



Nanotechnology Powering Industry and Environment

Dotz Nano Limited [ASX:DTZ] Corporate Deck

July 2024



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Dotz at a Glance.



VALIDATED PROPRIETARY TECHNOLOGIES

Patent protected, superior nanotechnology for cost-effective, wide-scale CO₂ capture

Validated commercial technology for in-product authentication



ATTRACTIVE TARGETED MARKETS

Early phase booming market



STRATEGIC PARTNERSHIPS

Development and commercial partnership including SINTEF, Rice University and Melbourne University



SUPERIOR ENVIRONMENTAL PROFILE

Creating a circular economy, utilizing plastic waste, clear pathway to net-zero



Built For Growth

Highly scalable licensing business model



Strategic partners.



Experienced leadership team with proven experience in leading growth and value.

EXECUTIVE TEAM



Sharon Malka

CEO



Michael Shtein, Ph.D.

Founder, CTO



Liat Bar Ziv Alperovitz

CFO



Shirley Shoshaney-Kleiner

CMO

BOARD OF DIRECTORS



Bernie Brookes

Chairman



Doron Eldar

Director



Kerry Harpaz

Director



Glenn Kelly

Director



Mitchell Board

Director

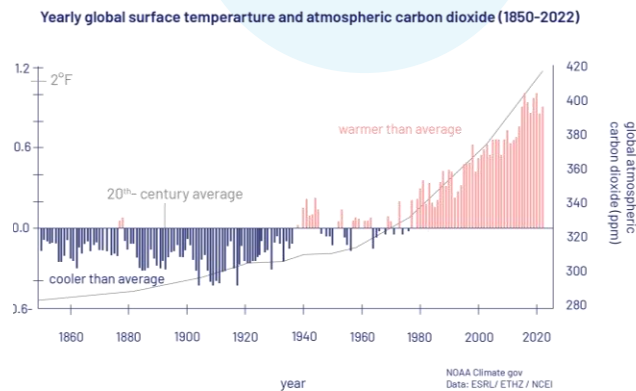
dotz.EARTH
CO₂ Capture



Carbon capture plays pivotal role in energy transition

1 CO₂

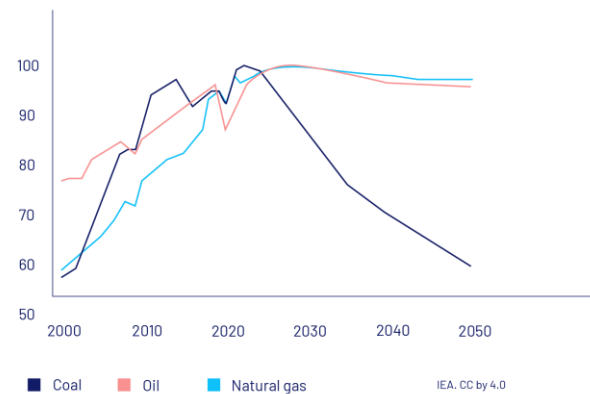
concentration increase
from fossil fuel



2 Fossil Fuel

Remains a key energy source

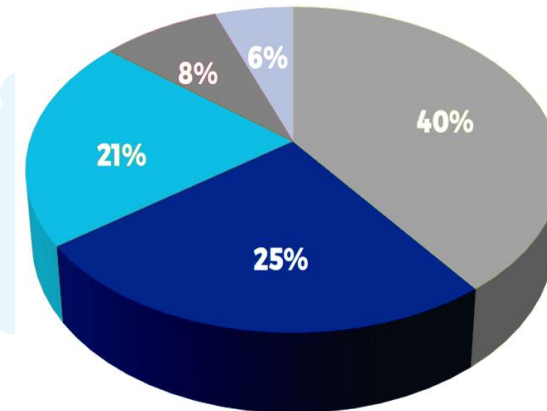
Fossil fuel consumption by fuel in the STEPS, 2000-2050



3 Energy combustion & industrial processes

account for ~65% of global CO₂ emissions

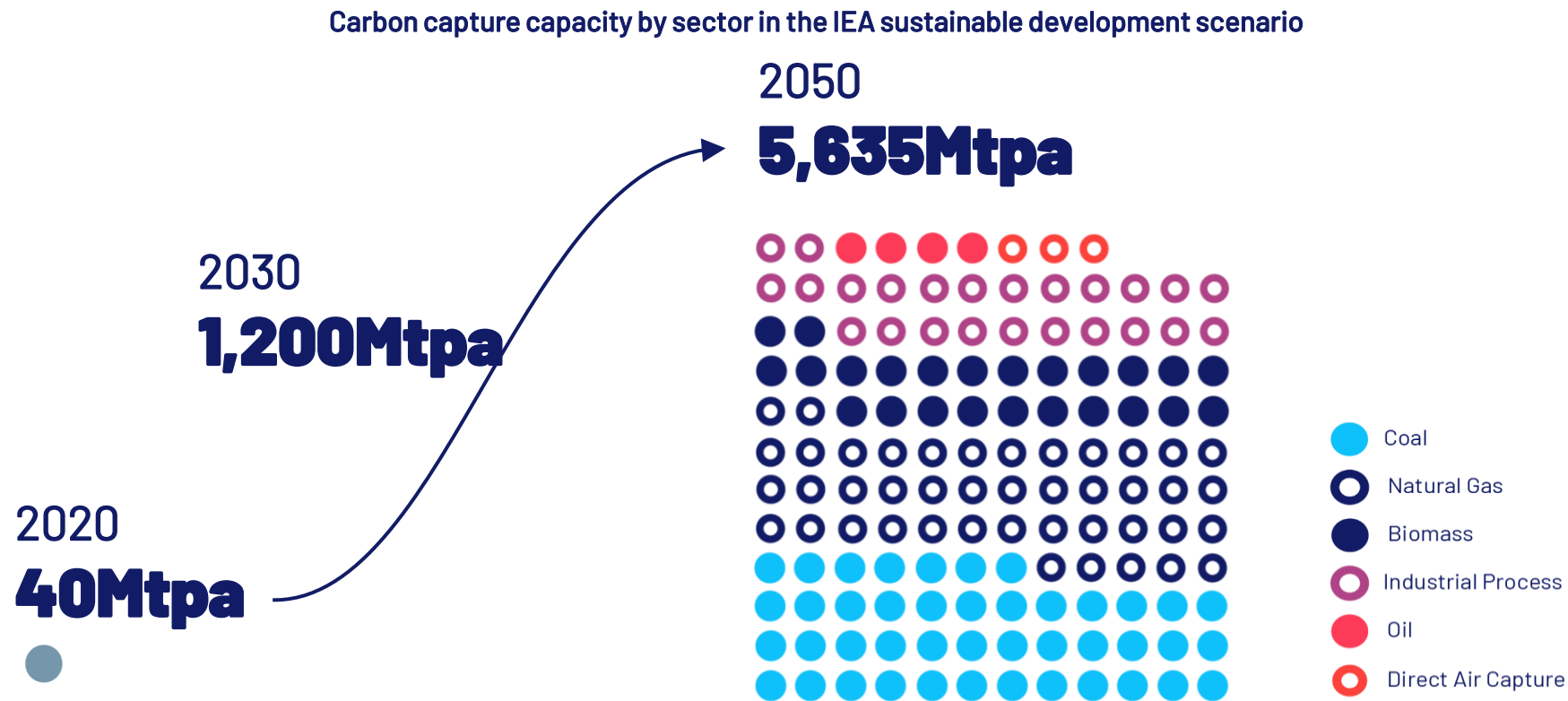
Annual CO₂ emission breakdown



Source: International Energy Association, Net Zero by 2050

📈 A large and growing market

Carbon capture capacity must grow more than 100x



Source: International Energy Association

 An urgent problem

Early phase of booming market

Market drivers support CCS market attractiveness



Pricing

40% of global emissions presently covered by pricing mechanism (Emissions Trading Systems, Carbon Taxes, or Tax Credits)



Incentives

CCS incentives are increasing globally



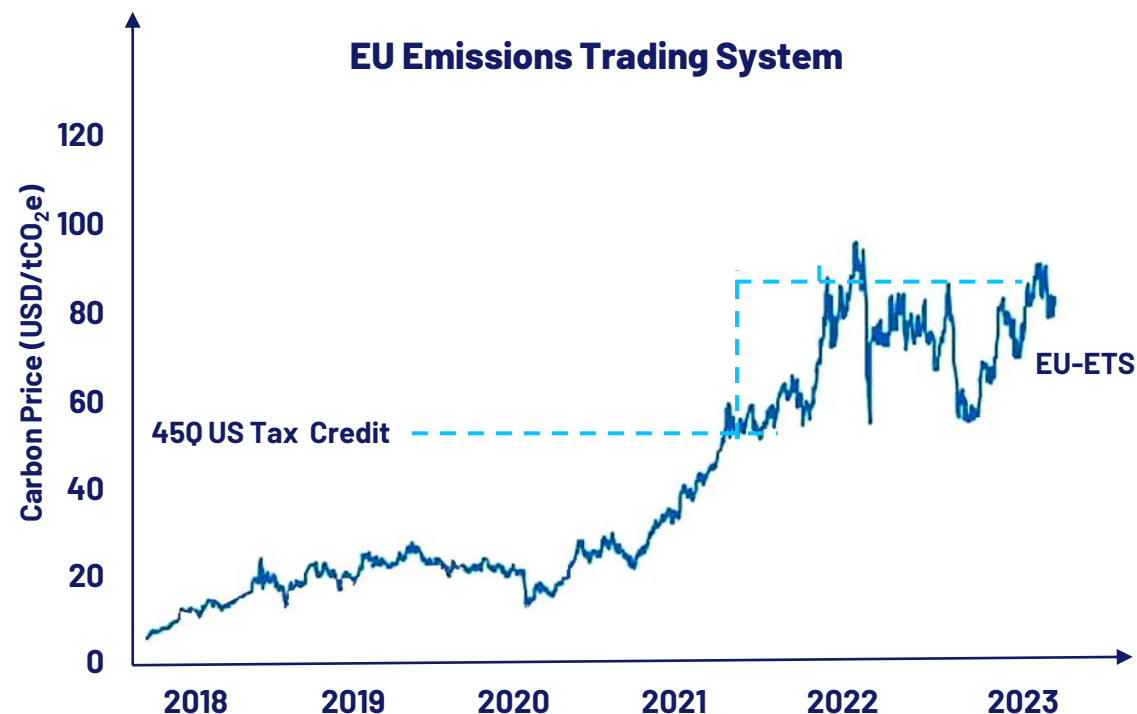
Lower costs

Costs are decreasing as technologies and projects mature

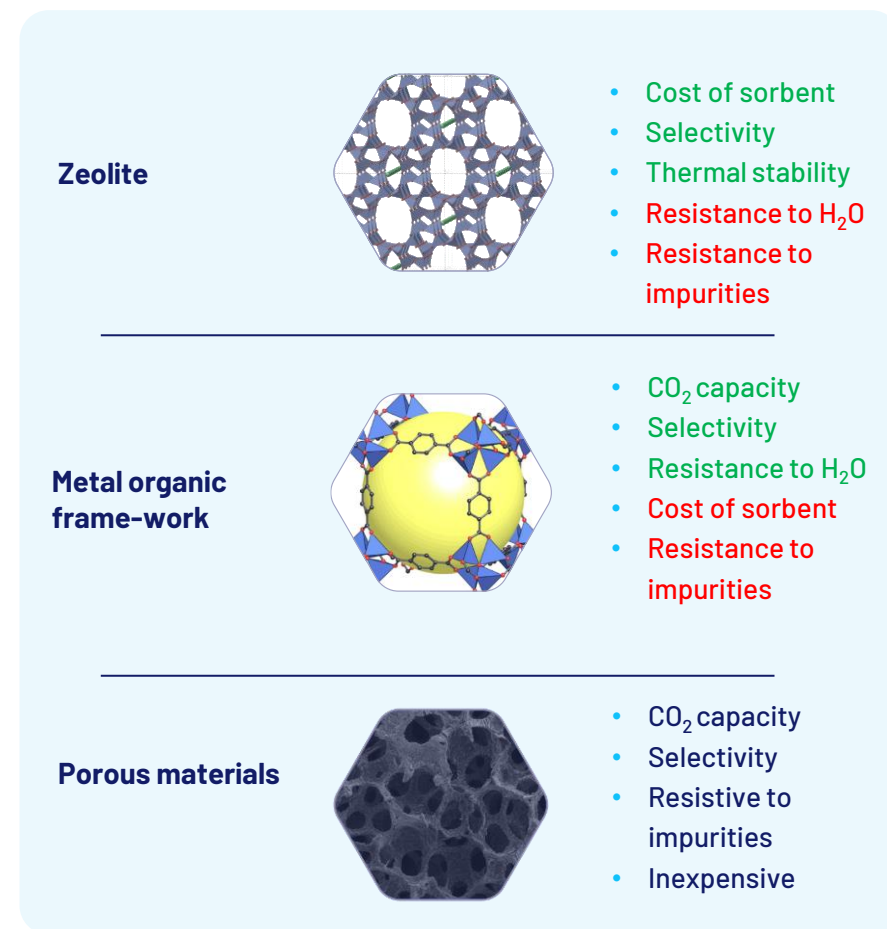
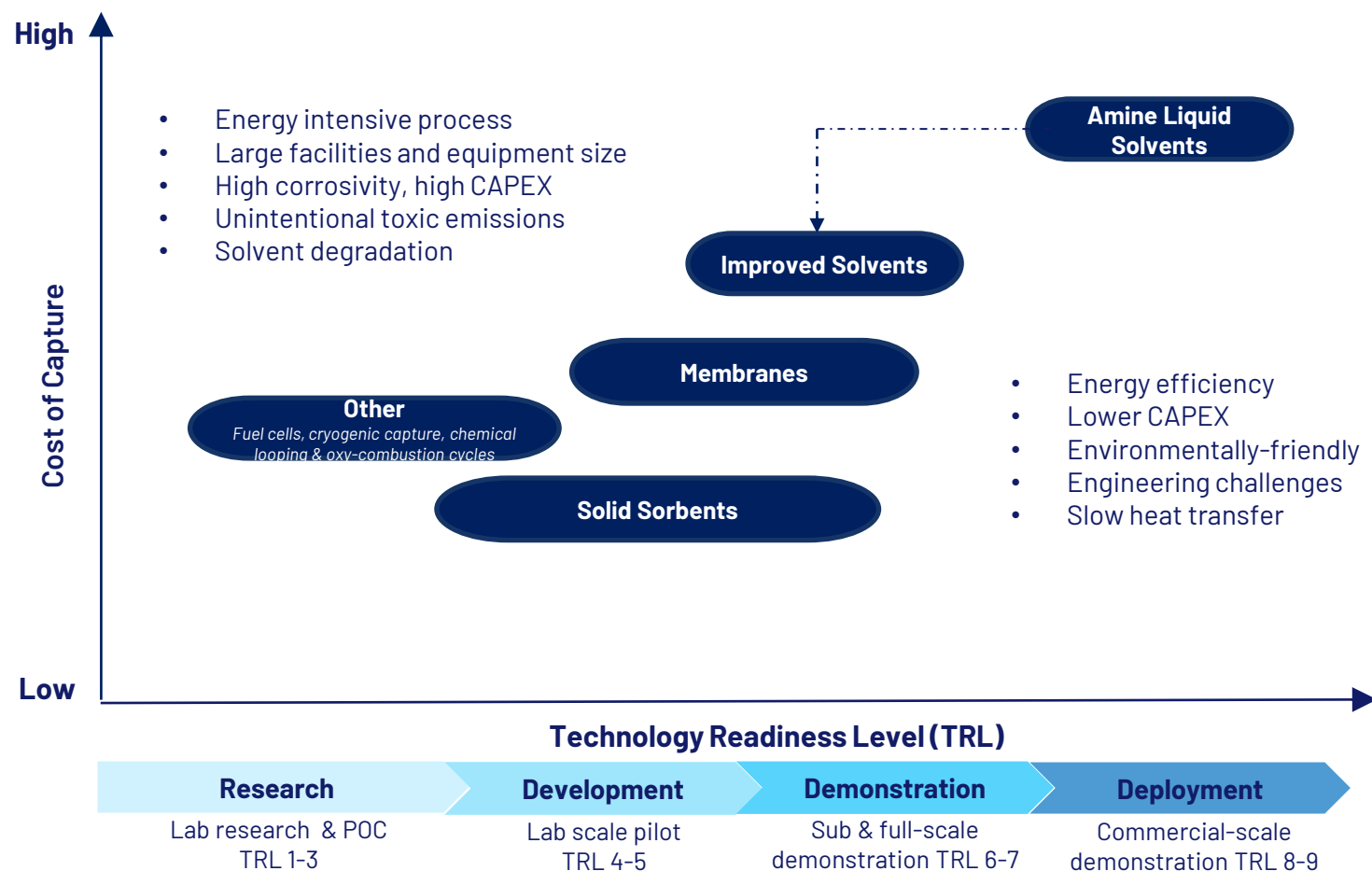


Storage

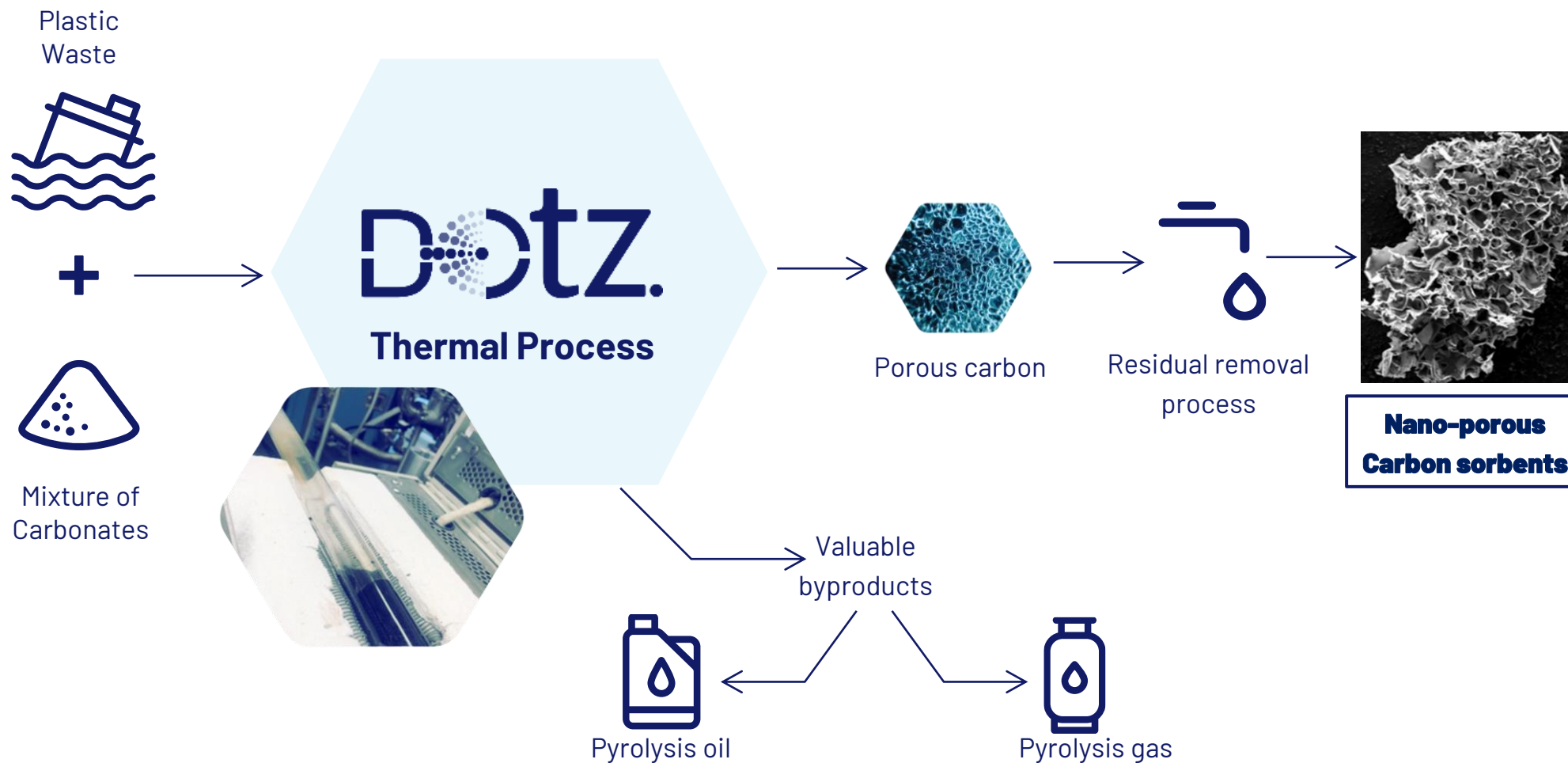
Transportation and storage availability is accelerating



Energy efficiency, resistance to degradation and low cost, make nanoporous carbon sorbent ideal for carbon capture.



Patented synthesis method for converting plastic waste into porous carbon sorbents.



Abundant, low-cost feedstock

Pyrolysis - technically mature process

Valuable byproducts: energy recycling & cost reduction

Tunable porosity

Lower cost of capture & carbon footprint

A new era of sorbents powered by nanotechnology enabling wide-scale, cost effective CO₂ capture.



High adsorption capacity

Facilitated by unique structure
& surface area



High CO₂ selectivity

& low moisture sensitivity



Lower energy penalty

Less energy is required for
sorbent regeneration



Regenerable and reusable

For multiple cyclic capture
processes

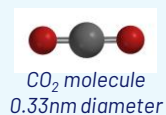
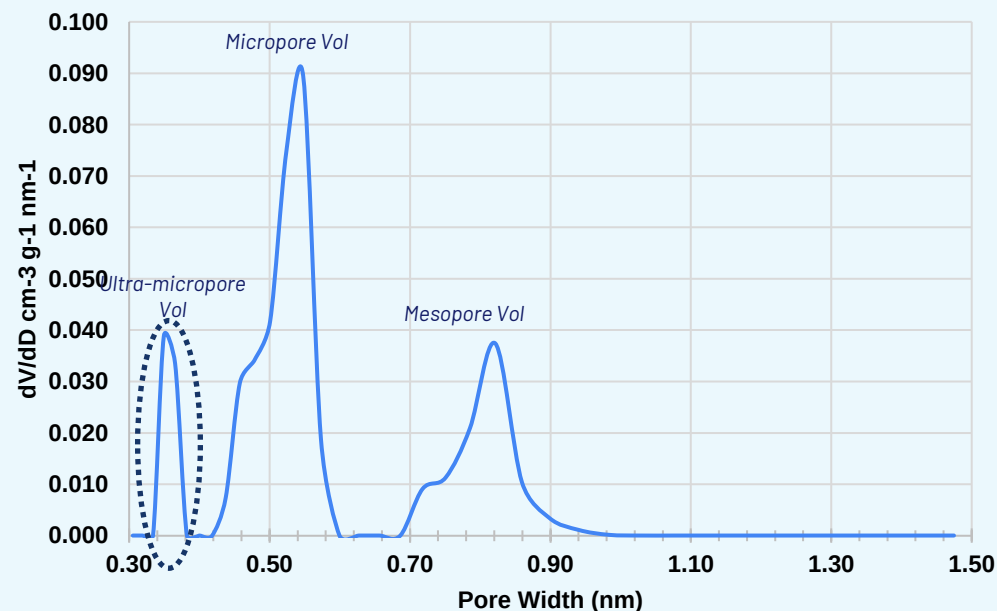


Tailorable surface properties

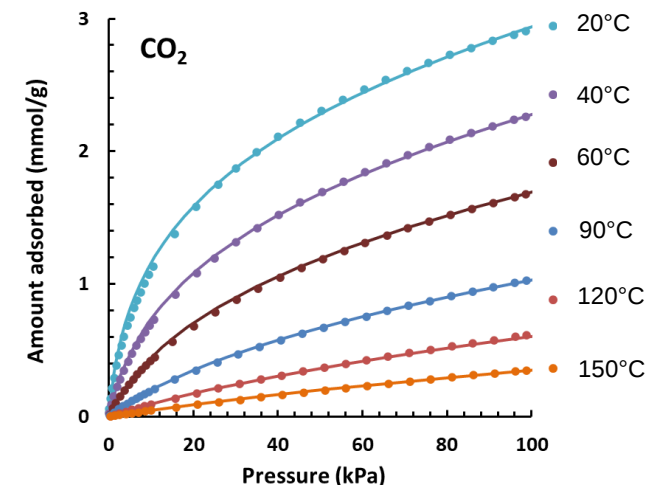
Compatible with diverse
CO₂ sources

Unique pore volume & distribution enable high CO₂ uptake & selectivity.

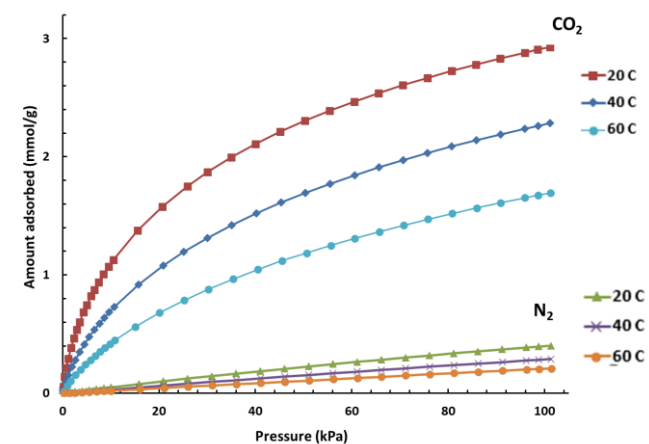
Unique pore vol and distribution, with ultra-microporous ideal for CO₂



High CO₂ adsorption capacity

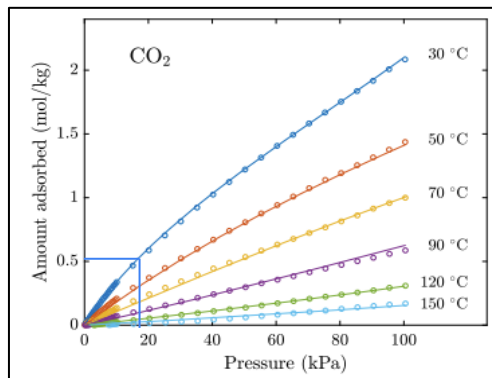


High CO₂/N₂ selectivity

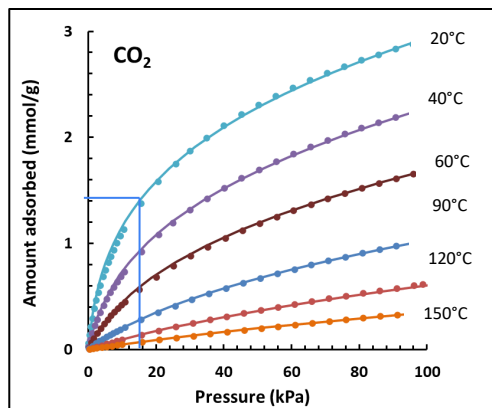


Testing and simulations demonstrate preferable performance.

Commercial activated carbon*



Dotz's nano-porous carbon sorbent



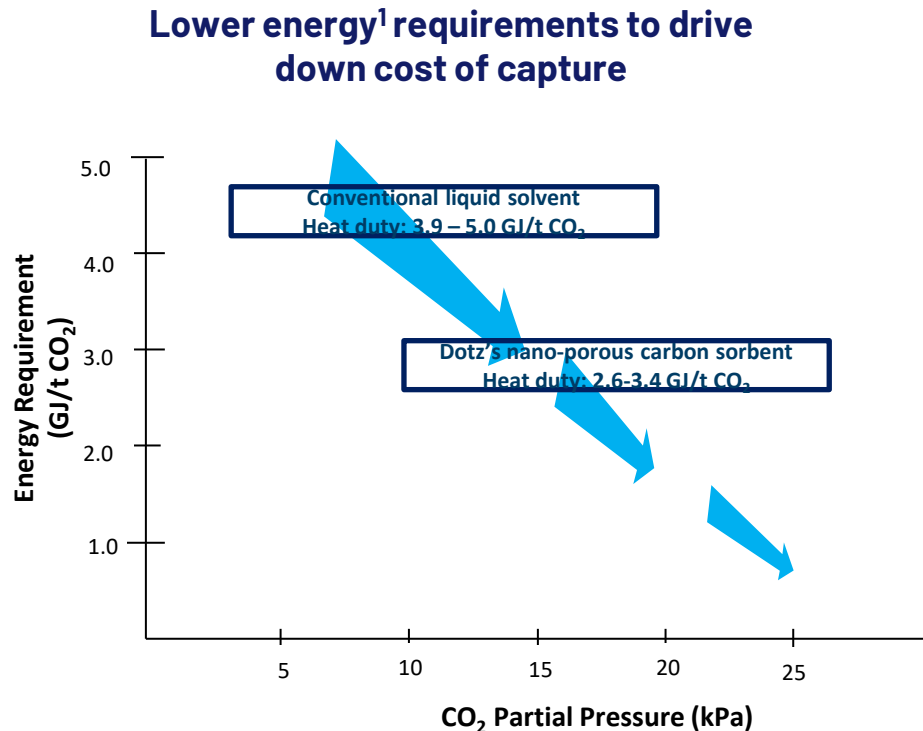
3X higher adsorption capacity (at 10-20 kPa)

Process simulation performed on SINTEF's Moving Bed Temperature Swing system (WtE, Cement scenarios)

Process performance and main operating conditions

		Comm. AC WtE	DotzShield WtE	DotzShield Cement
Amount of circulating sorbent	kg/h	650	-45% → 360	552
CO₂ captured	kg/h	8.26	8.6	15.3
CO ₂ purity	%	97.2	98.1	99.8
CO ₂ capture rate	%	90.8	93.5	96.74
System footprint	m ²	203	-63% → 75	112
External heat duty (sorbent regeneration)	kW	47	29.5	48.6
External cooling duty	MW	46	28	45
Specific heat duty	GJ/t CO ₂	5.7	-40% → 3.4	3.2

A new era of sorbents powered by nanotechnology enabling wide-scale, cost effective CO₂ capture.



TARGET PERFORMANCE CRITERIA:

Cost of sorbent:
<20 USD/Kg

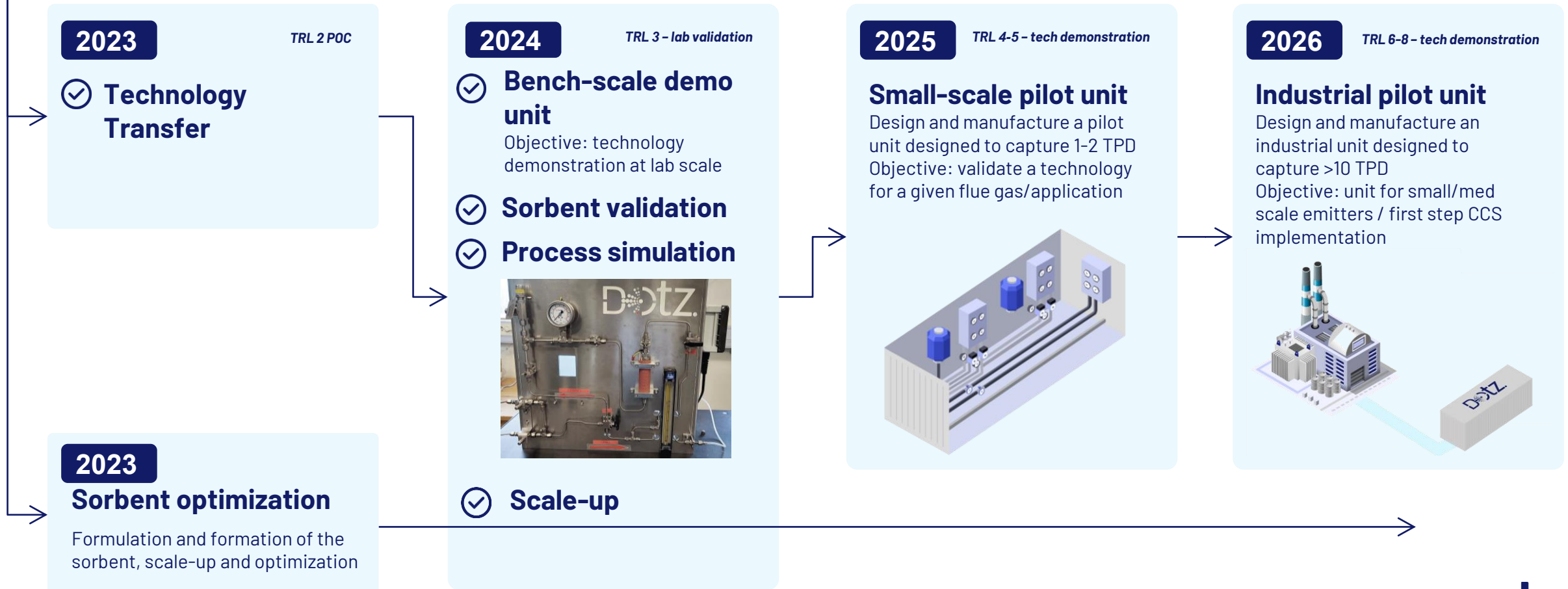
Energy requirement:
<2.5 GJ/t CO₂

Cost of carbon capture:
<50 USD/t CO₂

¹ Energy is responsible for 60–75% of the operational costs of a carbon capture plant

🕒 Clear growth pathway

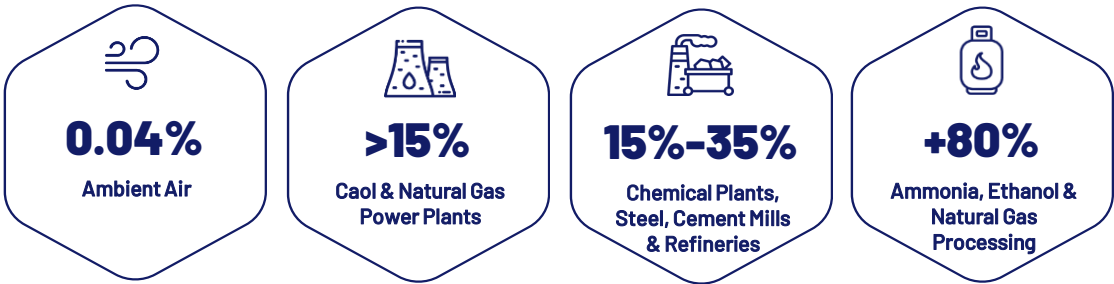
Technology development roadmap: clear value creation development milestones.



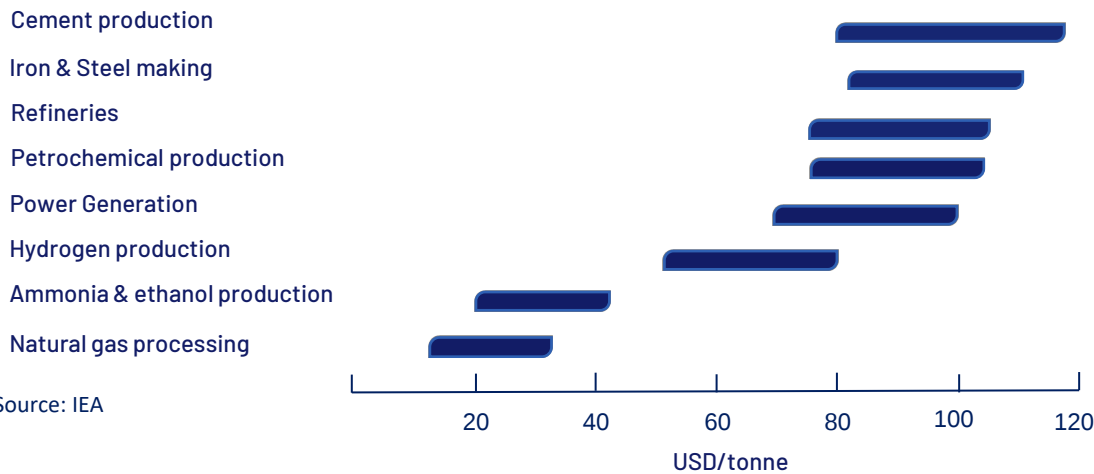
🕒 Clear growth pathway

Prioritized Target Industries.

Carbon Concentration

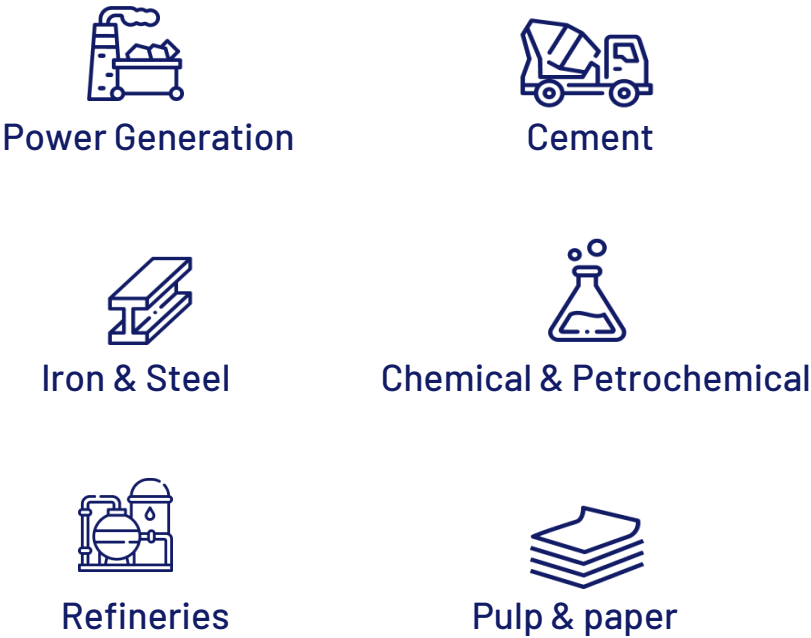


Average Cost of CO₂ Capture, Transport and Storage



Estimates of cost to capture a ton of CO₂ vary by industry and such factors as the amount of exhausted gas from a plant, the concentration of CO₂ in the exhaust and its pressure

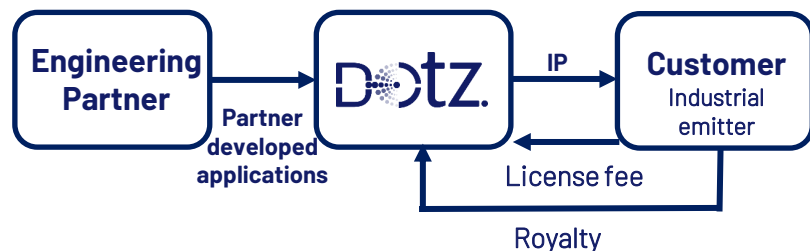
Prioritized Target Segments



🕒 Clear growth pathway

Highly scalable IP licensing model with multiple revenue streams.

IP licensing model



- Scalable model
- Provide high level engineering design, technical and customer support services
- No construction risk
- Three revenue streams:
 - Technology license fee
 - Annual royalties per CO2 volume captured (% of carbon value)
 - Revenues from ongoing sorbent supply

Illustrative revenue potential

Capacity	100 TPD = 35 kTPA	300 TPD = 100kTPA	1,000 TPD = 350kTPA
Tax cost saving Based on 100 \$/t	~\$3.5M	~\$10M	~\$35M
Revenue potential			
License fee 5% of CAPEX	\$0.5-1.0M	\$1.5-2.0M	\$2.0-3.0M
Annual royalties 10%-15%	\$0.4-0.5M	\$1.0-1.5M	\$3.5-5.5M



Dotz.SHIELD

In-product Authentication

📈 Large and growing market

Attractive and focused industrial markets¹ with unmet need.

- Stricter environmental and social regulations
- Increased losses due to counterfeiting and parallel markets
- Product ownership validation becomes common
- The need to connect physical goods to the digital world



¹Source: McKinsey's market research, 2023

Advanced and validated authentication solutions for anti-counterfeiting and monitoring.



VALIDOTZ™

- Dozens of optical taggants
- Embedded in the product
- Compatible with a range of hosting materials



INSPEC™

- Hand-held devices
- Easy-to-operate
- Real-time, on-site, information reading

Dotz solution benefits:

In-field real-time
Detection & measurement

Compatible with a range of
hosting materials

Simple, **easy-to-use** solution

Validated solution – various
successful field trials

**Multiple applications across
range of industries**

Value proposition addressing established industry challenges.

Anti-counterfeiting & anti-alteration

Authenticating bulk product in a robust way

Product liability & anti-dilution

Providing insight into how customers are using a product

Quality Assurance (QA)

A tool to monitor production and manufacturing processes

ESG validation & circular economy

Providing proof of origin and increase transparency along supply chains

In-field measurement

Allowing lab tests to be conducted in the field, saving on time and expenses

Investment Highlights



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Built For Growth

Highly scalable licensing business model



Join our Journey



Simple, straightforward and modular process facilitates lower cost of capture and easy integration.

