** (\$100–250): Activities requiring significant policy support, carbon pricing, or subsidy.
- **Technology-Dependent** (>\$250): Activities where cost-competitive low-carbon alternatives do not yet exist at scale.

Marginal Abatement Cost Curve (MACC) estimates carry meaningful uncertainty. Reported carbon prices for the same activity can vary by 30–50% across different credible and well-used sources, reflecting differences in input price assumptions, discount rates, learning curves, and geographic scope. To mitigate this challenge, we have used rounded estimates and wide classification bands (Already Economic, Near-Economic etc) rather than precise point estimates.

<sup>25</sup> Goldman Sachs Carbonomics 2025, [https://www.goldmansachs.com/pdfs/insights/goldman-sachs-research/carbonomics-tariffs-deglobalization-and-the-cost-of-decarbonization/Carbonomics\\_redaction2.pdf](https://www.goldmansachs.com/pdfs/insights/goldman-sachs-research/carbonomics-tariffs-deglobalization-and-the-cost-of-decarbonization/Carbonomics_redaction2.pdf)

# Results of the analysis

Our analysis of 38 economic activities across six sectors reveals a clear distribution of abatement opportunities. Of the 68 GtCO<sub>2</sub>eq of global emissions, six activities are already economic (representing 16 GtCO<sub>2</sub>eq), 24 activities are near-economic (35 GtCO<sub>2</sub>eq), 8 are policy-dependent (15 GtCO<sub>2</sub>eq), and 2 are technology-dependent (2 GtCO<sub>2</sub>eq). Figure 1 presents the full classification.

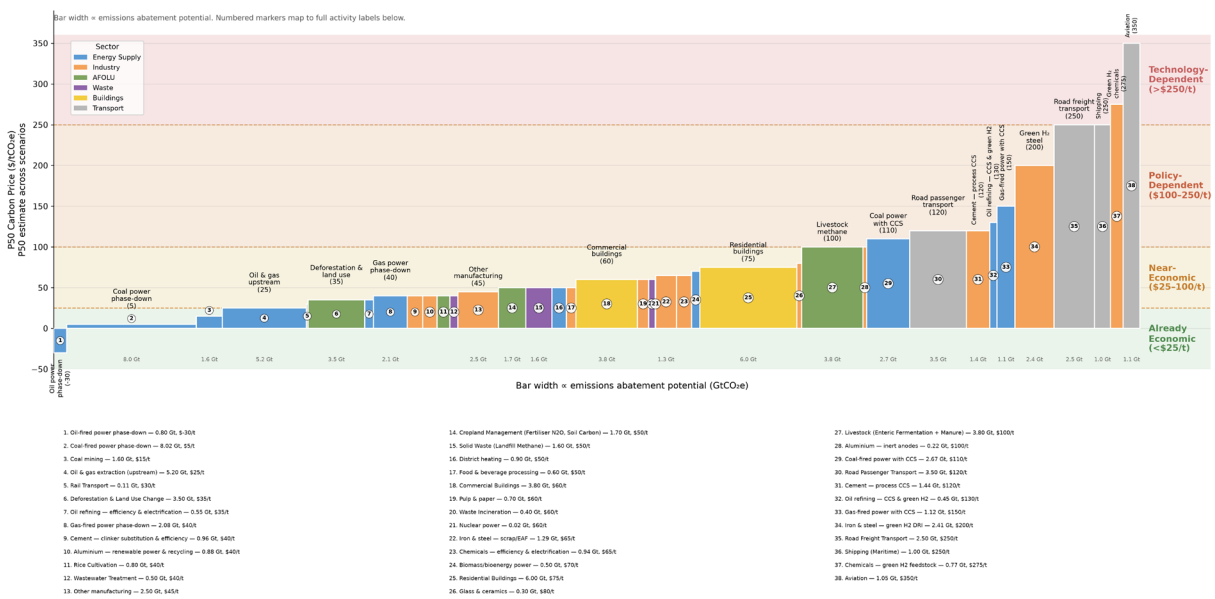
The concentration of emissions in near-economic activities is striking. Two-thirds of the global annual emissions total could be addressed at carbon prices (or equivalent policy measures) of \$100/tCO<sub>2</sub>eq or below. This represents a vast reservoir of abatement potential that is not being tapped because carbon prices in most jurisdictions remain far too low, and the specific barriers to each activity have not been systematically addressed.



## The Abatement Efficiency Chart

Figure 1 presents the abatement efficiency of all 38 activities; bar width is proportional to current annual emissions from that activity and bar height represents the carbon price needed to incentivise a 50% reduction in emissions.

Figure 1: Emissions contributions vs economic attractiveness of decarbonisation<sup>26</sup>



This analysis highlights the significant emission reduction that could be incentivised with modest changes in policy (near-economic), representing around half of the total emissions plotted.

However, the current global weighted average carbon price is low.<sup>27</sup> While just over 29% of global emissions are nominally covered by carbon pricing instruments, less half of those companies covered face an effective carbon price after accounting for free allowances and exemptions.<sup>28</sup> Around 74% of emissions under carbon pricing instruments are priced below \$20/tCO<sub>2</sub>e.

The EU ETS, currently at approximately €75 (~\$85) per tonne<sup>29</sup>, is the exception

26 The sum of individual activity-level emissions (68 GtCO<sub>2</sub>e) exceeds the net global annual total (57 GtCO<sub>2</sub>e) because activity-level data represents gross emissions—including gross tropical forest loss before carbon absorption sinks—and includes indirect electricity-use emissions mapped to both the power and industrial sectors

27 I4CE: Global Carbon Accounts 2025, [https://www.i4ce.org/wp-content/uploads/2025/06/Global-carbon-accounts-2025\\_V1.pdf](https://www.i4ce.org/wp-content/uploads/2025/06/Global-carbon-accounts-2025_V1.pdf)

28 World Bank: State and Trends of Carbon Pricing 2025, <https://www.worldbank.org/en/news/press-release/2025/06/10/global-carbon-pricing-mobilizes-over-100-billion-for-public-budgets>

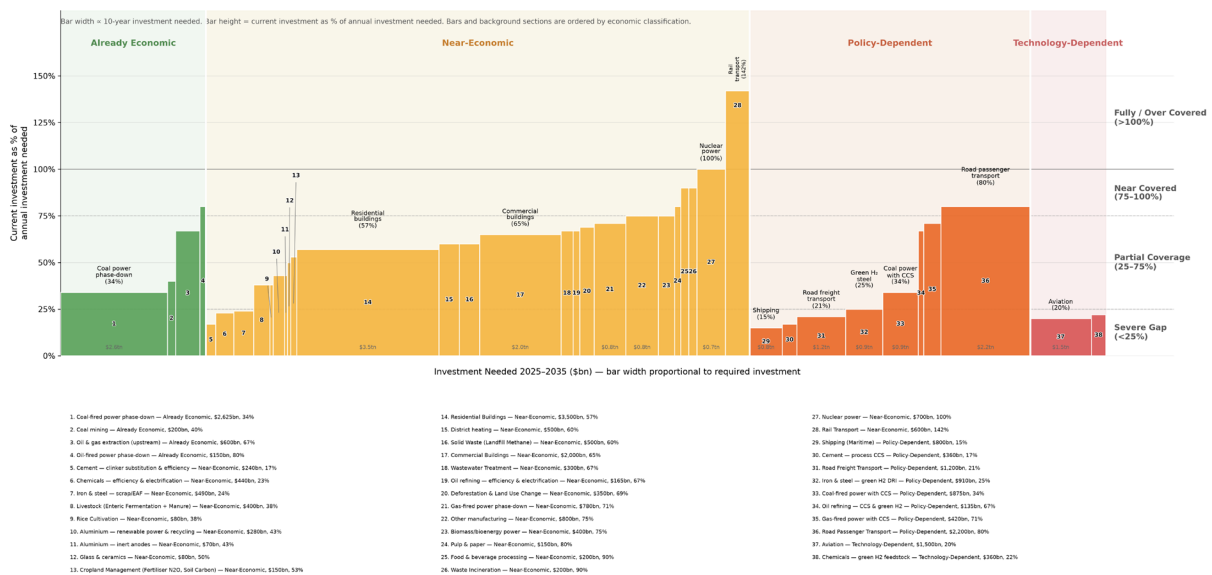
29 As of May 2026, EEX official auction data

– but it covers only European installations and its effectiveness is undermined by free allowance allocations to trade-exposed sectors. The IMF estimates that measures equivalent to a global average carbon price of at least \$75-125/tCO<sub>2</sub>eq by 2035 would be required to limit warming to 1.85-2°C.<sup>30</sup>

Current investment levels are drawn from the IEA World Energy Investment 2025, the Climate Policy Initiative (CPI) Global Landscape of Climate Finance 2024, and sectoral trackers such as the WEF Net Zero Industry Tracker. Required investment is the capital expenditure needed to deliver the abatement pathway implied by the IEA Net Zero Emissions scenario and IPCC 1.5°C compatible pathways, annualised over the 2025-2035 period. These are inherently top-down estimates with material uncertainty, but the orders of magnitude – and the pattern of which activities are most underfunded – are generally consistent across sources.

But economic headwinds are not the only challenge. Figure 2 shows the same activities, in the same order, comparing the quantum of investment needed in each area (the width of each bar) with the ratio of actual to needed investment (height). Almost all face funding shortfalls compared to necessary levels, with near-economic activities only modestly better supported than those which require significantly higher carbon prices.

Figure 2: Investment requirements vs investment shortfall<sup>31</sup>



30 IMF Working Paper on Carbon Pricing, Nov 2025, <https://www.imf.org/-/media/files/publications/wp/2025/english/wp/2025245-source.pdf>

31 Figure 2 uses a two-dimensional bar layout to represent two distinct financial variables simultaneously. The Bar Width (Horizontal Axis) represents the absolute volume of annual investment required to achieve the transition; a wider bar indicates a highly capital-intensive activity. The Bar Height (Vertical Axis) represents the current funding level as a percentage of required investment; a taller bar indicates a well-funded sector, while a short bar (closer to 0%) indicates a severe funding shortfall.

For example, electrified rail (narrow but well above the 100% line) is small in absolute terms but already adequately funded. Aviation (wide but well below the line) requires significant funding but current spending covers less than a quarter of the rate needed. Most activities sit in the lower half of the chart, indicating systemic under-funding across the hard-to-abate landscape.

**Figure 3: Economic attractiveness vs current funding shortfall**



# Unlocking near-economic activities: barriers and solutions

The question remains: why have these solutions not already been adopted at scale?

To identify the reasons for their slow transition - if not solely a question of carbon economics - we have examined reasons for under-investment in each area along common dimensions.

We examined barriers to deployment across eight dimensions: Technology Readiness, Economic Viability, Policy and Regulation, Infrastructure, Industry Coordination, Capital Availability, Social and Behavioural, and Geopolitical. Each dimension is scored 1-5, enabling cross-activity comparison through a consistent framework, enabling targeted policy and financing recommendations.

The analysis is necessarily blunt - circumstances and challenges vary within industries and from country to country - but provides a structured framework through which to understand the potential barriers to transition in those areas.

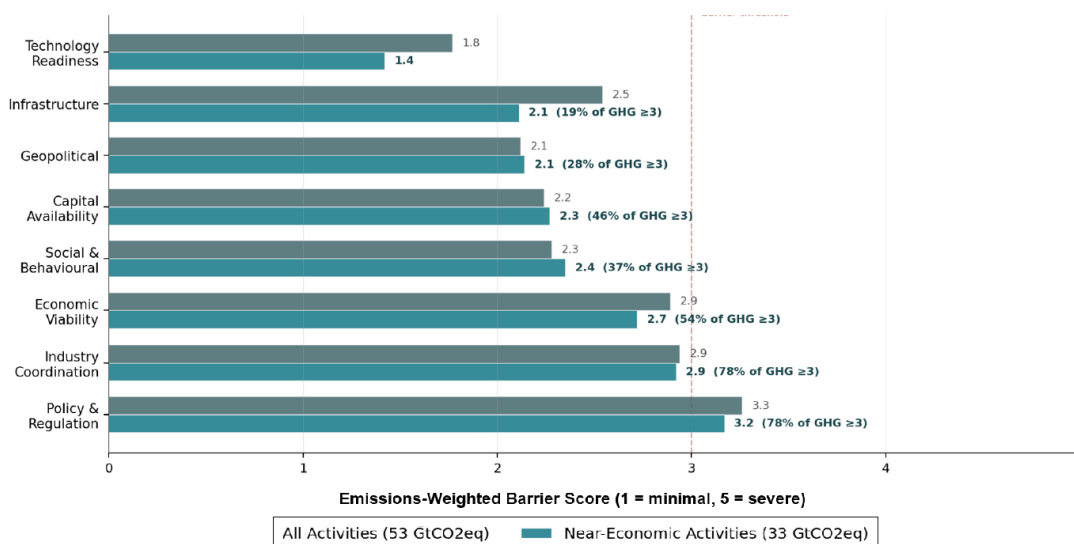
To translate the 1-5 barrier scores into practical terms, we map each score to its real-world implications for project investability and the level of policy intervention required:

Score	Characterisation	Practical Meaning for Investors & Developers	Required Policy / Financial Intervention
1	<b>Negligible</b>	Fully investable under standard commercial terms. Standard debt and equity markets can allocate capital without friction.	No specialized intervention needed; standard market forces apply.
2	<b>Minor</b>	Commercially viable, but faces minor operational or administrative frictions (e.g., standard permitting delays).	Minor regulatory streamlining or standard commercial hedging.
3	<b>Moderate</b>	Marginal commercial viability. Slows or constrains deployment in some markets; requires specialized risk-sharing to proceed.	Targeted public support, such as blended finance, first-loss guarantees, or public-private partnerships.
4	<b>Significant</b>	Un-investable under standard commercial terms. A primary reason deployment is below trajectory; private capital cannot flow.	Direct policy underwriting, such as Carbon Contracts for Difference (CCfDs), capital grants, or binding procurement mandates.
5	<b>Severe / Structural</b>	Complete market failure or technological absence. Projects cannot proceed without complete public financing or pre-commercial underwriting.	Full public financing, sovereign guarantees, or massive pre-commercial R&D subsidies.

By weighting each activity’s barrier scores by its contribution to global emissions, we can identify the systemic obstacles that are preventing the largest volumes of near-economic abatement from being realised.

Figure 4 presents the emissions-weighted barrier scores across eight categories of barrier, comparing all near-economic activities through a consistent lens. The results reveal a clear hierarchy of obstacles.

Figure 4: Emissions-Weighted Barrier Scores by Dimension



**The dominant barrier is policy and regulation**, which affects four-fifths of near-economic emissions at a significant level. This reflects the combination of inadequate carbon pricing, perverse fossil fuel subsidies, and the absence of binding sectoral regulations. The absence of enforceable regulations in most jurisdictions means operators face no consequence for inaction.

**Industry coordination** is the second most significant barrier. This reflects the collective action problems inherent in decarbonisation: no single company or country can move alone without competitive disadvantage. In buildings, the split incentive between landlords and tenants prevents retrofits. In agriculture, millions of dispersed smallholders cannot adopt new practices without coordinated extension services. In forestry, weak governance and multi-stakeholder complexity prevent payment flows from reaching forest-dependent communities.

**Economic viability** affects more than half of near-economic emissions significantly. This is not a technology cost problem per se; the technologies needed for near-economic activities already exist and are commercially available. The

economic barrier is instead driven by the gap between the current effective carbon price and that needed to incentivise emission reductions, compounded by high upfront capital requirements, long payback periods, and the absence of revenue certainty that would justify investment.

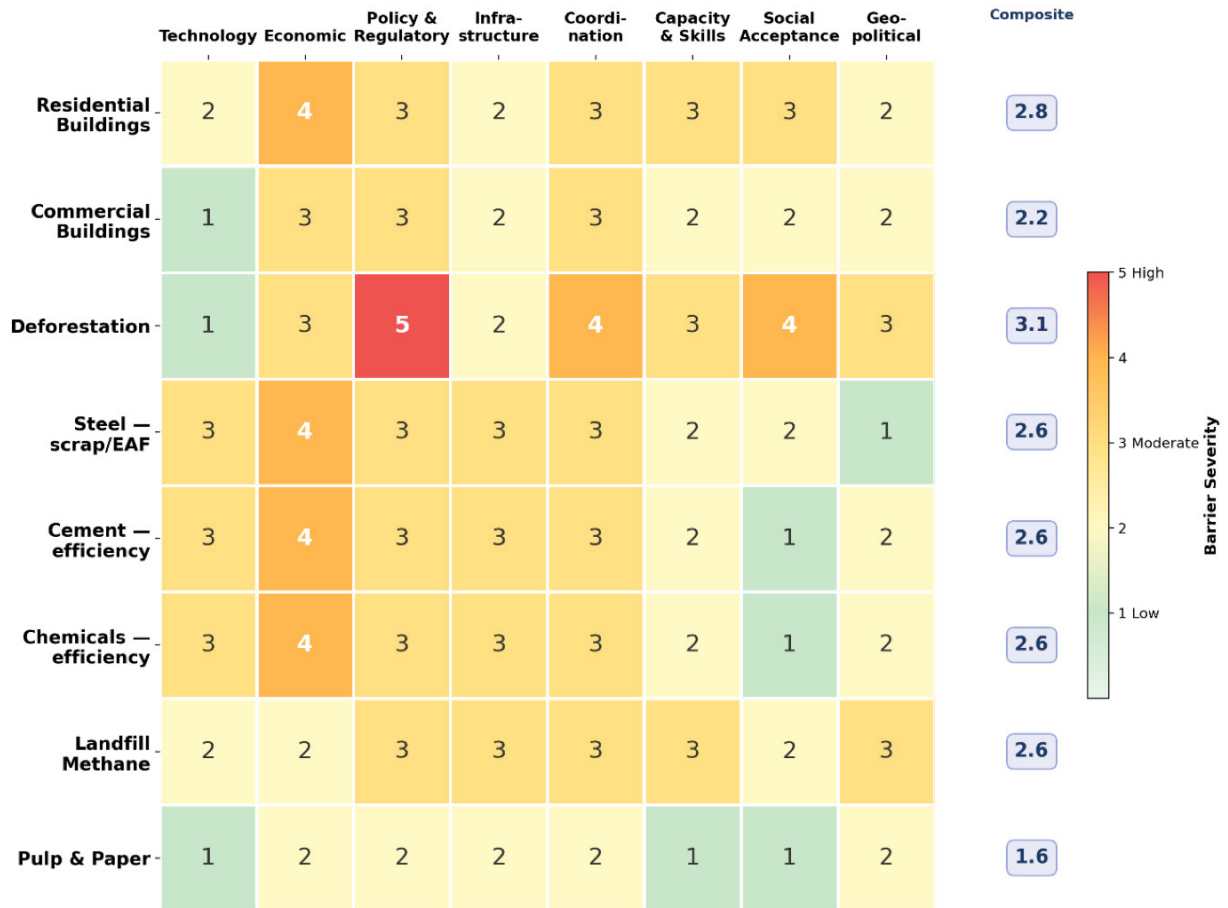
This pattern – technology exists, but policy, coordination, and economic signals are missing – goes a long way to explaining why the finance industry has struggled to mobilise capital for hard-to-abate sectors. The problem is not that these investments are inherently uneconomic; it is that the policy and institutional environment has not been configured to make them investable.

To examine these issues more closely, we have identified eight activities which are near-economic, where current investment falls short of required levels and which are material contributors to global carbon emissions.

Activity	Description	Emissions (Gt)	50% reduction carbon price	Current investment as % of required
Residential Buildings	Replacement of fossil fuel heating with heat pumps, combined with deep building envelope retrofits	6.00	\$75	43%
Commercial Buildings	Electrification of heating/cooling through heat pumps, smart building management, LED upgrades, envelope retrofits	3.80	\$60	35%
Deforestation	Halting tropical deforestation through strengthened land tenure, expanded protected areas, zero-deforestation commodity supply chains	3.50	\$35	31%
Steel scrap/ EAF	Expansion of secondary steelmaking via electric arc furnaces using scrap steel, powered by renewable electricity	1.29	\$65	76%
Cement efficiency	Clinker substitution with supplementary cementitious materials (fly ash, blast furnace slag, calcined clay)	0.96	\$40	83%
Chemicals efficiency	Electrification of process heat (electric steam crackers, heat pumps, electric boilers), energy efficiency	0.94	\$65	77%
Landfill Methane	Methane capture through gas collection systems, diversion of biodegradable waste from landfills	1.60	\$50	40%
Pulp & Paper	Biomass energy efficiency, electrification of low-temperature processes, CCS	0.70	\$60	20%

We have classified potential barriers to increased investment and faster action in those eight activities.

Figure 5: Barriers to decarbonisation (barrier scores 1-5)



## What can be done?

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Our analysis of barriers to transition underlines the reality that no single group or actor can deliver decarbonisation in isolation. Policy makers, investors and companies must all take steps in the same direction to reinforce the actions of each other.

- **For policy makers**, the single most impactful action is to establish credible, rising carbon price trajectories, or more robust policy measures which achieve a similar result in disincentivising high carbon activities. A global carbon price corridor of \$50/tCO<sub>2</sub> by 2030 rising to \$100/tCO<sub>2</sub> by 2035 would, in isolation, render the majority of near-economic activities commercially viable. The elimination of fossil fuel subsidies (\$7 trillion globally) would have a comparable effect. Beyond pricing, mandatory methane monitoring and reporting regulations, building energy performance standards, and deforestation-free supply chain requirements would directly address the highest-emission near-economic activities.
- **For investors**, the technologies needed for near-economic abatement are not speculative – they are commercially proven. However, new investment vehicles which commit long term capital to transition activities where the pay-offs will emerge over time will be necessary. New approaches to blending public and private capital can help – not only to mitigate risks but also to provide the necessary patience.
- **For industry**, pre-competitive collaboration will be valuable. Industry alliances – the First Movers' Coalition, SteelZero, ConcreteZero – reduce coordination risk by providing offtake commitments that de-risk supply-side investment. Companies that proactively engage with CCfD programmes, CBAM compliance, and science-based transition plans will secure long-term revenue certainty and avoid stranded asset risk.

While these point to high level opportunities for action, detailed activity-level analysis will be vital. Challenges are specific to each activity and each country. Below, we have outlined high level thoughts in the eight near-economic activities examined earlier.

Activity	GHG (Gt)	P50 (\$/t)	Primary Barriers	Policy Makers	Investors	Industry
Residential buildings	6.0	\$75	Economic (4/5), Policy (3/5), Coordination (3/5)	Mandatory building energy performance standards; scale ETS2 for buildings; expand Social Climate Fund	Green mortgage products; PACE-linked bonds; building retrofit funds targeting 5-8% returns	Standardised retrofit packages; one-stop-shop renovation models; landlord-tenant cost-sharing frameworks
Commercial buildings	3.8	\$60	Economic (3/5), Policy (3/5), Coordination (3/5)	Mandatory energy audits and disclosure; minimum energy performance standards for leases	Green building funds; on-bill financing securitisation; ESG-linked real estate investment	Smart building management systems; demand response participation; green lease adoption
Deforestation	3.5	\$35	Policy (5/5), Coordination (4/5), Social (4/5)	Enforce EU Deforestation Reg.; strengthen land tenure rights; scale REDD+ jurisdictional programmes	Forest bonds; Article 6 credit offtake agreements; blended finance for community forestry	Zero-deforestation supply chain commitments; traceability and satellite monitoring adoption
Landfill methane	1.6	\$50	Policy (3/5), Infra (3/5), Coordination (3/5), Capital (3/5), Geopolitical (3/5)	Mandatory landfill gas capture; extend methane regulations to waste sector; organic waste diversion targets	Waste-to-energy project finance; LFG capture infrastructure funds; concessional finance for emerging markets	Bioreactor landfill conversion; anaerobic digestion deployment; waste diversion infrastructure
Pulp & paper	0.7	\$60	Economic (2/5)	Include pulp mills in CCS support schemes (BECCS potential); extend EU ETS coverage	Transition bonds for mill modernisation; BECCS project finance (negative emissions premium)	Biomass CHP optimisation; black liquor gasification; BECCS integration in recovery boilers



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We aim to:

- Contribute to a flourishing society
- Support a thriving economy
- Shape outstanding environments

By strengthening the connections, capacity and character of the City, London and the UK for the benefit of people who live, work and visit here.

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