Company Presentation

CIrca

Circa Group Changing Chemistry for Good™

August 2023



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Presenting team





Martin Laudenbach

Chairperson



Tony Duncan CEO & Co-founder



Tone Leivestad



Philipp Morgenthaler VP Manufacturing



Nick Smith VP Development and Commercialisation

Significant progress since the Euronext Growth introduction



The value proposition and growth plan remain consistent while tailwinds continue to increase

- Since the first day of trading in March 2021, Circa has made significant operational progress across several areas, and the regulatory tailwinds for low-carbon solvents and low-toxic chemicals continue to increase
- Circa has recruited several industry leaders in key roles enabling future commercialization of their products:
 - Incoming CEO Dr. Steve Döring with experience from multinational chemical companies
 - Chairperson Martin Laudenbah with experience from senior positions in BASF and Solvay
 - VP Development and Commercialisation, Nick Smith with experience from Covestro and Bayer
 - VP Product Development, Dr. Alessandro Napoli with experience from Huntsman
 - VP Manufacturing Philipp Morgenthaler with ~20 years experience from global manufacturing
- More than EUR 20m received in aggregate public funding from the EU (Horizon) and France (ReSolute related grants)
- The existing production facility (FC5) has been shipping increasingly larger sample orders during 2022-2023
- Network of distributors and off-takers are gradually developing as the Company moves towards increased product output
- ReSolute™ (1,200 tonnes plant) now has LOIs and commissioning is expected in Q3 2024
 - Key equipment deliveries and engineering work ongoing with Valmet and Ekato
- Site selection for the next plant (FC6) continues and the 12,000 tonnes plant is expected to come on stream in 2026

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Management team with extensive and proven capabilities



Supported by well credentialed advisors



Dr. Steve Döring | Incoming Chief Executive Officer

- Dr. Döring has led companies through development, scale-up and exit processes in Europe and Asia
- Started his career in the chemical industry over 20 year ago in R&D
- 10 years of experience in large multinational and senior business roles with smaller chemical industry companies



Tone Leivestad | Chief Financial Officer

Circa Group since 2021 | 70,000 shares | 200,000 options

- Extensive experience in finance, consulting and industry
- Former Head of CFO Advisory at both KPMG Norway and Accenture Norway, in addition to Group CFO in Tier 1 organisations



Nick Smith | VP Development and Commercialisation

Circa Group since 2023 | 100,000 options

- Broad experience from the global chemical industry
- Previously held business development roles with Covestro and Bayer MaterialScience, covering European, Asian and US markets



Prof. James Clark | Scientific Advisor

Circa Group since 2019

- Leading Green Chemistry Centre of Excellence at University of York
- Internationally recognised expert on green and sustainable chemistry
- Awarded prestigious Royal Society of Chemistry Green Chemistry Prize in 2018



Tony Duncan | Chief Executive Officer & Co-founder

Circa Group since 2006 | 6,680,000 shares | 1,000,000 options

- Co-founded Circa Group in 2006
- 30+ years of industry experience
- Senior strategy and marketing roles
- 'Most Innovative Bio economy CEO' by II Bioeconomista in 2017



Philipp Morgenthaler | VP Manufacturing

Circa Group since 2022 | 60,000 shares | 200,000 options

- Nearly 20 years of global manufacturing experience
- Track record of developing greenfield factories and industrial-scale
 production facilities
- · Led teams across Europe, USA, China and Brazil



Dr. Alessandro Napoli | Incoming VP Product Development

Commencing September, 2023

- PhD in materials science from ETH Zurich
- Previously held management roles with Huntsman Corporation in Europe, both within opportunity identification and development – most recently leading the New Materials Platforms team



• Specialist in operations transformation and restructuring, with a specific focus on organization design, cross-functional multi-business unit improvement, operational excellence and post-merger integration

Industry specialisation: Natural Resources, Energy / Utilities and Chemicals

Supported by an experienced Board





Martin Laudenbach | Chairperson

Board member since 2022 | 50,000 options

- Extensive experience in the international chemical industry
- Held senior positions at BASF and Solvay
- Professional advisor with various director positions, including in the chemical group CIECH S.A. listed on the Warsaw and Frankfurt Stock Exchange



Elise Fahlen | Director

Board member since 2022 | 50,000 options

- Investor with extensive experience from venture capital and private equity, investing in Europe and the US
- · Previous work experience from BCG and EQT
- Currently Investment Manager at the VC branch of the H&M Group

Rune Sollie | Director

Board member since 2020 | 152,890 shares | 100,000 options

- CFO in Norske Skog
- Former Senior Director Financial Reporting & Compliance at Statoil Fuel & Retail AS
- Held various positions in UNIconsult AS, Yara International ASA and KPMG AS

Trond Stangeby | Director

Board member since 2021 | 50,000 options

- Held several management and executive positions in Norsk Hydro and Yara International, in addition to Director position in Moelven Industrier
 - Part of management team in the Norske Skog Group from 2011 to 2013



Greg Court | Co-Founder & Director

Board member since 2020 | 5,931,360 shares | 50,000 options

- Director of Circa Limited since 2005
- 30+ years of experience within pulp and paper industry in the US and Australia
- Previous roles include Executive GM (Australian Paper), GM Functional Coatings (Amcor), and senior strategy roles (Amcor)



Jim Henneberry | Director

Board member since 2020 | 1,773,340 shares | 100,000 options

- Held numerous CEO and director roles in operations, sales and R&D
- Business experience covers the Americas, ANZ, Asia, and Europe
- Chairs Timberland Pacific and is a trustee at Monash BioPria



Lars Peder Sørvaag Sperre | Director

Board member since 2020 | 253,552 shares | 300,000 options

- Senior VP Corporate Strategy of Norske Skog
- Held various senior roles in Norske Skog, e.g., President and CEO, Senior Vice President Corporate Strategy & Legal
- Previously Associate Lawyer in Wikborg Rein

Converting abundant biomass into high value biochemicals





Circa's strategy is for 80,000t+ capacity beyond 2030

Modular approach to rapidly scale and commission additional production capacity





Source: Company information. 1) Capacity refers to estimated Cyrene production per year. 2) To the full ReSolute project, not only Circa Group.

Circa operates in a large chemicals market under growing regulatory pressure



Large and stable European chemicals market...



... with both the EU and the US pushing for safe and sustainable chemicals

- The European chemicals market has grown at a CAGR of ~1.3% since 2012, and ~3.7% since 2016
- The EU Green Deal and U.S IRA initiative are implementing chemicals strategies that aggressively prescribe a sustainable and circular economy by 2050
- Regulatory frameworks are driving safety standards globally, leading to the uptake of more sustainable chemicals
- Safe and sustainable chemicals will be essential to achieve the ambition of both the EU Green Deal and the U.S. IRA

Circa manufactures a range of products from sustainable biomass, all supporting the growing global requirement to reduce industries' CO₂ footprint

Cyrene[™] is a sustainable, low-toxicity solvent ready for market...



350,000 tonnes market directly addressable by Cyrene™



Commentary

- The global dipolar aprotic solvent market estimated at +1m tonnes is currently supplied by toxic and fossil-based solvents such as NMP, DMF, DCM and DMSO
- Cyrene[™] is widely acknowledged as one of the very few viable low-toxicity and sustainable alternatives¹
- Cyrene[™] outperforms traditional dipolar aprotic solvents in many higher-value applications
- Marketed on "outperform" results, not just relying on being a sustainable and safer alternative to existing solvents

Source Company information. 1) Cyrene[™] is registered at REACH Annex IX – for the manufacture / import of up to 1,000 tonnes per. REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals.

..with significant interest from key market distributors and direct customers



Total reservation commitments for Cyrene[™] volumes are over 5,000 tonnes per annum

Cyrene[™] capacity reservations



At IPO

Current

- Cyrene[™] is produced in one step from LGO with applications across a wide range of markets
- Circa will produce approximately 1,200 tonnes per year at their first commercial scale plant (ReSolute) beginning 2025
- A number of multinational chemical distributors have provided LOIs equating to >5,000 tonnes of Cyrene[™]
- Circa is working with distribution partners to convert LOI commitments to firm
 orders



OQEMA

Major players are filing CyreneTM patents for large scale applications monthly





Large companies are using CyreneTM in their development work which is leading to identified material opportunities for CyreneTM



Company	Patent Details	Market	Cyrene Application	Value added by Cyrene™ according to patent applicant
Shell	WO2021213968A1 "Separating Hydrocarbons with Dihydrolevoglucosenone as a Solvent", 2021	Oil & Gas	Separation of key fractions of crude oil	Cyrene performs better than the current solution. Shell quote: <u>"The use of Cyrene […] reduces the energy</u> <u>costs"</u>
Solvay	WO2023097534 & WO2023099307 "Chemoenzymtic Degradation of Epoxy Composites" & "Method of Treatment of a Fiber Reinforced Composite", 2023	Composite Materials	Recycling of carbon fibre reinforced epoxy composites	Cyrene enables the recycling process, hitherto not possible due to resilience of the materials. Solvay quote that Cyrene™: <u>"allowed […] enzymatic</u> <u>degradation of the epoxy resin […] without damaging</u> <u>carbon fibers"</u>
D = BASF The Chemical Company	WO/2023/110504 Water Emulsifiable Isocyanates: 2023	Coatings for Infrastructure/ transportation	Technical improvement of waterborne coatings for key industrial applications	BASF quotes that an advantage of the using Cyrene™ in the mixtures <u>"is that they give high gloss…[and] high</u> <u>resistance to chemicals"</u>
IRELLI	WO2023119175 Polyurethane-based Terminated Elastomers for Tyres: 2023	Tyres	Manufacture of next-gen tyre materials	Low toxicity and bio-based route to reduced tyre weight for better fuel economy and driver safety. Pirelli also quote: <u>"Cyrene™ was selected… since it derives from</u> cellulose, is non-toxic [and] biodegradable"

Circa has ongoing projects across several large markets with high demand for more sustainable products





Pharmaceuticals Leukaemia drug candidate: MSD



Agrochemicals

Positive developments for Cyrene[™] as agrochemical solvent: Large Euro company



Graphene Cyrene[™] used as preferred solvent



Electronics / Batteries Cyrene[™] used in recycling and development of cathodes



Paints / Coatings Two projects with global and Euro coatings companies



Textile Recycling

Scale-up of ongoing commercial development with European textile recycling company



CO₂ capture solvents

Two new patents for LGOderived CO₂ capture solvents



Polymers / Biopolymers

Cyrene™ in the manufacture of membranes

LGO new bio-polymer derivative research underway

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Circa has developed a leadership position during a complex and challenging time





Source: Company information. 1) Circa Renewable Chemistry Institute.

Significant progress since IPO despite difficult market conditions



Poised to rapidly scale following recent developments

Time of IPO

- Cost estimates: +/- 50%
- EU grant funding: EUR ~9m
- Buying energy for plant operation considerations
- Customer LOIs: 1,600t
- Technology provider: Ensyn
- Cyrene focus

Now

- Cost estimates: +/- 10%
- EU and Govt grant funding: EUR ~20m
- Generating energy for plant operation
- Customer LOIs: >5,000t
- Technology provider: Valmet
- Beyond Cyrene:
 - New Polymers
 - Acetic Acid
- Fractionation giving rise to supplementary revenue streams (lignins / C5 sugars)
- Contracts (CN) and Partnerships (P)
 - Valmet (CN) Reactors
 - Ekato (CN) Hydrogenation
 - Gazel Energie (CN)- Site / Utilities / O+M
 - CRCI (P) with UoY
 - OQEMA (CN) Distribution
 - Textile Change (P)

Significant de-risking over the last 2 years

- Finalised ReSolute and FC6 plant technologies, timelines and costs
 - Modular engineering approach for future plant builds minimising custom engineering
 - FuracellTM manufacturing strategy has identified new revenue streams, e.g. lignins, C5 sugars, acetic acid, furfural
 - Reducing exposure to energy costs with waste biomass boiler
- Key strategic vendor contracts signed for ReSolute and next plant
- ✓ Key corporate and operational staff in place
- Market demand has continued to increase since 2021
 - Increasing capacity reservations
 - Increasing Cyrene application patents

Circa has produced LGO and Cyrene for 12 years



Large scale Furacell[™] proof-of-concept...

Start of operations	2017
Development partner	Norske Skog
Location	Norske Skog paper mill site in Boyer, Tasmania, Australia
YTD Cyrene™ output (April)	4,575 kg



- ...demonstrating market readiness while optimizing production process
- Chemicals sold to >1500 industrials and researchers
- Currently supplying 1,000+ kg deliveries to European customers
- Optimisation activities and data provide valuable input for ReSolute plant development
- Largest supplier apart from Circa Group: ~20 kg per year LGO

Circa is well positioned for commercial scaling



Committed upstream and downstream partners



Valmet > EKATO

Principal technology partners

- Valmet is a leading global developer and supplier of process technologies, automation and services for the pulp, paper and energy industries
- EKATO has developed into the world market leader in mixing technology and offers optimized mixing technologies for all process-oriented industries

Partners/unit SIGMA-ALDRICH WILLSOO HUNTSMAN Enviching lives through innovation

- Several multinational chemical distributors have provided LOIs equating to >5,000 tonnes of Cyrene[™]
- Merck Group is a multinational science and technology company with ~60,000 employees and presence in ~70 countries, headquartered in Germany
- OQEMA Group is one of the leading chemical distributors in the EU, operating at the interface between chemicals manufacturers and chemical-processing industries



- The ReSolute project is a Flagship EU project focused on establishing a route for industrial scale production of a lowtoxicity, high-performance solvent
- Cyrene[™], has already been developed at scale for the first time by Circa by converting sawdust into LGO



Horizon 2020 European Union funding for Research & Innovation

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Circa has a strong position with unique and scalable manufacturing model



Long-term access to abundant sustainable feedstock

Non-food sustainable feedstock is the most abundant renewable natural bio resource in the world

Very large and growing market

Estimated annual demand of +1,000,000 tonnes of which +350,000 tonnes can be uniquely addressed by Cyrene™

Significant economies of scale

Investment (reactor, utilities) and fixed cost (personnel, administration, distribution, sales) advantages when scaling



Production plant construction does not need to be sequential

Identified and exploring several locations that are highly suitable for future plants



Leading and patented know-how creates solid Tier 1 position

Circa is the only company in the world capable of producing more than ~20 kg of LGO with a patented process

Circa's Furacell[™] process combines standard, off the shelf equipment with proprietary chemistry and know-how



Process design by engineering team involved in design, construction and operation of the FC 4 & 5 plants since 2014



Modular plants mean accelerated scale-up



◯ cırca

Next step - ReSolute

- Commissioning of ReSolute is expected in Q3 2024
- Cyrene[™] will be the commercial foundation for the ReSolute plant
- LOIs are in place for more than the ReSolute production volume
- Basis for continued development of other LGO-based bio chemicals

Long term roll-out plan

- Manufacturing plants can be constructed in parallel as a result of Circa's modular plant architecture going forward
- Circa's standardised plant design enables de-risked scaling
- Plant design allows rapid expansion, with conservative scale-up in initial years
- Further doubling of plant size is expected in the future, with plants reaching production capacities of 50,000 tonnes

ReSolute commissioning in 2024



Commentary

- Technology and equipment providers are secured
 - Strategic partnership with Valmet was an important milestone for ReSolute and FC6
 - Valmet and Ekato will be the main suppliers of process technology and equipment for ReSolute and FC6
- Permitting process underway and proceeding as planned
- Balance of plant supplier contracts currently being finalized
- Scaling up of key personnel progressing



	2023		2024				2025			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Building and environmental permits										
Engineering and procurement										
Detailed engineering										
Procurement										
Fabrication and delivery										
Construction management										
Site work										
Start-up and commissioning						7	Commissioning		Fully ramped u	p production

Source: Company information. Timetable is indicative and estimates are only based on current best available information.

ReSolute plant is strongly supported by the EU and the French Govt.



The 1,200 tonnes ReSolute plant is located in NE France, nearby major industrial facilities, feedstocks and logistics



- The plant will scale up the current Cyrene™ production process to 1,200 tonnes of output per year
- Circa leads the ReSolute consortium, which brings together 11 large organisations from 6 European countries. The partners represent the entire value chain, from feedstock to market uptake
- Total ReSolute project CAPEX is estimated at EUR 73m. Final investment decision was taken in 2020 with commissioning expected Q3 2024
- · LOIs that are currently in place exceed the ReSolute production volume
- Former coal fired power station, converted towards green industry

Strategic supplier partnerships reduce scale-up timelines



Circa has partnerships with Valmet and Ekato



- Circa signed a heads of terms with Valmet in May 2022
- Important in order to realise and optimise the Furacell[™] production process at scale through the ReSolute project and further largescale plants
- Valmet to be the main supplier of key processing equipment at future plants
- The cooperation considerably strengthens Circa's ability to build and deliver against its business strategy in becoming a large-scale producer of sustainable biochemicals
- Securing strategic suppliers demonstrates the large opportunity of the sustainable biochemicals market
- The agreed long-term objective is to develop deployable 12,000 tonnes per annum ("ktpa") Furacell™ modules capable of operating separately or in multiples, depending on local feedstock and supporting infrastructure availability





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Spend remains in line with expectations – focus on cash remains critical



The Company will initiate discussions with industrial, strategic and financial partners to accelerate the process and initiation related to the FC6

Commentary

- Accumulated ReSolute CAPEX is EUR 17.7m per Q2 2023, offset by grants received of EUR 3.3m
- Current cash balance is EUR 27.5m
- Of announced grants of EUR 20.3m for ReSolute, EUR 8.2m are so far recognized in the accounts as received. The remaining funds will be received based on progress during 2023 and 2024
- FC5 continues to provide product for Cyrene sales and trial products to customers
- Employee and other operational expenses continue to be in line with expectations
- The Company has already commenced work on the next large-scale plant (FC6). This has generated spending related to these activities, and this is expected to accelerate in second half of 2023 and 2024
- Going forward, the Company will initiate discussions with industrial, strategic and financial partners to accelerate the process and initiation related to the FC6 project and to enhance the longer-term liquidity of the Company
- Circa is evaluating the best strategic and financial options, including potential partnerships in relation to the Company's current project pipeline

High level overview of P&L

EURm	Q2'23	Q2'22	YE'22
Operating revenue	0.6	0.2	1.2
Operating profit / loss	-1.2	-1.8	-6.0
Net profit / loss before tax	-1.1	-2.0	-6.0

High level overview of balance sheet

EURm	Q2'23	Q2'22	YE'22
Fixed assets	14.5	1.7	7.0
Cash and cash equivalents	27.5	40.7	34.8
Total assets	43.1	43.4	43.1
Equity	33.5	38.6	36.0
Equity / Assets	78%	89 %	84 %

Plant economics have remained near IPO estimates



High level plant economics in "steady state" (annualised)

	1,200t plant ¹ (ReSolute)	12,000t plant¹ (FC6)	25,000t plant¹ (FC7)
CAPEX	EUR ~73m Brownfield	EUR ~300m Brownfield	EUR ~500m Brownfield
Capacity	1,200t	12,000t	25,000t
Sales ²	EUR ~18m	EUR ~155m	EUR ~330m
Cost of Sales ³	EUR ~11m	EUR ~75m	EUR ~160m
OPEX ⁴	EUR ~3m	EUR ~10m	EUR ~15m
EBITDA ⁵	EUR ~4m	EUR ~70m	EUR ~160m

Assumptions

- Production and sales also include other highermargin biochemicals derived from LGO
- Product mix in larger plants will comprise of a higher share of Cyrene[™]
- Product mix and productivity improvements are expected over time due to continuous work on derivatives and yield improvements
- Biochar, a by-product of the Furacell[™] process, will be utilized as energy for all plant sizes
- Scaling beyond 25,000 tonnes is feasible and limited only by feedstock access

Source: Company information. 1) Capacity refers to CyreneTM capacity. 2) Circa pays a royalty to the University of York for CyreneTM sales; 1.5% for quantities up to 1,000 tonnes p.a., and 0.75% for quantities exceeding 1,000 tonnes p.a. 3) Electricity, biomass, phosphoric acid, etc. 4) Labour, manufacturing, overhead, selling, and admin. 5) Figures are estimates based on current best available data, and subject to change based on site geography and economic conditions.

EU and Government Support remains high for Circa's business





We have confirmed grants of...

- EU H2020 Flagship grant
 of approximately EUR 9.2m
- French government and regional grants of approximately EUR 11m



- ...and further opportunities continue to develop...
 - EU Green Deal
 - EU sustainable finance framework
 - IRA (Inflation Reduction Act) U.S
 - Import / Export credit



...along with strengthening climate change initiatives

- Sustainable development goals
- Carbon Border Adjustment
 Mechanism (CBAM)
- EU ETS phase IV

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Global forces are driving customers to replace fossil and toxic chemicals



Increasing regulatory restrictions with European Green Deal and Taxonomy likely to continue the trend



- · New regulations are driving a once in a generation upheaval in the chemicals market
- Toxic chemicals are being driven out of global markets by regulation (REACH¹) and pressure from consumers and brand owners (e.g. Nike, Amazon)
- Large volume, traditional solvents such as NMP and DMF are categorised as Substances of Very High Concern (SVHC) by the European Chemicals Agency (ECHA)
- Further regulation against NMP and DMF when Cyrene[™] is available at scale is expected "Bans to be fully enacted once suitable alternatives become available" EU quote

Cyrene[™] can replace, in specific applications, fossil and toxic chemicals such NMP, DCM, DMSO and DMF, with a higher level of performance whilst delivering enhanced customer value

Regulation driving once in a generation opportunity for Circa



Enhanced and rigorous guidelines for chemical production, distribution and use

Significant unknown territory of chemical risks driving upheaval



- Green Deal Objectives of EU Chemicals Strategy (14 October 2020)
 - Better protect citizens and the environment
 - Boost innovation for safe and sustainable chemicals
- Selected actions under EU Chemicals Strategy (14 October 2020)
 - Banning the most harmful chemicals in consumer products
 - Account for the cocktail effect of chemicals when assessing risks
 - Boosting investment for production and use of safe and sustainable chemicals
 - Promoting the EU's resilience of supply and sustainability of critical chemicals
 - Playing a leading role globally by championing and promoting high standards
- EU REACH¹ regulation
 - Improve protection of human health and the environment from chemical risks
 - REACH applies to all chemicals and thus impacts most companies in the EU
 - EU chemical industry committed to comply with REACH

European

- Hazardous substances should be substituted with less dangerous ones



Horizon 2020 European Union funding Commission for Research & Innovation



Circa's platform delivers both high-value and high-volume market opportunities



Volume and price positioning of selected chemicals produced from biomass



Circa realises growth opportunities by focusing on performance plus three pillars of sustainability



Changing chemistry for good[™]

DECARBONISATION



- Cyrene[™] is currently 95% biogenic carbon and has >80% lower carbon footprint than competing fossil and toxic solvents
- FuratechTM 1 & 2 are solvents for CO_2 capture
- FuraceIITM provides low carbon base with further decarbonization of process planned in the future

CIRCULARITY



- Continue development of recycling markets for Cyrene[™] (e.g. batteries, textiles, fibre-reinforced polymers)
- Explore 'Cyrene™ as a Service', i.e. recovery and recycling of Cyrene post-use
- Optimisation of Furacell[™] process through recovery and re-use of inputs (e.g. sulfolane)

WELL-BEING



- Cyrene[™] displaces toxic solvents
- LGO provides opportunities for new low-toxicity products and development pathways
- Direct community engagement
- Circa's 'Circus' initiative provides employees with a platform of shared values, aligning corporate and individual interests

In particular, Circa is well positioned to capitalize on the high growth CO_2 capture market



CO₂ capture is necessary to meet global climate goals...



- Coal and gas dominate the electricity sector, generating 58% of power globally
- Power generation is the largest emitter of CO₂ in the energy sector, creating ~40% of global energy-related emissions
- As global power demand is expected to increase, carbon capture technologies play a crucial role in meeting global climate goals

...and is underpinned by global policies, targets and pledges...



- 140 countries are committed to NZE-target, covering 90% of global GHG emissions
- EU Allowances trade above 90 USD/t, up from 30 USD/t at start of 2021
- 45 countries has pledged to phase down unabated coal by 2030, representing >16% of global production
- 105 countries are committed to cut CH₄ emissions by 30% within 2030

...with USD 6bn market set to grow at a CAGR of 22% until 2030...



- 167 Mtpa of carbon capture programs exist globally
- >75% of programs are in development, leaving numerous opportunities to develop and explore application growth
- Currently the market is valued at USD 6bn (2022) and expected to grow at a CAGR of 22% until 2030

...Furatech[™] fits into the majority of technologies assessed by industry



- The three technologies under assessment by the industry are (1) Chemical Absorption, (2) Physical Separation, and (3) Membranes
- (1) and (2) are addressable by Circa's LGO derivative platform



... and the market for textile recycling



The apparel industry has a vast environmental impact...



- The global apparel industry has an estimated market value of USD 1.5 trillion
- The market is growing at 5% CAGR due to fast fashion reaching the rising middle class in emerging economies
- The industry produces 8-10% of global CO₂ emissions
- Contributes 35% of oceanic primary microplastic pollution via ~90 million tonnes of textile waste per year

...yet only a fraction of textiles are recycled, while regulation tightens...



- More than 70% of materials used in clothing end up in landfills or incinerators, only 12% are recycled, less than 1% are recycled in a closed loop
- Multiple policy drivers led by the EU foresee the need to develop widespread recycling
- EU Directive 2018/851 states that textile waste must be kept out of landfill and incineration by 2025
- EU Strategy for Sustainable and Circular Textiles encourages fibreto-fibre recycling

...and technology does not yet meet the complexity of modern fabrics...



- The demand for new and more sophisticated clothes is inexhaustible
- Over 60% of fibre used in the apparel industry is polyester and other synthetics and around half of this is used in blends especially with cotton
- There is a lack of scaleable technology to effectively recycle textiles into useable fibers

...Circa's green solvents facilitate the textiles circular economy



- Green solvents, the cornerstone of Circa's product line, enable fibre-to-fibre recycling, especially of mixed fibres
- Textile Change, a European textile recycler, has stated that Cyrene™ offers the best performance and the strongest sustainability profile
- A circular economy in the textiles industry can reduce its environmental impact significantly

 a perfect fit with Circa's business model



Additionally, LGO based herbicides can meet the growing demand for new molecules for crop protection



Agrochemicals are critical, but their efficacy is diminishing...



- Current agrichemical active ingredients (herbicides and pesticides) play a critical role in the continued ability of farmers to produce enough food to meet global demand for food
- Over time, the efficacy of these protecting chemicals diminishes as natural predators evolve and develop immunities

...leading to new molecules for crop protection being highly sought...



- While suppliers of agrochemicals continue to develop new formulations to maintain efficacy, new molecules for crop protection are always being sought
- The opportunity for new molecules for crop protection is globally huge – and growing – and critical to providing food for people and animals

...with the agrochemicals market set to grow at a CAGR of 3.0%...



- The global agrochemicals market is valued at USD 227.9bn (2022)
- Until 2030, the market is anticipated to grow at a CAGR of 3.0%
- The growth is attributed to increasing demand for fertilizers and crop protection products across the globe

...LGO derivative PT139 can be used as a broad leafed herbicide



- Trialled and tested, the original product went through a range of developments to prove efficacy as a broad leafed herbicide, before a patenting process was initiated
- However due to a lack of a clear pathway to produce LGO – it's feedstock, the development of the new herbicide was ceased
- For the first time, LGO is now available in commercial quantities

PT139

Strong foundation to deliver on growth plan



High margin opportunities



- Various client initiatives and requests underpin prices between EUR 8-5,000 per kg of LGO produced
- Frequent requests and initiatives from clients for new derivatives

Strong demand and regulatory tailwinds

\$ \$ \$ \$

- The proprietary Furacell[™] process creates a sustainable first mover advantage and monopolylike position
- Circa has gradually been
 upscaling plant size while testing
 technology

- An existing and large global market for LGO-based chemicals
- Circa has already supplied LGObased biochemicals to clients that outperform previous industrial scale alternatives
- Regulation driving once in a generation upheaval of chemical industry

Standardised pl

 Standardised plant design enables rapid and low-risk scaling

Clear scale-up plan

- Strategic partnerships on a plantby-plant basis with local access to feedstock on the potential sites
- Large number of projects and companies globally looking to valorise quantities of waste biomass that could produce up to ~50,000 tonnes of LGO per plant

Patented and sustainable process

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Circa Renewable Chemistry Institute



The initial focus of the Institute is to carry out application-driven research that enables the replacement of petrochemicals by:

- Supporting application research, particularly in relation to manufacturing opportunities for Cyrene[™] customers
- Developing new solvents for industrial processes
- Valorisation options for biomass materials including waste feedstocks and biochar

Recognising that there are systemic barriers (and supply chain inertia) to the transition to renewable chemistry, the Institute will over time extend its scope to convene stakeholders in a collaborative environment to explore and overcome the challenges of more sustainable production



Significant barriers to entry for new companies



Via ReSolute and FC6 commissioning, Circa will produce 500x more LGO p.a. than any competitor



Furacell[™] is the only scalable and costcompetitive production process of LGO globally

- LGO was first developed in the 1970s but only produced at academic scale (i.e. less than 25 kg per year in total globally)
- Pilot 5 (FC5) is still the first and only plant producing tonnes of LGO and has provided key learnings to de-risk future development
- Cost benefits enabled by Circa's commercial scale production represent a significant barrier to entry for potential competitors

Circa holds pole position with:

- 1. Extensive R&D work
- 2. Patented Furacell[™] technology¹
- 3. Leading process know-how
- 4. Major global technology partners (Valmet, Ekato)
- 5. Head start in capital expenditure
- 6. Extensive commercial and market work

Only producer of large, commercial scale quantities of versatile platform chemical LGO





The global chemicals market is enormous...

... but struggling under regulatory and brand owner pressure from reliance on fossil feedstocks



World chemicals sales (2021, EUR 4.0 trillion)



- Global chemicals production is expected to double by 2030
- Chemicals are essential for the wellbeing and maintenance of high living standards. They are used in many sectors, including health, energy, mobility and housing, and across numerous applications
- The chemical industry is a valuable part of Europe's economy
- The European chemicals industry continues to innovate, with significant annual investment
- The chemicals industry, when configured appropriately, is essential in building a sustainable and productive economy
- Today however, most chemicals in use have properties considered harmful to health and the environment

Global network of upstream and downstream industry relationships







Location of trials with dot size illustratively indicating relative share of trials

Circa Group Locations

• Above 1,500 trials of various LGO-based biochemicals executed with customers and researchers globally

- Significant interest has been shown in Europe and North America, with Australasia also representing an important market
- The ReSolute plant is located in France, a region with progressive and legislated environmental ambitions and a compelling interest in Circa's business model
- Contracts (CN) and Partnerships (P):
 - Valmet (CN) Reactors
 - Ekato (CN) Hydrogenation
 - Gazel Energie (CN)- Site / Utilities / O+M
 - CRCI (P) with UoY
 - OQEMA (CN) Distribution
 - Textile Change (CN)

Transition to sustainable biochemicals



Chemicals industry is essential, but harmful

- Chemicals production produces 4% of global CO₂ emissions
- Long global supply chains add to the environmental footprints of production
- Ineffective chemicals lead to higher energy consumption and further CO₂ emissions
- Lots of resources are required to dispose of toxic chemicals, causing further harm
- 10% of global oil production is currently used to produce chemicals



Circa producing biochemicals at scale

- ✓ Circa's non-food sustainable feedstock is 100% renewable and sustainable
- Sustainable and energy-efficient production process with valuable and environmentally friendly byproducts
- ✓ Cyrene[™] outperforms competing fossil and toxic solvents in 20-30% of applications, while having 80% lower carbon footprint
- ✓ Disposal of Cyrene[™] only releases water and CO₂
 i.e. no harmful substances
- Sustainable LGO biochemical platform can enable opportunities for multiple future biochemicals

Circa contributes significantly to the UN's SDGs

3 GOOD HEALTH AND WELL-BEING

Ensuring healthy

the well-being for

all is essential





The food and agriculture sector is central for hunger and poverty eradication



Clean, accessible water for all is an essential part of the world we want to live in



Climate change is a global challenge that affects everyone, everywhere





Energy is central to nearly every major challenge and opportunity



Careful management of this essential global resource is a key feature of a sustainable future

LIFE



Worldwide consumption

and production rest on

responsible use of the

natural environment







12 RESPONSIBLE CONSUMPTION AND PRODUCTION



Sustainably manage forests. combat desertification, and halt and reverse land degradation



- LGO derivatives have broad based applications in areas such as agrochemical formulations that benefit crop protection
- LGO/Cyrene[™] has been turned into both herbicides and pheromones, which can be used to increase vields in crop production
- Only non-food waste biomass is used in the production of LGO/Cyrene™
- NMP, a solvent which Cyrene[™] can replace, is harmful to human fertility and considered a Substance of Very High Concern by the EU
- · LGO-based chemicals can be utilized in pharmaceuticals through effective replacement of existing fossilbased chemicals



- Cyrene[™] is being examined in the production of batteries
- Cvrene[™] is effective in the formation of supercapacitor electrodes (needed for energy storage)

Cyrene[™] is biodegradable and poses little threat to aquatic or terrestrial environments

• Cyrene[™] can be used to produce membranes used in water filtration/purification

- Cyrene[™] can be used for the synthesis of graphene (which offers significant benefits for use in electronics)
- Dramatic reduction in production waste with by-products valuable in themselves (Furacell™ process is nearly carbon neutral)
- Use of the Chem21 Green Chemistry Metrics Toolkit ensure the biochemicals are sustainable by design
- Cyrene[™] is currently being used in textile recycling applications
- Biochemicals enable production of polymers with better economic and environmental performance (circular by design)
- Disposal of Cyrene[™] does not result in the formation of NOx or CO2 in contrast to other dipolar aprotic solvents

Developments in CO₂ capture market presents attractive growth opportunities for Circa...



CO ₂ Emission Targets	Carbon Pricing	Investment	Methane Emissions
 45 out of 145 countries submitted stronger NDC at COP26 140 countries commit to Net Zero target covering 90% of global GHG emissions 16 countries have legislated for Net Zero Target, a further 34 countries implemented Net Zero Government policy International Maritime Organization to halve emissions from shipping by 2050 	 EU Allowances trade above USD90/T up from USD30/T at start of 2021 EU announces CBAM (Carbon Border Adjustment Mechanism) from 2026 impacting imports from 6 sectors (high intensity emitters like steel & cement) China launch of ETS became the largest global carbon market COP26 reach agreement for global carbon mechanism Carbon revenue collected increased by USD 31bn to USD 84bn Voluntary carbon markets grew by 48% in 2021 	 45 countries pledge to phase down unabated coal by 2030 representing >16% of global production 20 countries have committed to end new direct public support for investment in unabated fossil energy sector 	 105 countries commit to cutting CH4 emissions by 30% by 2030 UNEP launch International Observatory (IMEO) to monitor and report on CH4 emissions IMEO 2022 focus on CH4 emissions from fossil fuel production

... with the CO_2 capture market valued at USD 6bn in its infancy and expecting a CAGR of 22% until 2030...





Source: Company information.

... while CyreneTM fits into most CO_2 capture technologies



Technology	Chemical Absorpton	Physical Separation	Membranes
Description	Reaction between a chemical solvent and CO2 within a gaseous process stream occurs in an absorption column. Chemical solvent is recovered in a desorption column operating at higher temp.	Either makes use of a solid surface (adsorption), liquids (absorption), cooling and liquefaction (cryogenic), or dehydration.	Based on devices (membranes) with high CO2 selectivity. CO2 passes through but other gases are retained in the gas stream.
Types	Amines: • MEA • Other Amines Ammonia Caustics Amino Acid Salts Ionic Liquids Catalysts with Chemical Absorbents	Absorption: Organic Solvents Selexol Rectisol Purisol Adsorbents: Zeolites Activated carbon Si/Al Gels 	Organic: • Polymeric • Size selective • Liquids Inorganic: • Metallic • Ceramic • Other
Addressable by LGO / Cyrene™ platform	Other catalysts	 Supported Amines Metal oxides (chemical looping) Cryogenic 	

Source: Company information.

Sales model that effectively addresses the requirements of customers and distributors



Segmentation of the Circa customer portfolio



- The sales model supports Circa in optimizing the interchange between potential revenue and serving customer needs
- Thus, maximizing the effectiveness of ReSolute whilst laying the foundation for FC6 and beyond
- Maximum value is also derived by optimizing composition of product LOIs across different segments:
 - Large volume / growing markets (e.g. solvents)
 - New markets
 - Low volume / high value
 - Specialized / niche products and applications (e.g. CO₂ capture and textile recycling)

Structural distributor relationships



- A specific set of customers in a specific market segment can be served more cost-effectively trough distributors
- Typically, this is driven by existing distributorcustomer relationships and networks (e.g. Merck, OQEMA, and Will & Co)

Outsourcing of value chain steps



- The sales model also offers the opportunity to outsource certain steps in the chemical distribution value chain, such as:
 - Manufacturing
 - Marketing & sales
 - Technical support
 - Supply chain activities
- This allows Circa to focus on targeting the most appropriate segments, sectors, customers, and applications
- In the case of highly specialized LGO derivatives, outsourcing of manufacturing to specialist organizations with proven capabilities will be determined on a case-by-case basis

Shareholder overview



#	Shareholder	Shares	%Ownership
1	Norske Skog ASA	31,654,274	25.92%
2	Saxo Bank A/S	19,437,777	15.92%
3	Citibank, N.A.	12,250,670	10.03%
4	Circa Group AS	6,471,380	5.30%
5	Anthony James Duncan 1)	5,480,000	4.49%
6	Christopher Howard Lawrence	4,042,136	3.31%
7	Hawkfish AS	2,335,733	1.91%
8	J.P. Morgan SE	2,200,000	1.80%
9	Verdipapirfondet First Generator	2,112,567	1.73%
10	Pershing LLC	1,943,715	1.59%
11	Team America Pty Ltd	1,773,340	1.45%
12	Nordnet Livsforsikring AS	1,648,377	1.35%
13	Moata PTY LTD	1,200,000	0.98%
14	Verdipapirfondet Delphi Nordic	1,047,940	0.86%
15	Klaveness Marine Finance AS	1,026,479	0.84%
16	Manifex Pty Ltd	999,000	0.82%
17	State Street Bank and Trust Comp	905,713	0.74%
18	Jomani AS	680,934	0.56%
19	Magne Simon Svandal	630,000	0.52%
20	Oslo & Follo Byggtjenester AS	613,000	0.50%
	Other shareholders	23,660,074	19.38%
	Total	122,113,109	100.00%

Source: Company information. 1) Holds shares in personal name as shown and additional 1,200,000 shares through Moata Pty Ltd investment company and related parties.

Circa Group legal structure





Historical financials – consolidated P&L



EUR 000s	2021	2022	Q2 2022	Q2 2023	YTD 2022	YTD 2023
Product sales	19	58	17	8	39	45
Other revenue	941	1,127	160	590	266	727
Total revenue	960	1,185	177	598	305	772
Cost of sales	-363	-378	-67	-112	-113	-142
Depreciation	-4	-13	-4	-3	-6	-6
Employee benefit expenses	-2,850	-2,870	-845	-862	-1,321	-1,692
Other operating expenses	-4,270	-3,895	-1,070	-795	-1,965	-1,457
Total operating expenses	-7,487	-7,156	-1,986	-1,772	-3,405	-3,297
Operating result	-6,527	-5,972	-1,809	-1,174	-3,100	-2,525
Interest income	6	121	13	155	18	269
Other financial income	360	717	324	24	613	45
Total finance income	366	838	337	179	631	314
Interest expenses	-128	-96	-52	-1	-83	-1
Other financial expenses	-711	-723	-481	-57	-506	-433
Total finance expenses	-839	-819	-533	-58	-589	-434
Net financial income / expenses	-473	19	-196	121	42	-120
Net profit (loss) before tax	-7,001	-5,953	-2,004	-1,054	-3,059	-2,647
		-22	20	0	20	10
Not profit (loss)	-7 001	-5.97/	_2 024		_3 079	-2 657
	-7,001	-0,014	-2,024	-1,004	-0,013	-2,007
Items that may be reclassified subsequently to income statement						
Foreign exchange gains (losses)	-71	191	70	6	-90	163
Other comprehensive income (loss) for the period	-71	191	70	6	-90	163
Total comprehensive profit (loss) for the period	-7,072	-5,784	-1,954	-1,048	-3,169	-2,494

Historical financials – consolidated balance sheet



EUR 000s	30.06.2022	31.12.2022	30.06.2023
Assets			
Intangible assets	33	29	24
Plant and equipment	1,670	6,976	14,429
Right-of-use assets	26	12	50
Financial assets	0	0	28
Total non-current assets	1,730	7,016	14,530
			· · · · ·
Inventory	75	0	50
Short term receivables	942	1,279	1,019
Cash and cash equivalents	40,676	34,769	27,483
Total current assets	41,693	36,048	28,552
Total assets	43,423	43,064	43,083
Equity			
Issued and paid in equity	56,809	56,880	56,880
Other equity	-18,164	-20,851	-23,345
Total equity	38,644	36,029	33,535
Liabilities			
Employee benefits	388	192	21
Other non-current liabilities	12	0	38
Total non-current liabilites	400	192	59
Employees and related	225	207	404
Trade and other neurobles	220	307	181
Public dutics and related	376	507	5,104
Public duties and related	0	38	42
	4,301	5,990	4,162
	4,379	6,843	9,489
Total equity and liabilities	43,423	43,064	43.083

Source: Company information.

Historical financials – consolidated cash flow statement



EUR 000s	2021	2022	Q2 2022	Q2 2023	YTD 2022	YTD 2023
Cash receipts from operating activities	1,018	321	1,740	107	712	182
Cash payments from operating activities	-7,977	-8,055	-3,476	1,901	-3,882	-571
Interest received	6	121	13	155	18	269
Interest paid	-128	-96	-52	-1	-83	-1
Cash flows from operating activities	-7,080	-7,709	-1,775	2,162	-3,235	-121
Downent for DD&E and intensible accete	0.470	5 904	147	6 704	495	7.440
Payment for PP&E and intangible assets	-2,172	-5,804	147	-0,724	-485	-7,449
Other cash items from investing activities	678	-	-	0	0	-
Cash flows from operating activities	-1,494	-5,804	147	-6,724	-485	-7,449
Payment of principal portion of lease liabilities	-	-12	0	8	0	1
Proceeds from issuance of share capital	48,024	71	1	0	1	0
Proceeds from grants	39	3,619	0	93	0	93
Cash flows from financing activities	48,063	3,678	1	101	1	94
Foreign currency effects on cash and cash equivalents	-466	182	65	-48	-27	190
Total change in cash and cash equivalents	30 023	-9.654	_1 562	_4 509	-3 7/6	-7 286
	53,023	-3,004	-1,302	-4,505	-0,740	-7,200
Cash and cash equivalents at beginning of period	5,399	44,422	42,238	31,992	44,422	34,769
Cash at end of period	44,422	34,769	40,676	27,483	40,676	27,483
Reconciliation of cash flows from operating activities						
Net profit/loss before tax (less interest)	-7 122	-5 978	-2 044	-1 208	-3 124	-2 915
Change in working capital		2	215	3 667	-51	4 602
Depreciation	4	- 13	3	2	6	.,
Cash receipts from other operating activities	1 018	145	595	244	521	445
Cash payments from other operating activities	-980	-1.891	-544	-543	-587	-2.259
Net cash flows from operating activities	-7,080	-7,709	-1,775	2,162	-3,235	-121

Source: Company information.

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