
BERGEN
CARBON
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Company Update

9 November 2022

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Agenda

Introduction

- Where are we today?
- What are we trying to achieve?
- How will we achieve our ambitions?
- Business update

Technological update

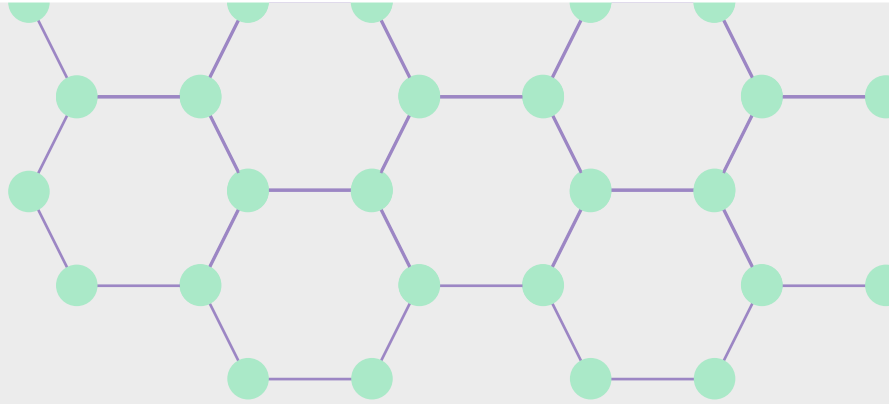
- Technology and R&D
- Emission, energy and cost comparison to CVD
- CO_2 based separation technology
- Growing product portfolio

Commercial update

- Market understanding
- Development in Høyanger project

Outlook

- Short-term goals
- What does success look like?
- Technology roadmap



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INTRODUCTION

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Where we are today?

- Bergen Carbon Solutions aims to pioneer a new industry for ground-breaking, environmentally friendly material-technology
- We use CO_2 to create a wide range of carbon products. including nanofibers, nanotubes and graphite
- Our core-technology is proven; our next step is industrial adoption

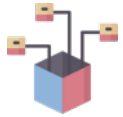
BCS at a glance

Founded i 2016

40 competent professionals

Unique and proven core-technology

Growing product portfolio



Listed on Euronext Growth Oslo (Ticker: BCS)

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What are we trying to achieve?

- BCS will build a new, climate positive industry with CO_2 as our feedstock.
- We strongly believe that Carbon Capture and Utilization (CCU) will become one of the most important valued asset for decarbonating our current industries
- Our technology gives us the opportunity to become a key supplier of new raw materials for several industries, while at the same time utilize CO_2
- Our people, our management and our board are driven by the eager to further improve our technology, to make sure that it can be used to excel green shifts

BCS Development since 2016

2016
BCS Founded

2020
Growing organisation

2021
IPO

2021
Moved to Flesland

2022
Positioned for industrialization

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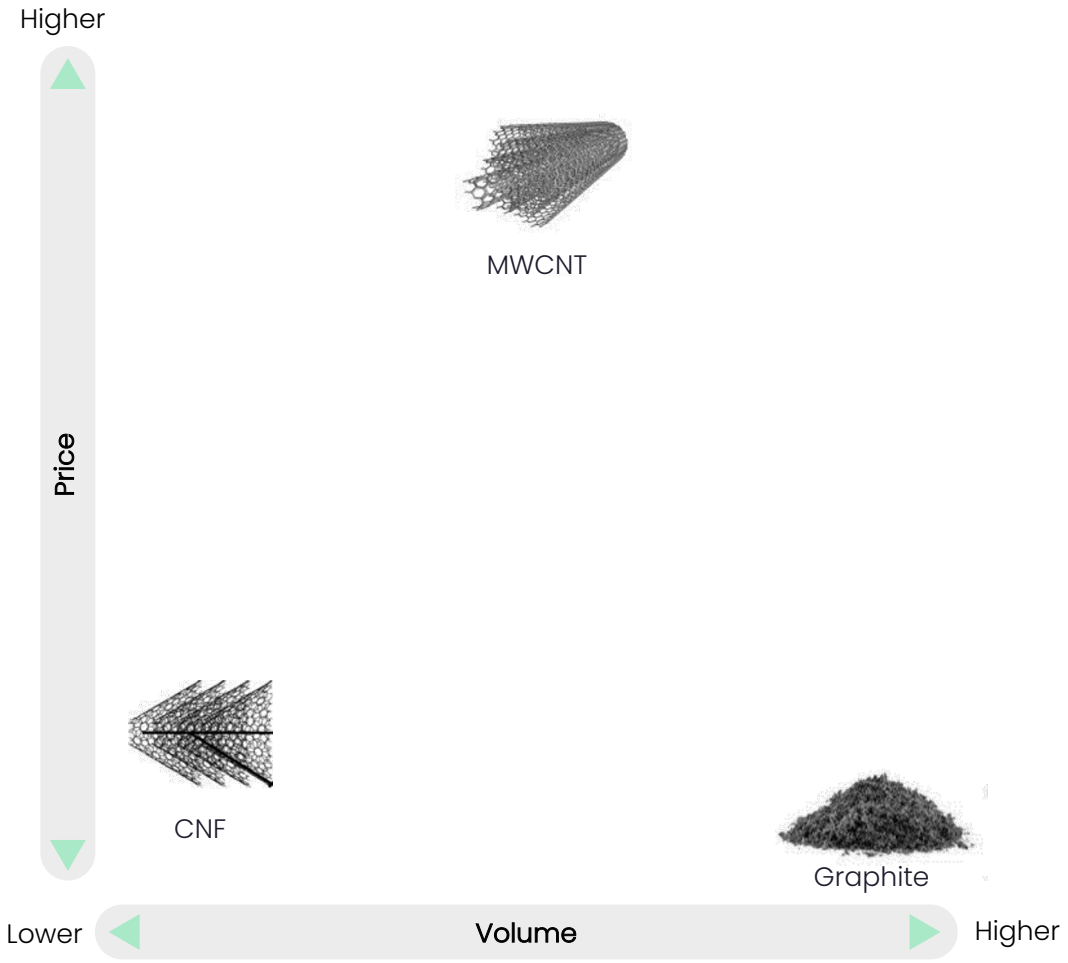
How will we achieve our ambitions?

- During the last year, we have shown that our technology can be used to produce multiple carbon structures
- We started our journey with Carbon Nano Fibers (CNF) but have proven that we are also able to:

  1) Control the physical structure of our carbon production, with the introduction of Multi walled carbon nano tubes (MWCNT)

  2) Produce graphite, which can be used as anode material
- We are now working towards industrial adoption. New potential partnerships is being considered each week

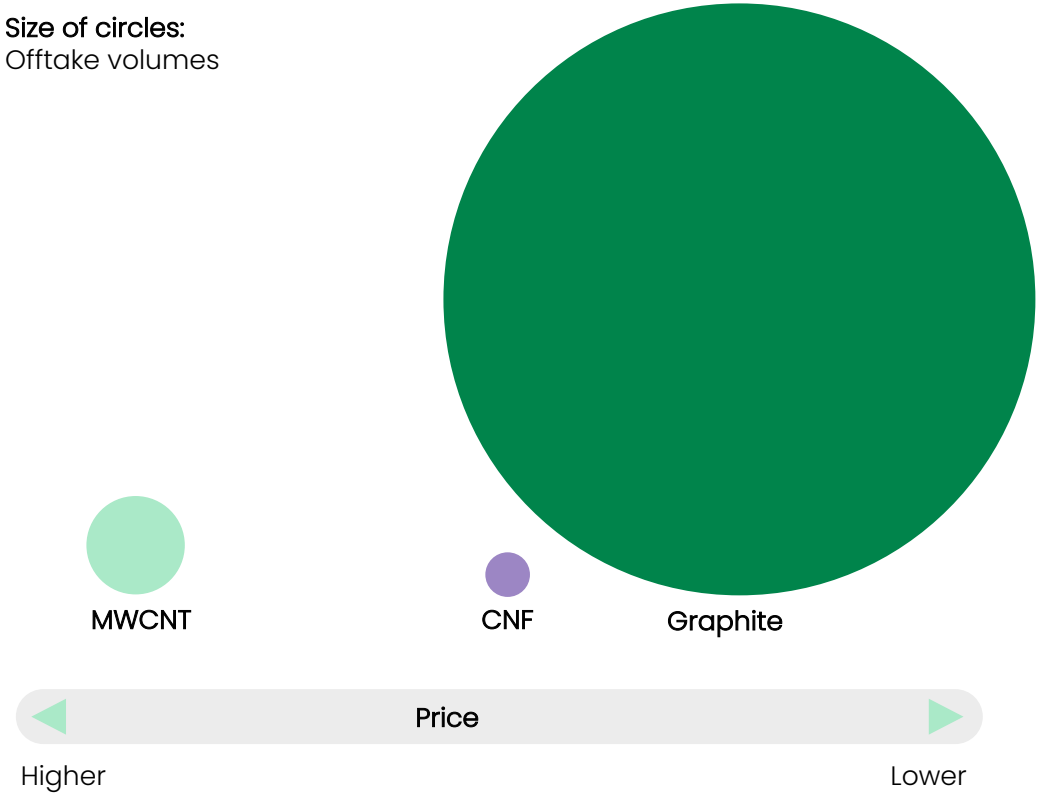


Market volumes and price

"We will strive to becoming the world leading material company by utilizing the strengths of our core-technology and ability to consume CO_2"

Graphite enables significant offtake opportunities

- In June we announced MWCNT, two months later we announced the potential of graphite production using our core technology
- The recent R&D breakthroughs enables significant larger offtake volumes than initially expected, especially within the graphite sector
- Simultaneously, MWCNT is priced higher than both CNF and graphite. This provides BCS with a versatile product mix facing future demands from the industry



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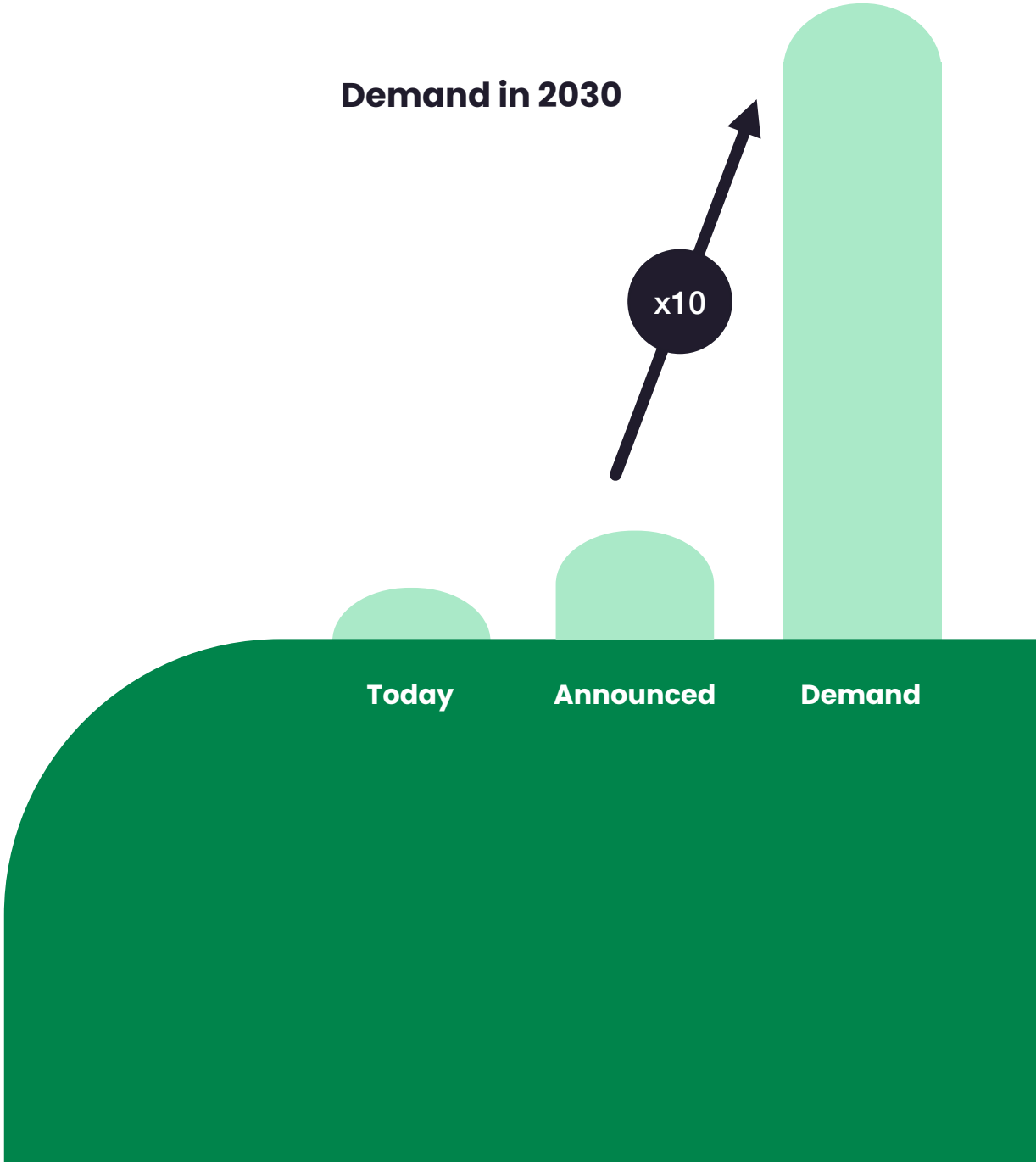
What is graphite and why is it important?

- Graphite is a widely used allotrope of carbon
- Its an essential technological material that is part of many different applications
- Especially is it important to secure enough graphite to fulfil the European battery announcement towards 2030
- Europe will need at least ten times more than what is announced for now, our technology can solve this problem



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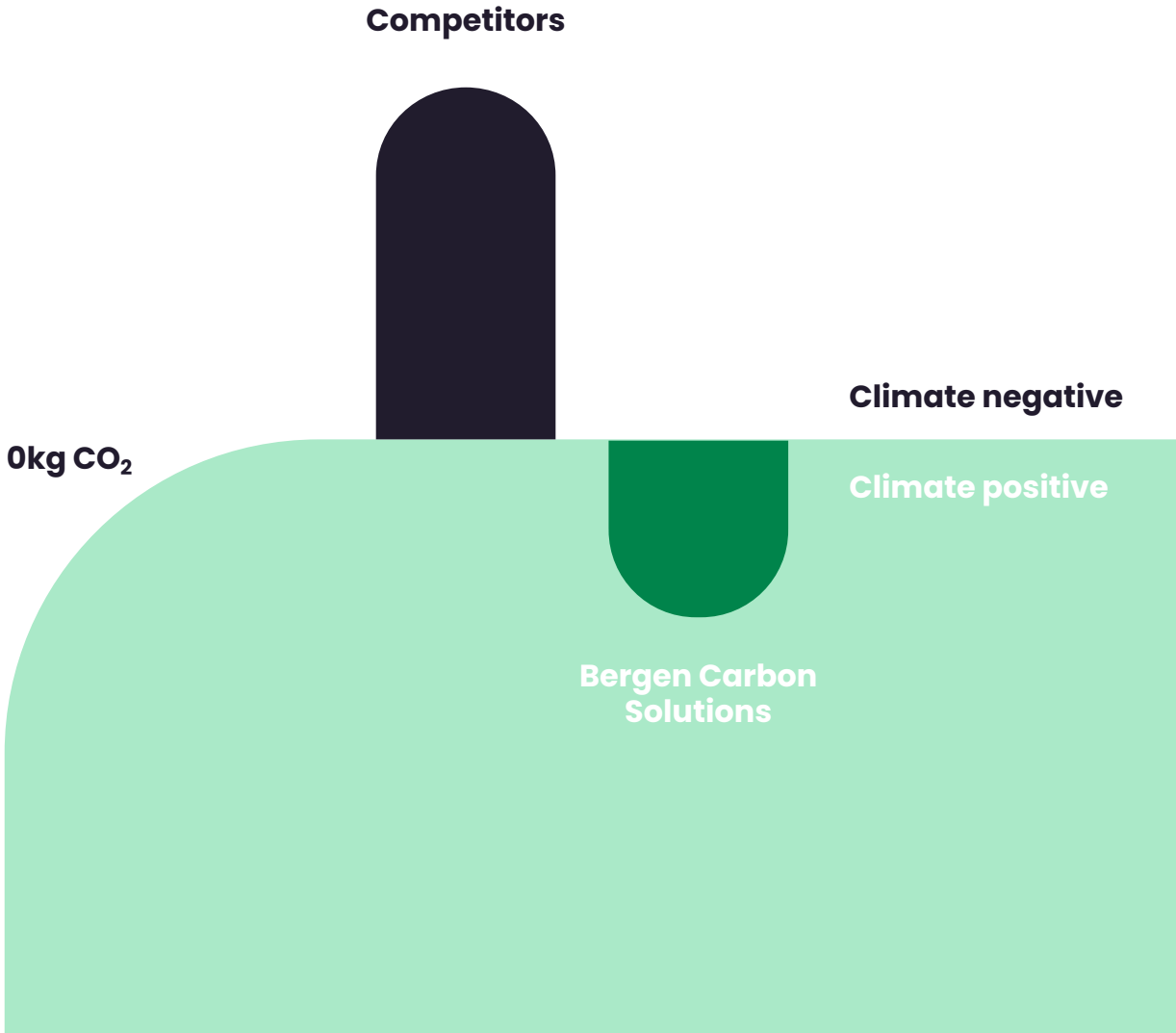
Profitable and climate positive technology

- Our technology is fundamentally climate positive. During our work towards industrialization, we have discovered three possibilities that we are now able to capture:

- **Improve separation technology**
  We are launching a new separation technology that will significantly reduce cost

- **Optimizing our core technology**
  We are optimizing our core technology and energy efficiency even further

- **Expand the product portfolio**
  We are expanding our portfolio with MWCNT and graphite



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Strategic partnerships

Building a new industrial adventure with groundbreaking technology is a demanding exercise. Hence, it is of the greatest importance to team up with strategic partners.

- **Industrial partnerships**
  BCS seek partners and investors with industrial know-how and potential to help us excel our development

- **Technological awareness**
  We are actively working towards material suppliers, industry leading companies and national authorities, to place Bergen Carbon Solutions AS on the industrial map and secure political attention

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Business Update

Financials (MNOK)

Revenue MNOK	0.1
Operating profit MNOK	(10.6)
Cash balance MNOK	303.7
Market cap MNOK	946
Number of shareholders	>4 700

NEW PROJECT: *Project C*

- We are investigating to use our technology for mass production of graphite from CO_2
- This can enable us to utilize substantial amounts of CO_2 and contribute solving the geopolitical challenges in this sector

Focus area: The battery industry

- **We are continuously targeting new cooperation's in order to adopt our products towards the battery industry:** During the last quarter we have continued discussions with multiple companies that are investigating the possibility to use our green materials as additive into their battery-chemistry.

- We have further strengthened the relationship with **our Japanese partner** that started out as an LOI and has evolved into an MOU with the intention of setting up a Joint Venture.

Operational

- **Flesland:** Our test center at Flesland has during Q3 performed multiple test runs for our Project C. We are aiming to get the first initial results in Q4

- **BIR:** The installation is finished. Conclusive reports are expected in December

Q3 Summary

Amounts in NOK thousands

Key figures	Q3 2022	Q3 2021	YTD 2022	YTD 2021	Full year 2021
Total revenue and other income	113	62	342	209	874
Total operating expenses	10 738	6 602	38 650	18 550	30 638
Operating profit (loss)	(10 625)	(6 540)	(38 308)	(18 341)	(29 764)
Net profit (loss) for the period before tax	(10 826)	(6 548)	(39 010)	(18 368)	(29 905)
Net change in cash and cash equivalents for the period	(16 009)	17 976	196 447	77 948	66 798
Cash and cash equivalents, end of period	303 742	118 445	303 742	118 445	107 295
Equity	322 007	130 642	322 007	130 642	118 835
Total assets	346 293	153 763	346 293	153 763	144 749

Key financial development (YTD)

- Increased number of employees
- Started engineering of factory
- Improved and increased production at Flesland
- Private placement in February secured approximately 250MNOK

*The figures have not been audited. The figures represent condensed figures (Group) based on the principles of Simplified IFRS, in accordance with Norwegian law

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Technological update

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Competing fossil method

Chemical Vapor Deposition (CVD)

- The CVD Method diffuses gas on to the surface of the substrate inside the CVD reactor
- The gas then adsorbs on to the surface
- A chemical reaction occurs on the surface of the substrate and the carbon turns solid

Pros:

- Easier to structure carbon in gas than liquid
- Less comprehensive filtration after raw production

Cons:

- High deposition temperature, between 1000-1500°
- High temperature equals high power consumption
- High CO_2 emissions
- Maintaining vacuum demands energy

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Green method

BCS technology

- Our technology is producing CNF, MWCNT and Graphite from CO_2
- An electrolysis process break the chemical bonding. Carbon (C) can then be taken out of the production module and further transferred to the filtration module
- The carbon is then separated and filtrated to commercial grade sellable product
- Oxygen (O_2) is the only bi-product from the reaction

Pros:

- Energy efficient (Moderate temperatures)
- Area effective production
- Flexibility in process
- Still significant improvement potential
- Positive CO_2 footprint

Cons:

- Needs a more complex separation step
- Recycling of electrolyte is crucial for profitability

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Green method

BCS technology

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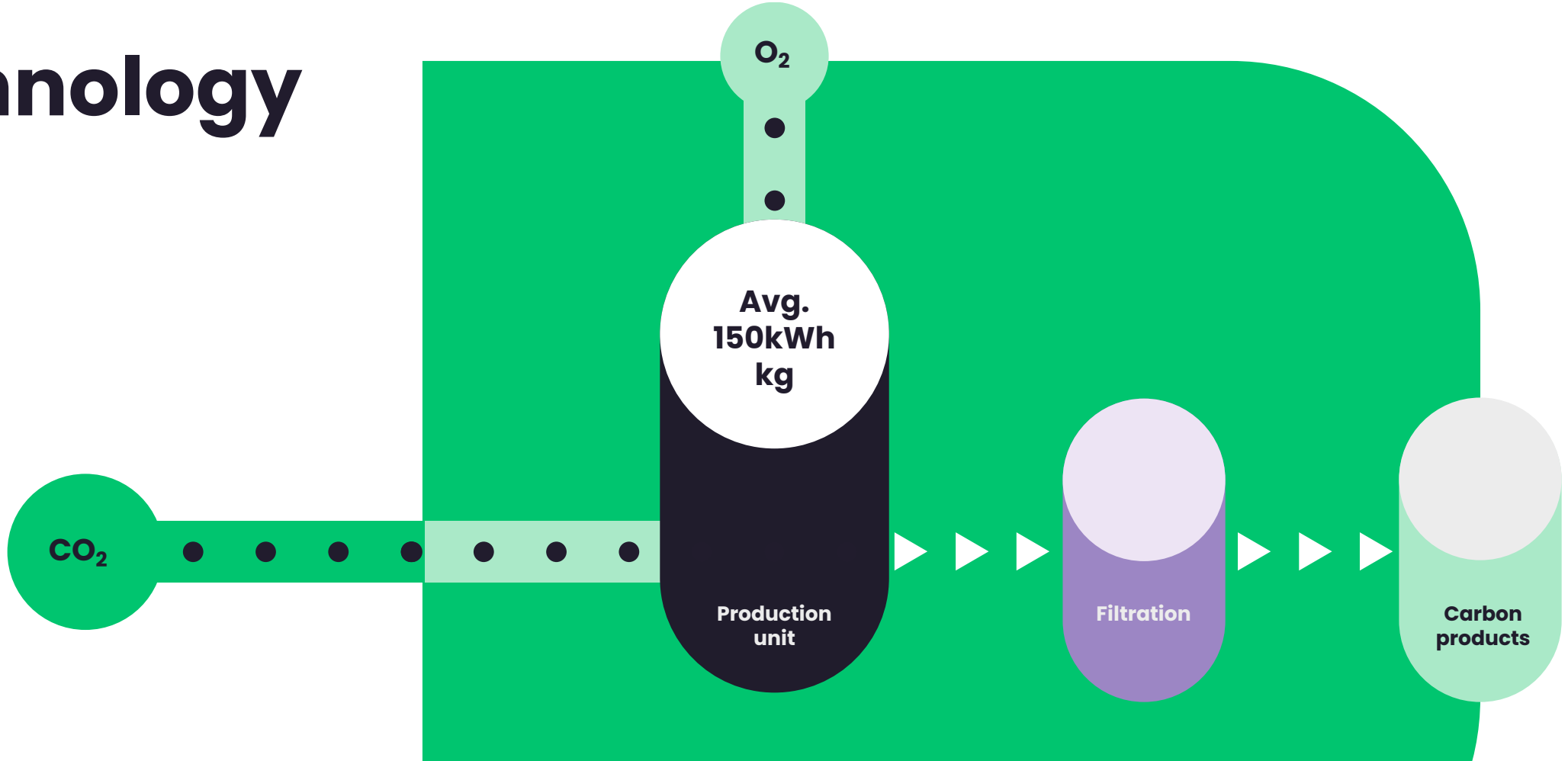
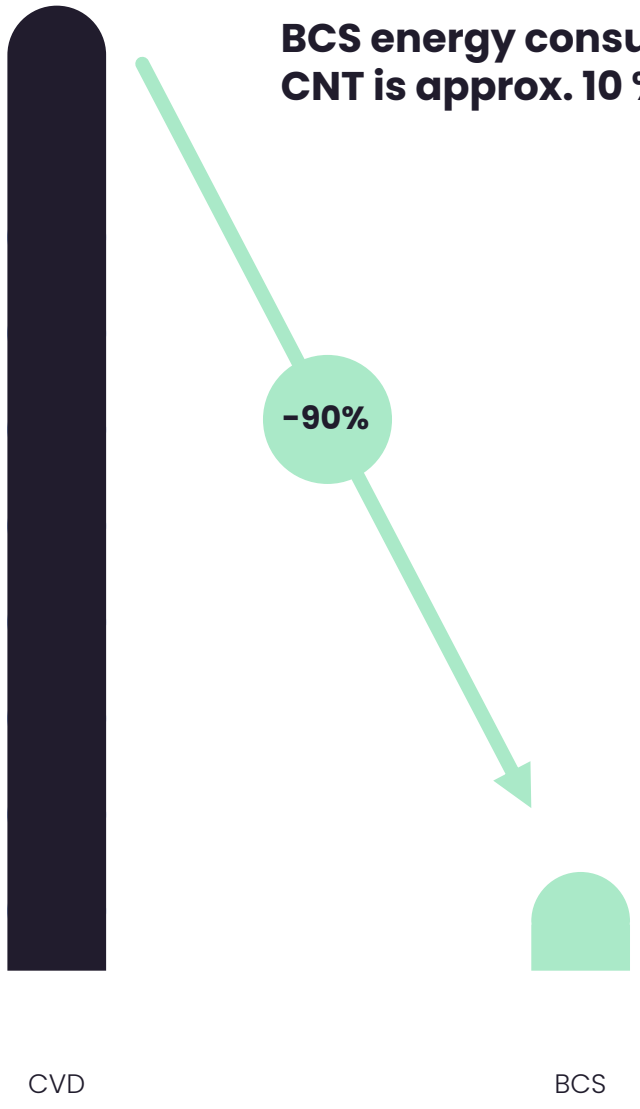
Green method

BCS technology



Comparison



BCS technology

- The energy consumption for BCS' technology is about 10% of CVD
- BCS is still maturing the electrochemical- and separation process which will significantly reduce the already low energy consumption
- We expect the energy consumption for BCS' technology to be less than 5% of CVD after our new improvements to technology
- Improvement to technology will also affect CO_2 emissions significantly compared to CVD

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Groundbreaking filtration

- Until now our focus has been to optimize the process of building carbon - our core technology

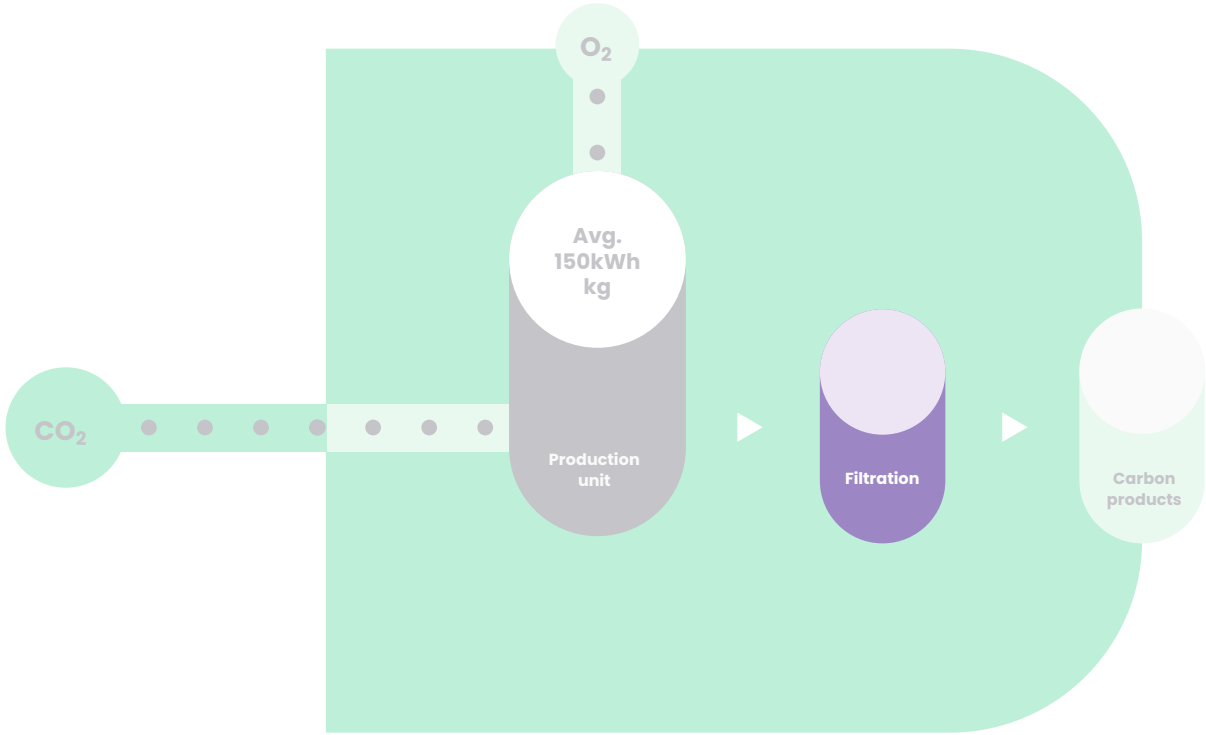
- Our engineers are currently working on a new and groundbreaking separation technology that is using CO_2 to separate the carbon from our electrolyte

Implications:

- The new separation technology has the potential to drastically reduce our filtration costs, which accounts for a large proportion of costs with today's production process

- Enabling BCS to further reduce CO_2 footprint and strengthen our cost position

New separation pilot ready next year (2023)



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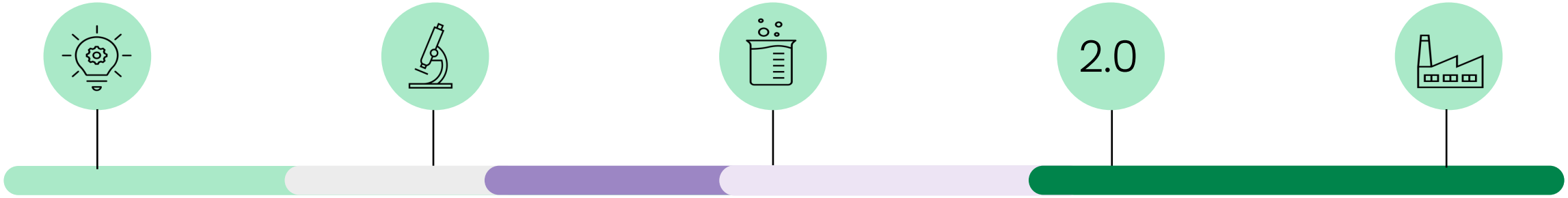
Technology driven company development

- What started as container-based CNF production module has evolved true two successful upscaling steps to a factory set up
- Technology development has been evolving at a high pace, and we have introduced improvements in most of our process steps already

"Our technology is always maturing, and our new filtration system will further enhance our competitive advantage"



2016
BCS founded

2019
1st gen Crucible

2020
CNF process verified

2021
Moved to Flesland

1st Crucible 2.0

2022
Factory Concept study

Test container moved to BIR

2nd, 3rd and 4th Crucible 2.0s

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Commercial Update

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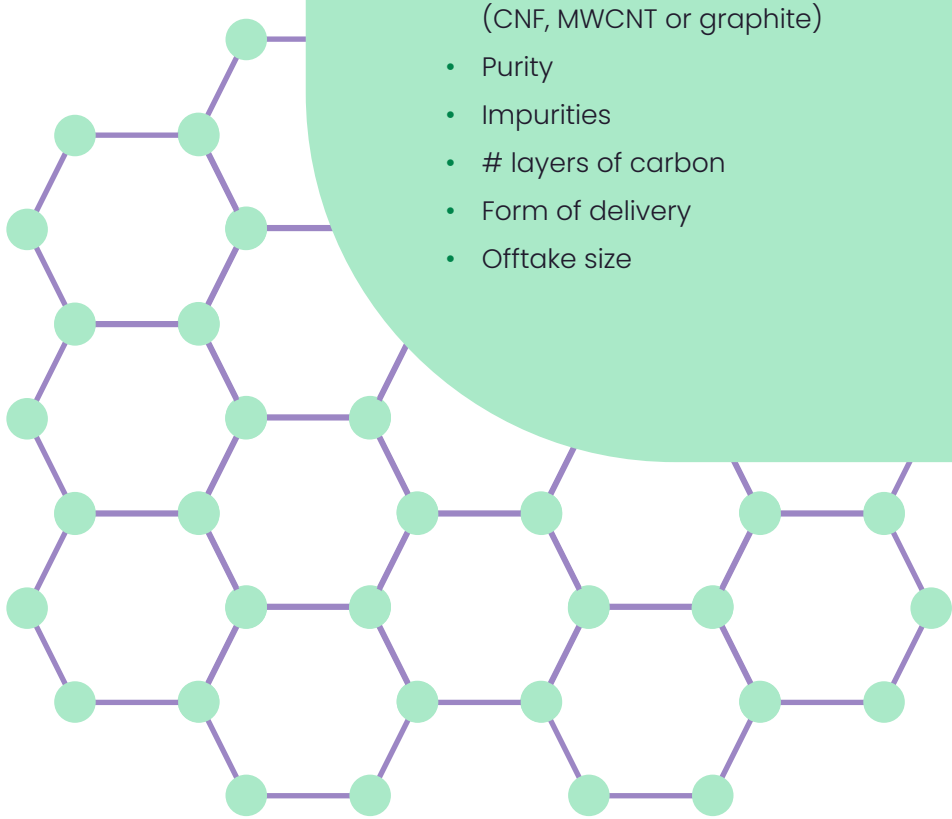
Market assumptions

- The value of our product is in the end dependent on which improvements it can bring to the customer. This effect is determined by complete control of several parameters including physical properties, dispersion technology, preparation methods and more
- Industrialized materials needs to be tested and verified into individual applications before large scale industrial adoption takes place
- Our expanded product portfolio enables us to target new markets and product segments

Value drivers

- Product category (CNF, MWCNT or graphite)
- Purity
- Impurities
- # layers of carbon
- Form of delivery
- Offtake size



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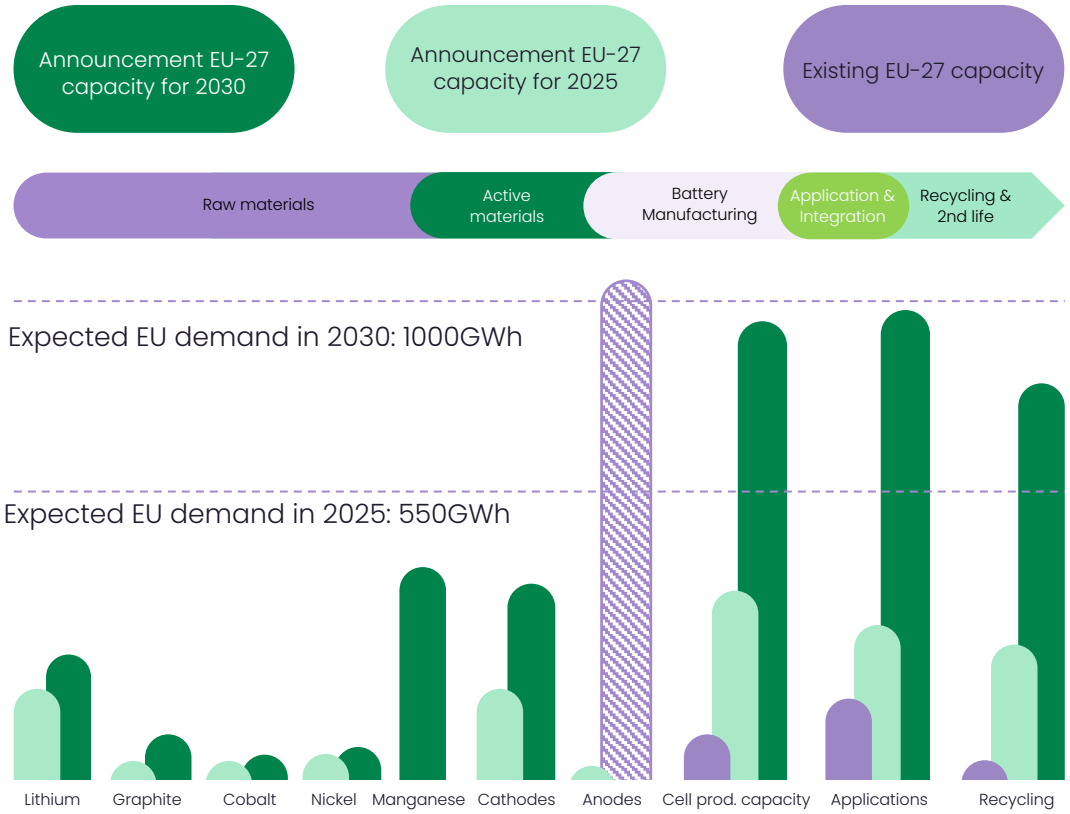
Our commercial focus area

- MWCNT are well suited for use as additive in the battery sector.
- Nano Carbons can increase the following properties of a battery cell:
  1. Energy storage capability.
  2. Charging speed
  3. Decreased deterioration rate.

Implications:

- The world, and Europe in particular, is experiencing scarcity on raw materials
- China is currently dominating in cell production capacity and raw material supply
- The increased energy density achieved by using a nanomaterial additive reduces the need for the material in the first place, while the cells achieve a higher lifespan and performance

Significant graphite shortfall in Europe towards 2030



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Project C

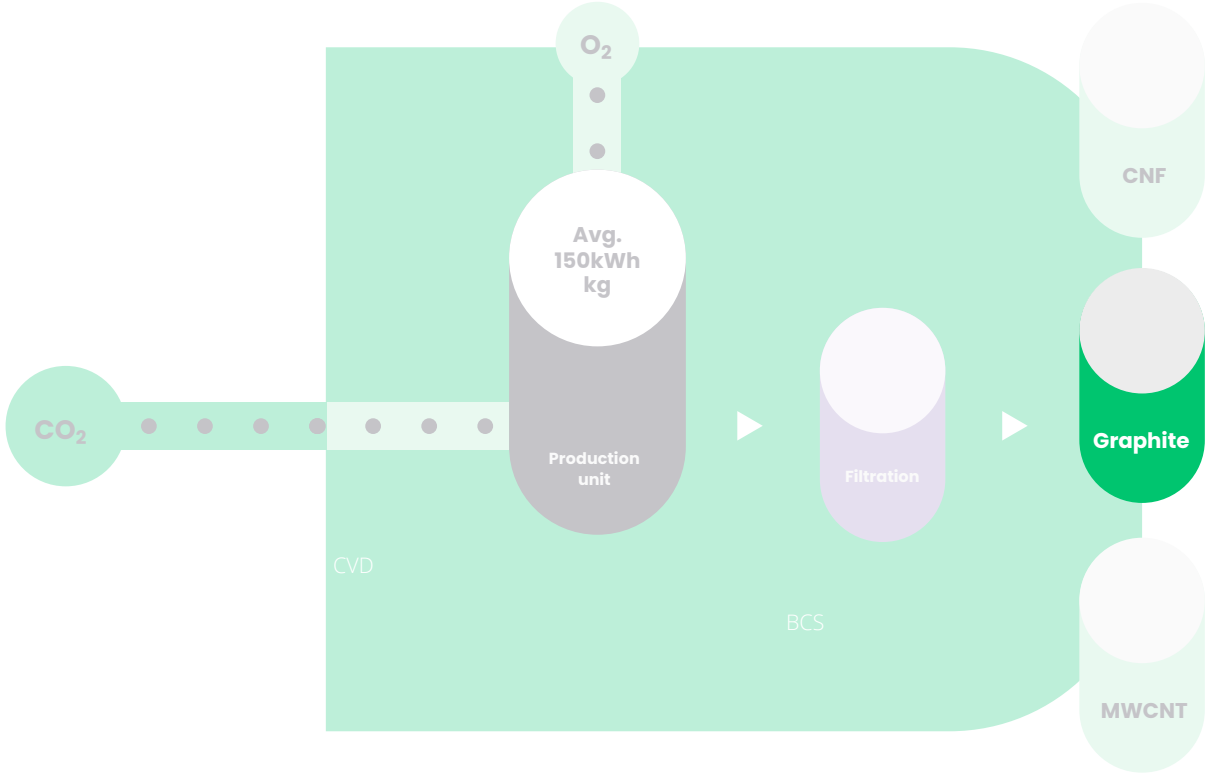
- BCS technology can be well suited to produce anode material directly from CO_2
- Currently investigating the achievable grade of efficiency
- Due to higher material demand, our utilization of CO_2 by producing anode graphite is much higher than from nanocarbon. This is mainly driven by increased volumes

Keys to succeeding:

- High production efficiency
- Quality of the finished product
- Price

Thought example for a significant emitter:

BCS have the potential to produce approx. 50,000 tonnes of anode materials from 250,000 tonnes CO_2 annually.



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Commercialization of our products

A highly competitive industrial market

- Due to the competitiveness of the nano carbon market, we will not continue to bring updates regarding price levels in different segments

- In general, we have identified huge variations on product quality and pricing in the different markets. Some market indications suggest lower prices and significantly higher volumes than our previously guided prices., underlining that we need to increase our overall understanding of the market.

Overall, we are confident that our technology is fundamentally more energy efficient and climate positive compared with the current dominating CVD method.

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Outlook

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Odd Strømsnes appointed CEO

- More than 12 years of CEO experience
- Previous Managing Director of TechnipFMC and CEO of Havfram
- Extensive experience from senior management positions in REC and TIOS
- Strømsnes will assume the management position in BCS in Q1 2023
- Interim CEO Finn Blydt-Svendsen will return full-time as COO

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Development at the right pace

- We continue to increase our market- and technological understanding at a high pace
- During the last months, we have seen significant possibilities of optimizing:
  - Energy efficiency
  - Separation technology
  - Overall technical development
- Our expanded product portfolio enables us to target new markets and product segments

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Strategic implications

- Thorough piloting is essential before the technology is put into use on a larger scale
- Our increased market opportunities in combination with technological progress has given us improved basis for decision-making

Implications:

- We have decided to implement recent findings and detail engineering further
- We therefore need to extend the timeline of our factory in Høyanger
- To clarify: We are still committed to build the factory in Høyanger after the improvements to our design has been implemented

Key success factors:

- Deeper market understanding of CNF, MWCNT and graphite.
- Optimize and further develop technology
- Verify technology in pilot
- Implement a new, enhanced and optimized factory design with reduced risk and improved cost position

Overall benefits:

- Lower CAPEX
- Lower OPEX
- Better utilization of our technology

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Short-term goals

Market adoption:

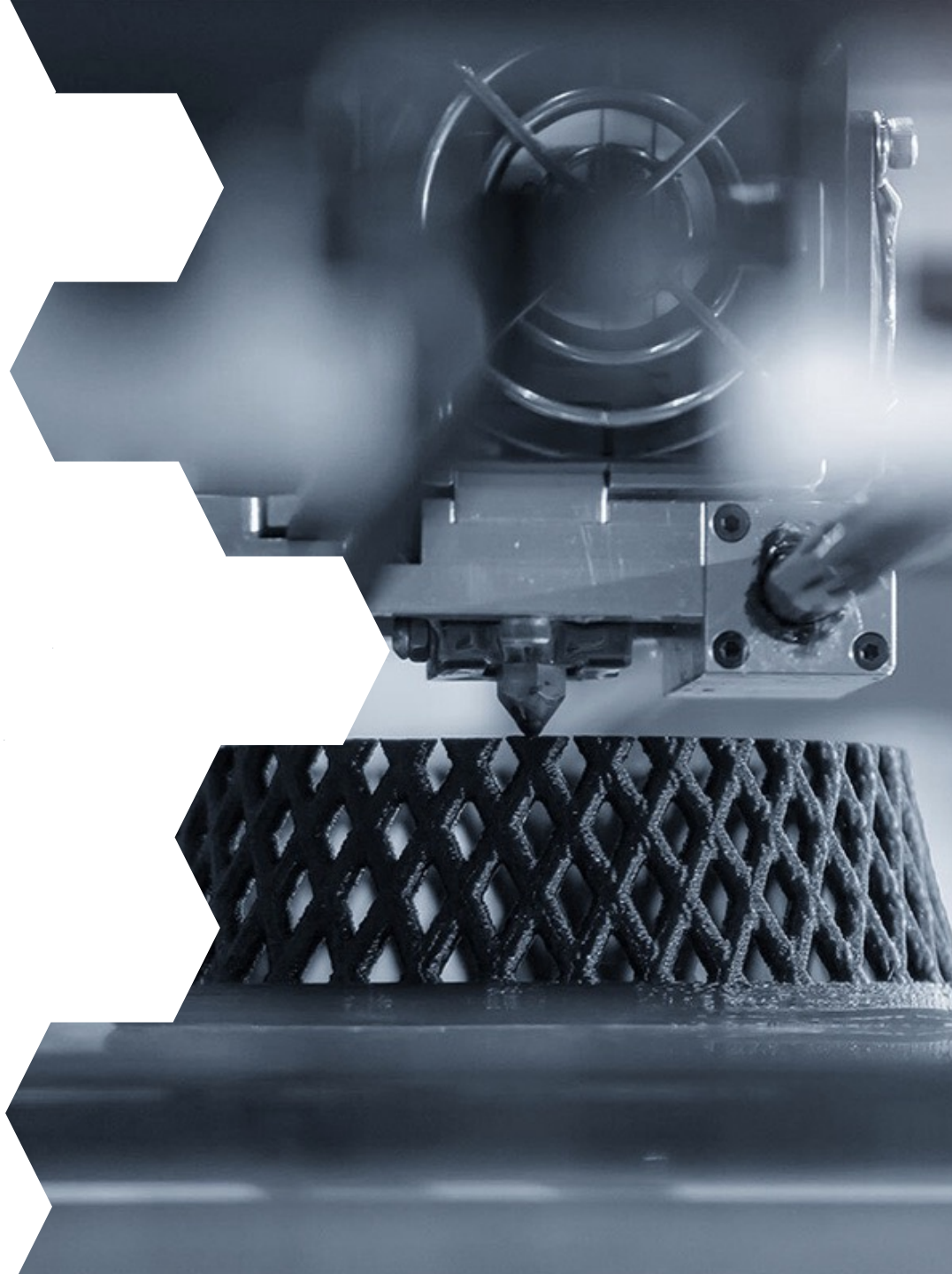
- BCS will accelerate the work towards potential offtakes and business developments to acquire further market knowledge

Soft funding:

- Extended factory timeline opens the possibility of applying for soft funding through various initiatives and organizations, such as EU, EksFin, Innovation Norway, RFF and Enova

Technology:

- Complete testing at BIR in December 2022
- New CO_2 based separation pilot in 2023
- Continue optimalization of core technology



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Long-term goals

- Success for BCS is ensuring that an optimal version of our technology is used when we establish our first factory
- Secured long-term profitable offtakes of our products
- Connect with ambitious industrial players all over the world, to ensure a deeper industrial footing

Success factors

- Lower risk
- Profitable and optimized technology
- Facilitation for industry

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Q&A


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