



Commercial opportunities and risks for CO₂ capture at biomethane plants

UK Green Gas Day 2025
AFRY Management Consulting

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OCTOBER 2025

Agenda

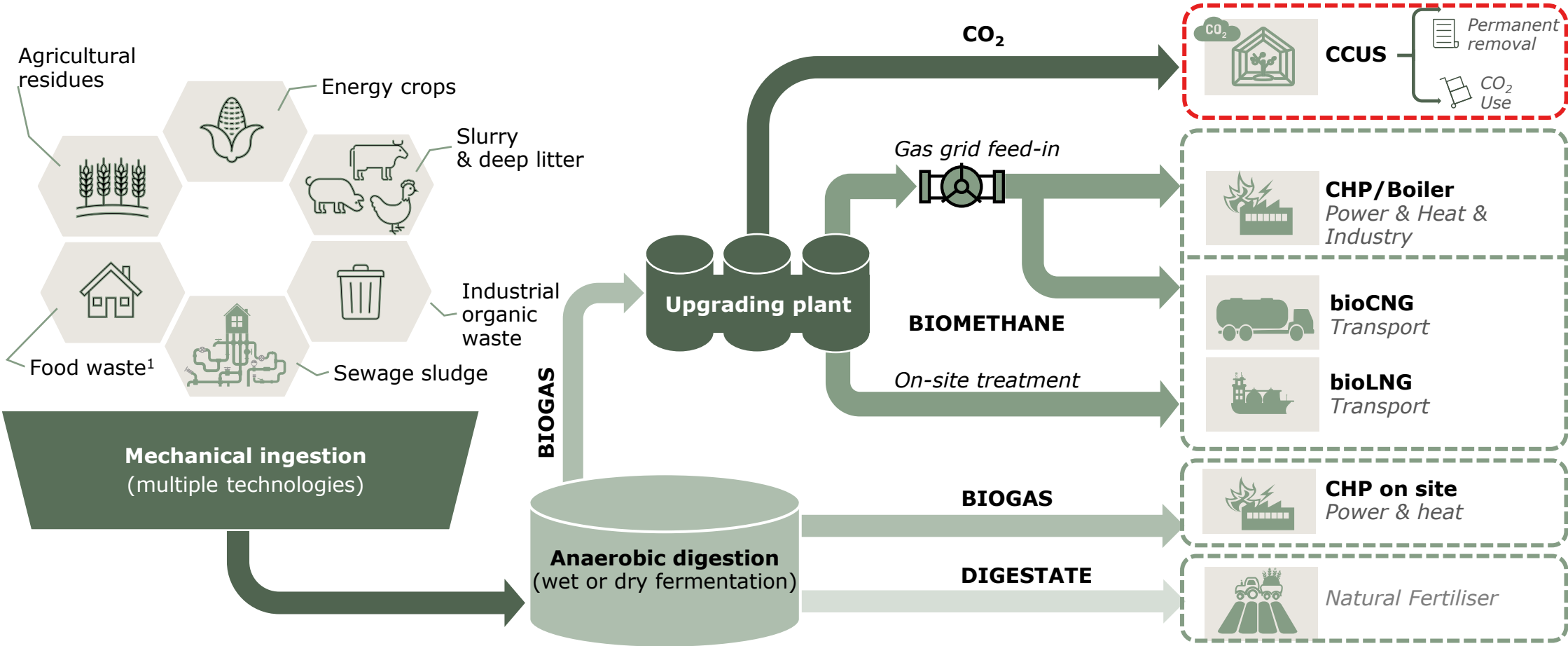
1. Introduction
2. Development and opportunity in UK liquid CO₂ market
3. Biogenic CO₂ pricing
4. Carbon removals opportunity
5. Commercial risks for biomethane producers capturing CO₂

AFRY Management Consulting is a leading advisor of the transition of the energy and bioindustry sectors

Presence	Revenue	Projects	Staff	Backed by
5	~150 million	>100	800+	19,000
continents	€ in 2024	countries	management consultants	experts at AFRY

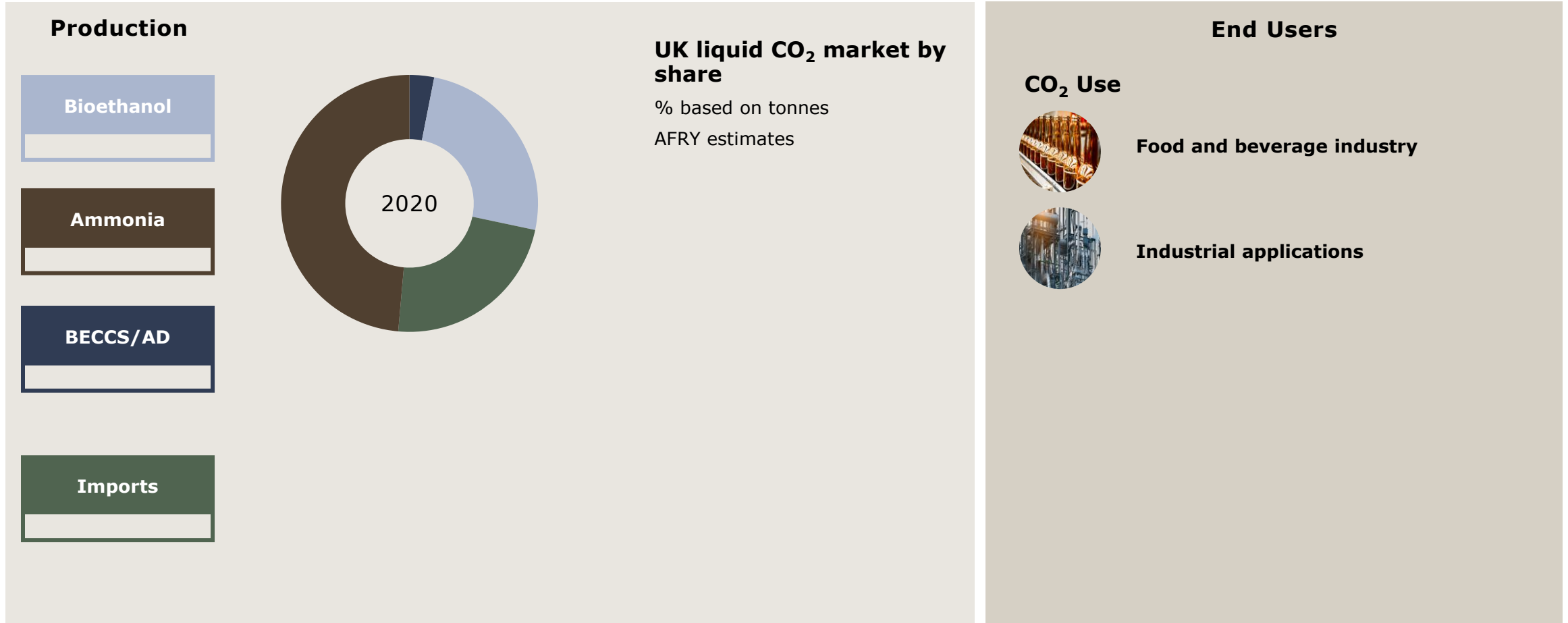


Historically, CO₂ is not a revenue stream that developers and investors have paid huge attention, but that is changing

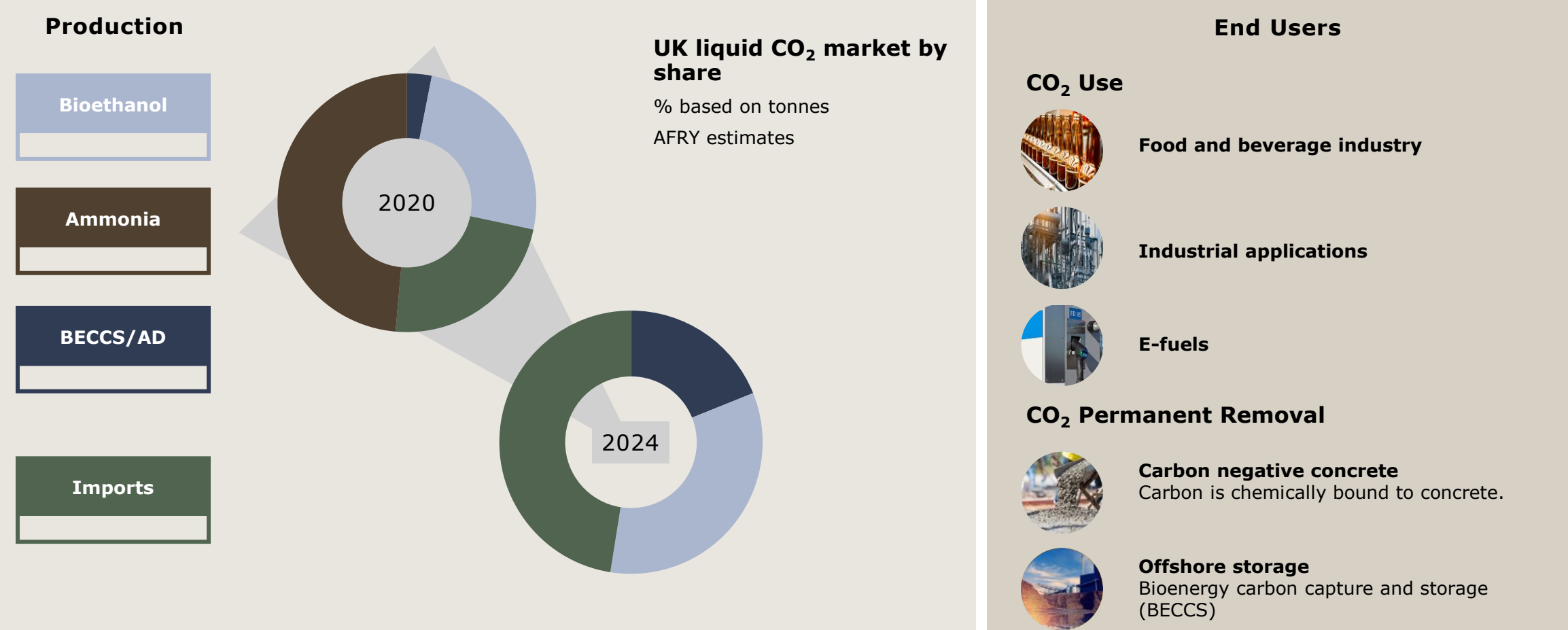


Notes: (1) County councils, restaurants, households

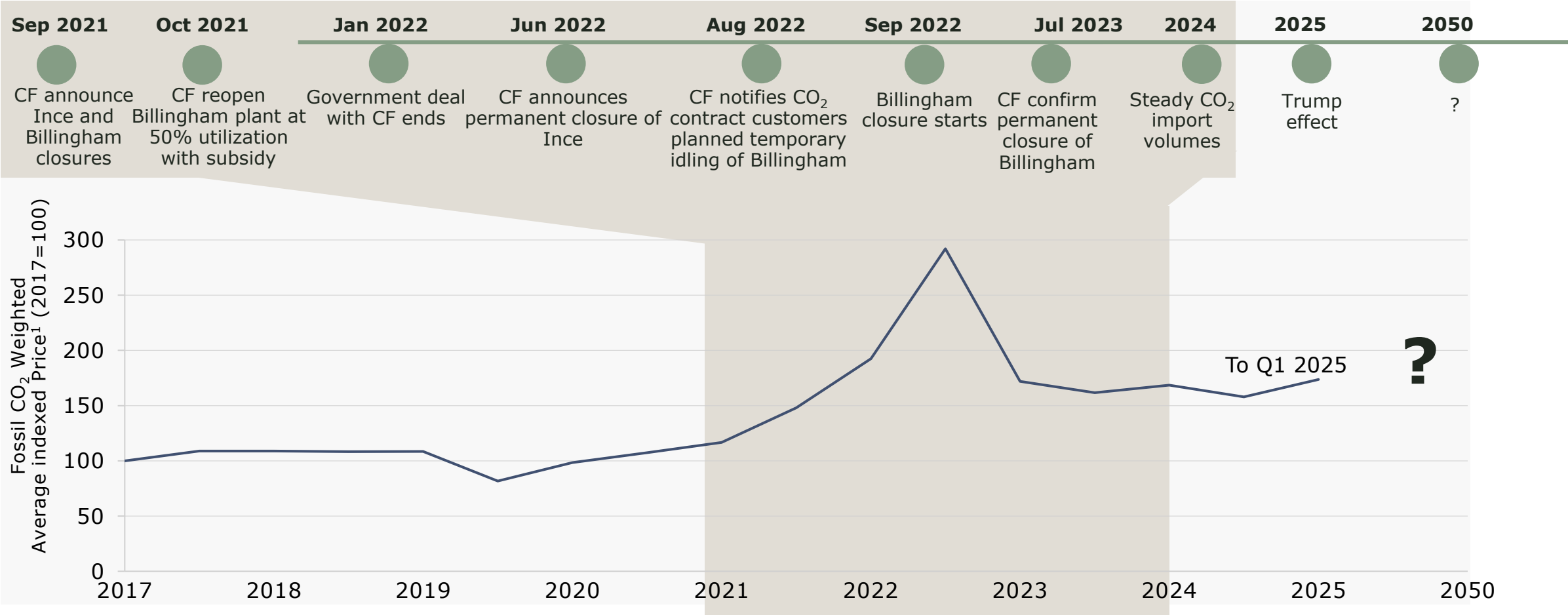
The UK carbon dioxide (CO₂) market was until recently a concentrated one with sales of food- and industrial-grade liquid CO₂...



...but with traditional suppliers curtailed, new suppliers such as AD plants can fill the gap and meet demand from end-users that value biogenic CO₂



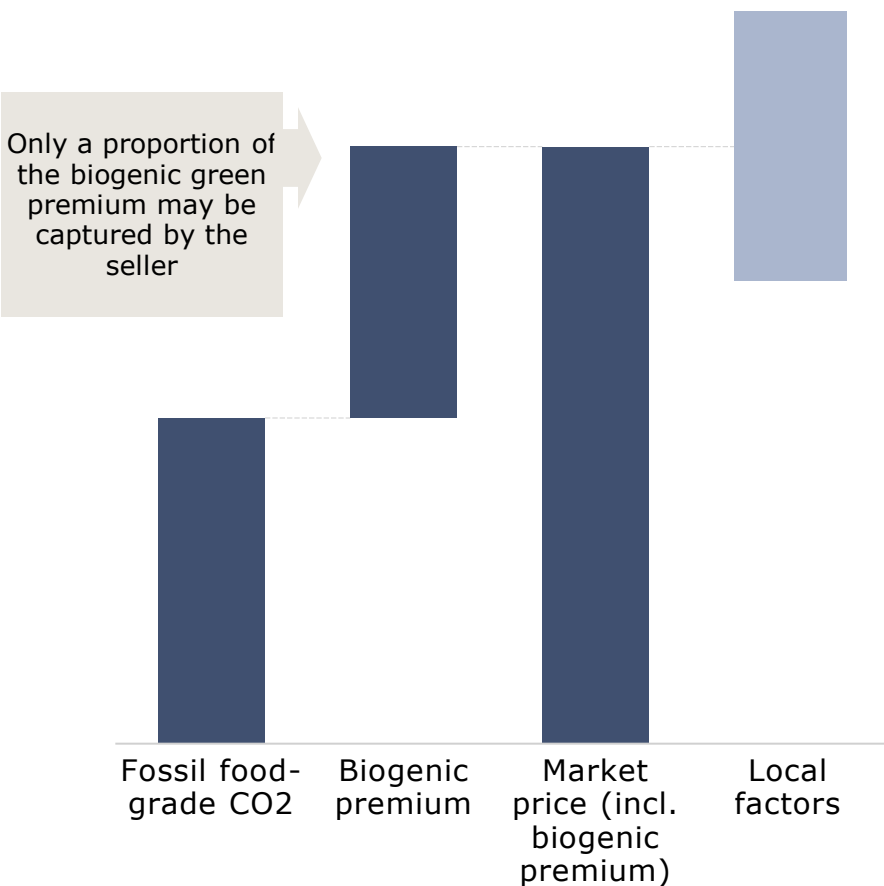
Selling to the liquid CO₂ market has brought higher revenue in recent years due to domestic supply shortage, but future pricing is uncertain



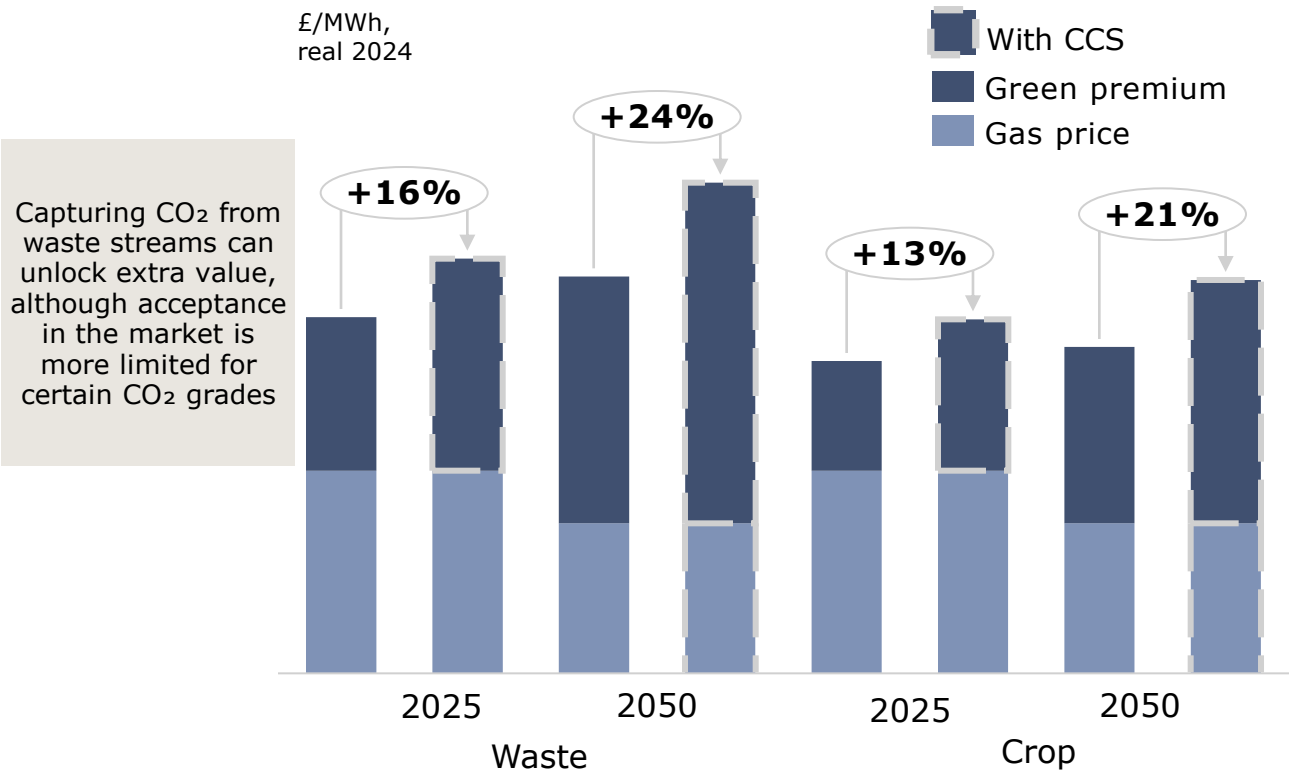
Notes: 1) Weighted average price on monthly imports over 100t

Quantifying the biogenic premium can be tricky – it is a function of multiple stackable components, which will vary by location

Illustrative overview of LCO₂ pricing for UK AD plant



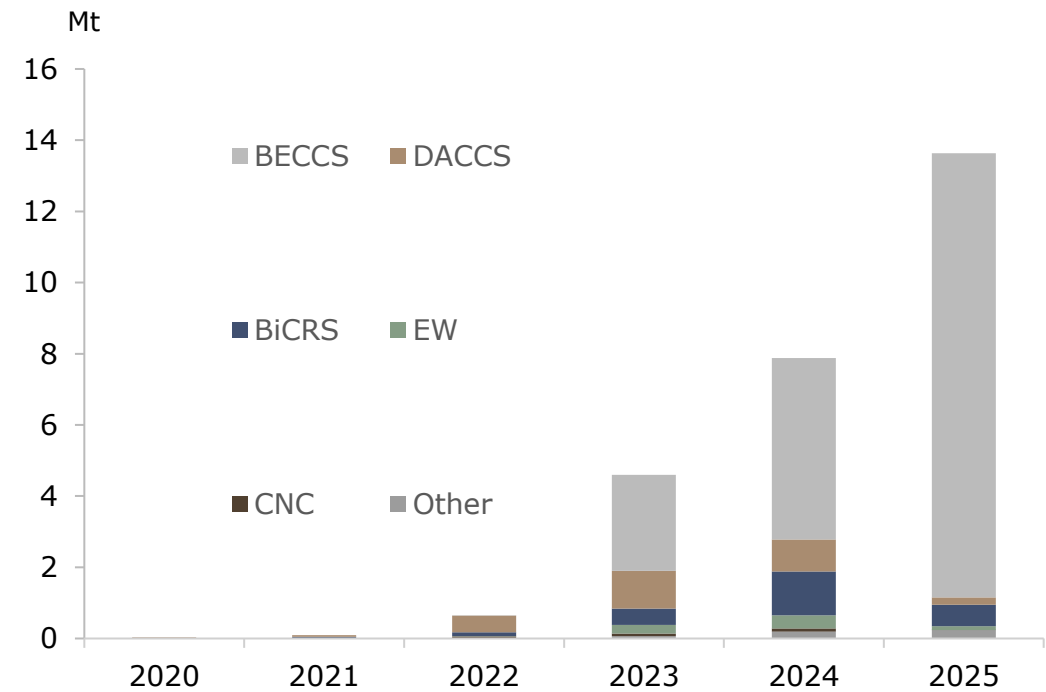
Comparison of biomethane value with and without CO₂ capture



Note: Based on average of confidential AFRY projections for value of biomethane in selected EU markets where GHG reduction is recognised

Early corporate adopters with aggressive net zero targets are driving the permanent removals market, with BECCs dominating supply

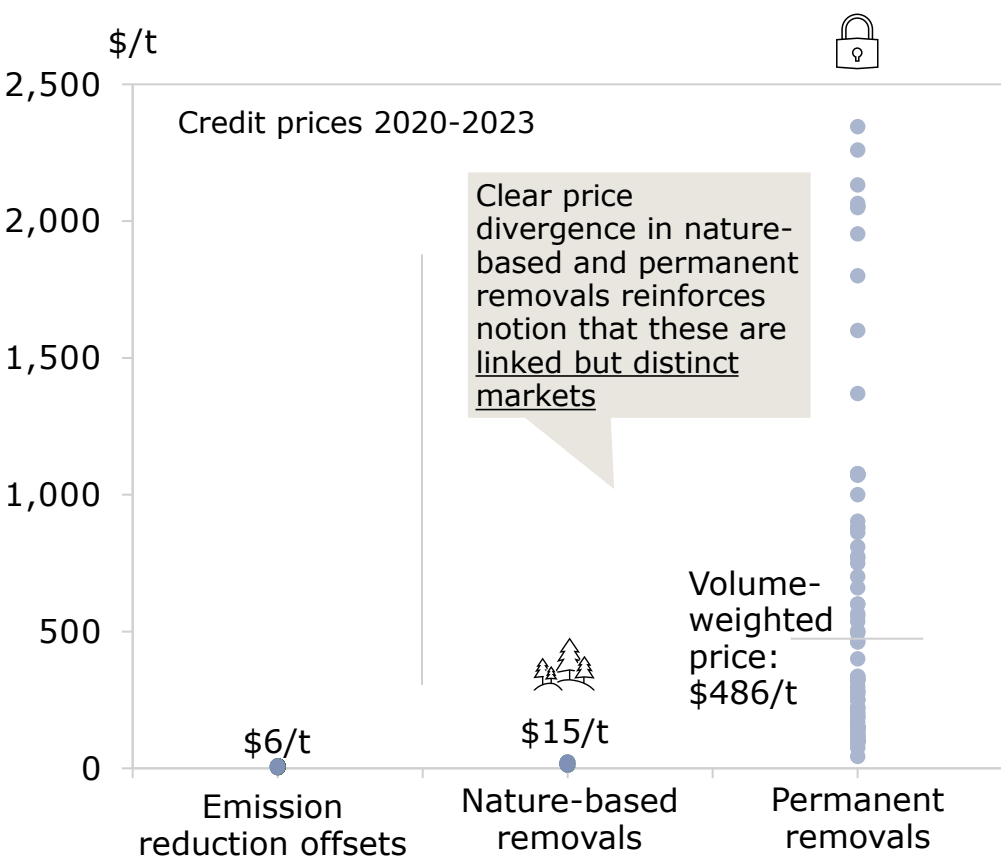
CDR VOLUMES TRADED



Permanent Technological Removals:

- **BECCS – Bioenergy with Carbon Capture and Storage**
- DACCS = Direct Air Capture and Carbon Storage
- BiCRS = Biomass Carbon Removal & Storage
- EW = Enhanced Weathering
- CNC = Carbon Negative Concrete

REMOVAL CREDITS ARE TRADING AT A PREMIUM

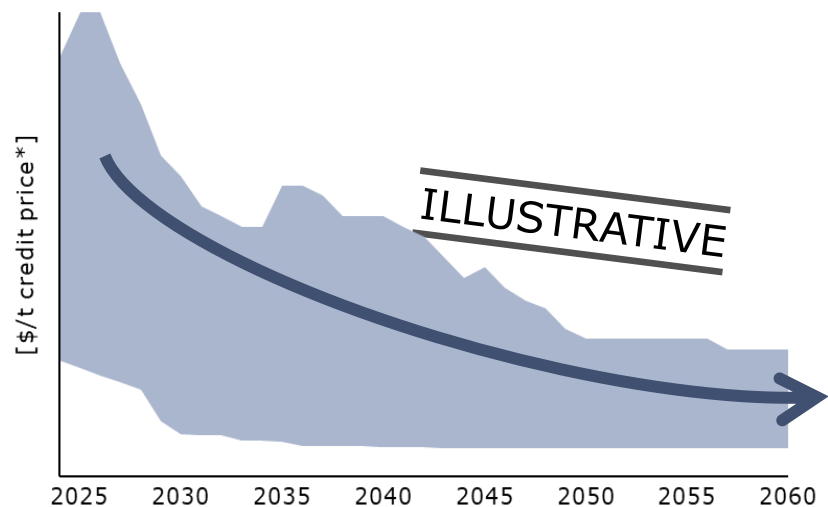


CDR credits will be of increasing importance to biomethane producers capturing CO₂, especially those with lower cost access to CO₂ infrastructure

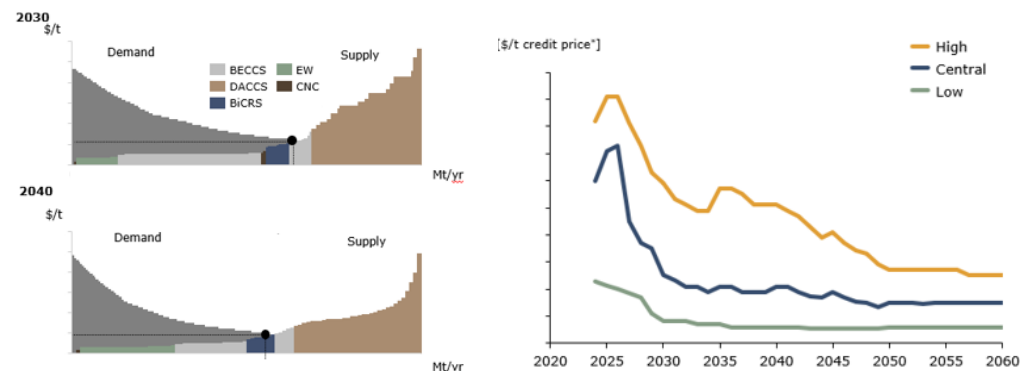


ELPIS

AFRY's ELPIS model projects prices and volumes for permanent carbon removals, covering the full value chain of DACCS, BECCS, BiCRS, Enhanced Weathering, Carbon Negative Concrete.

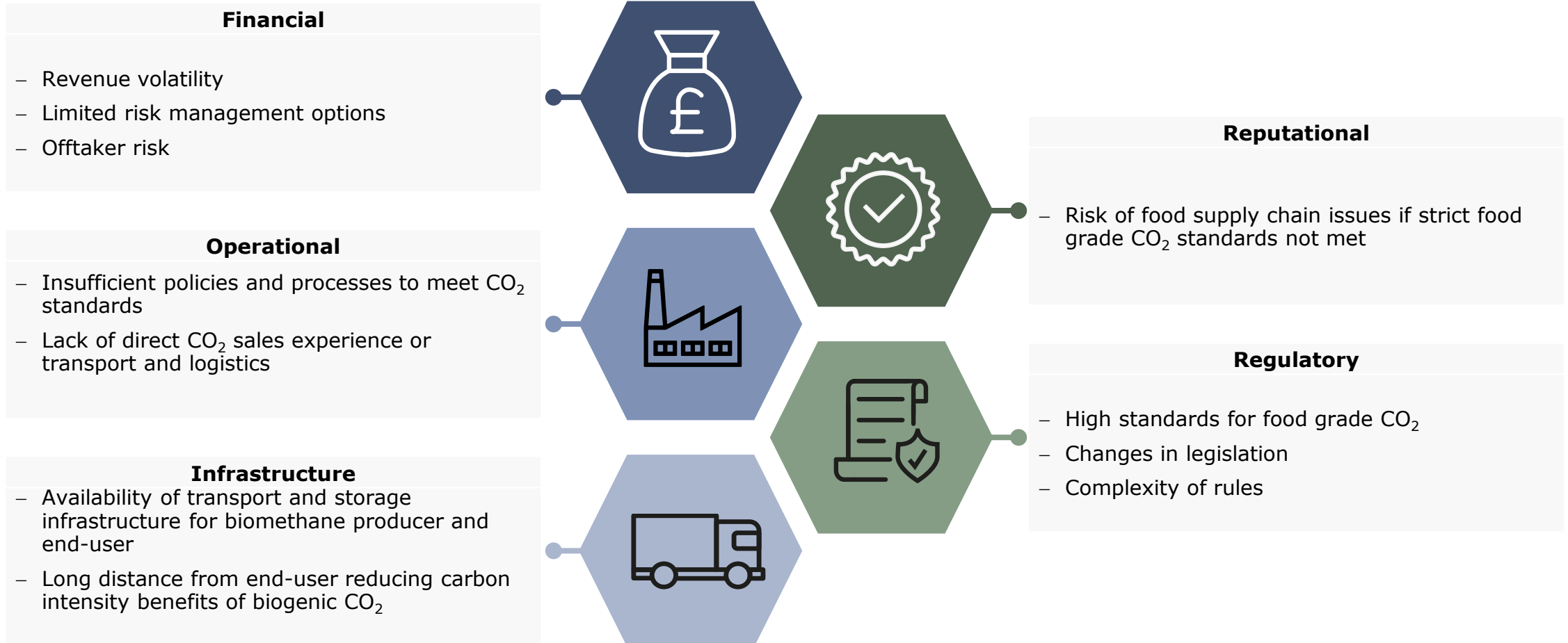


SAMPLE OUTPUTS



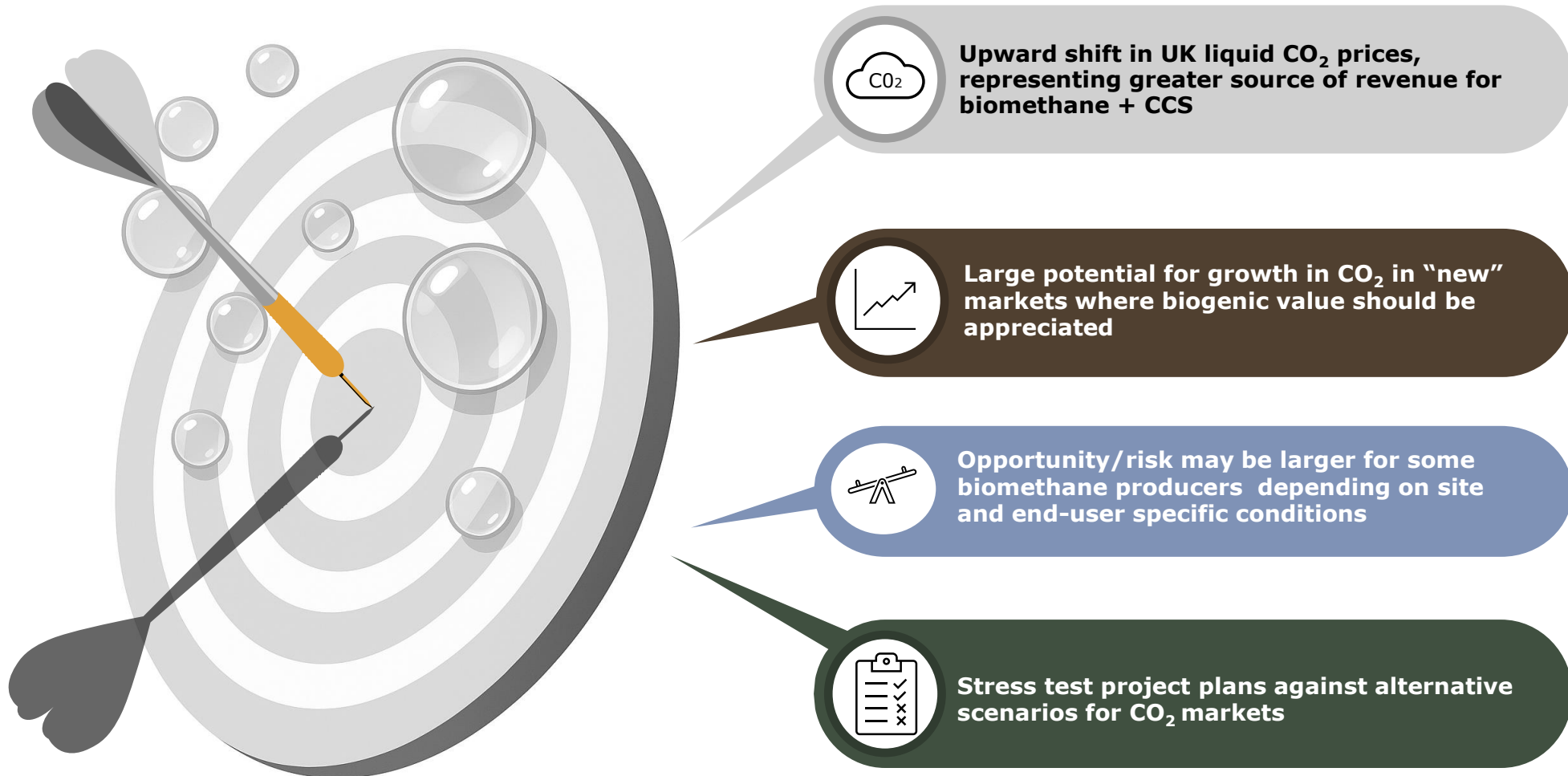
Biomethane producers need to also factor in the costs of CO₂ transport and storage to understand the true value of CDR market

Whilst there is upside from CO₂ capture, there are also commercial risks which will vary by producer and end-use market



CONCLUSIONS

CO₂ putting the fizz into biomethane projects – but don't get carried away!



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