Cleantech in Finland

Market study
June 2024

Tesi

Foreword

Cleantech, encompassing innovations in renewable energy, energy efficiency, and sustainable materials, is crucial for driving significant economic and environmental advancements. This sector is gaining momentum globally, with Finland emerging as a prominent leader. We believe Finland's success in cleantech is attributed to its strong research tradition and vibrant startup ecosystem. The increasing investment in Finnish cleantech startups highlights the growing importance of this sector.

The advancement of cleantech depends heavily on collaboration among government entities, investors, corporations, and universities. This multidisciplinary approach is vital because cleantech investments require specialized expertise and a longer-term perspective compared to traditional startups. Additionally, scale-up funding will be pivotal in the coming years to achieve industrial-scale solutions, necessitating further development.

Looking ahead, Finland is expected to continue its emphasis on cleantech, promoting economic growth and sustainability. This reflects a global trend where cleantech is increasingly viewed as essential for addressing environmental challenges and propelling societies towards a more sustainable future. Finland’s achievements exemplify the global shift towards recognizing the transformative potential of cleantech.

At Tesi, we have consistently supported the Finnish cleantech ecosystem through active partnerships with stakeholders, substantial investments in companies and funds, and by providing critical insights through our research. We are dedicated to continuing these efforts and further strengthening the ecosystem.

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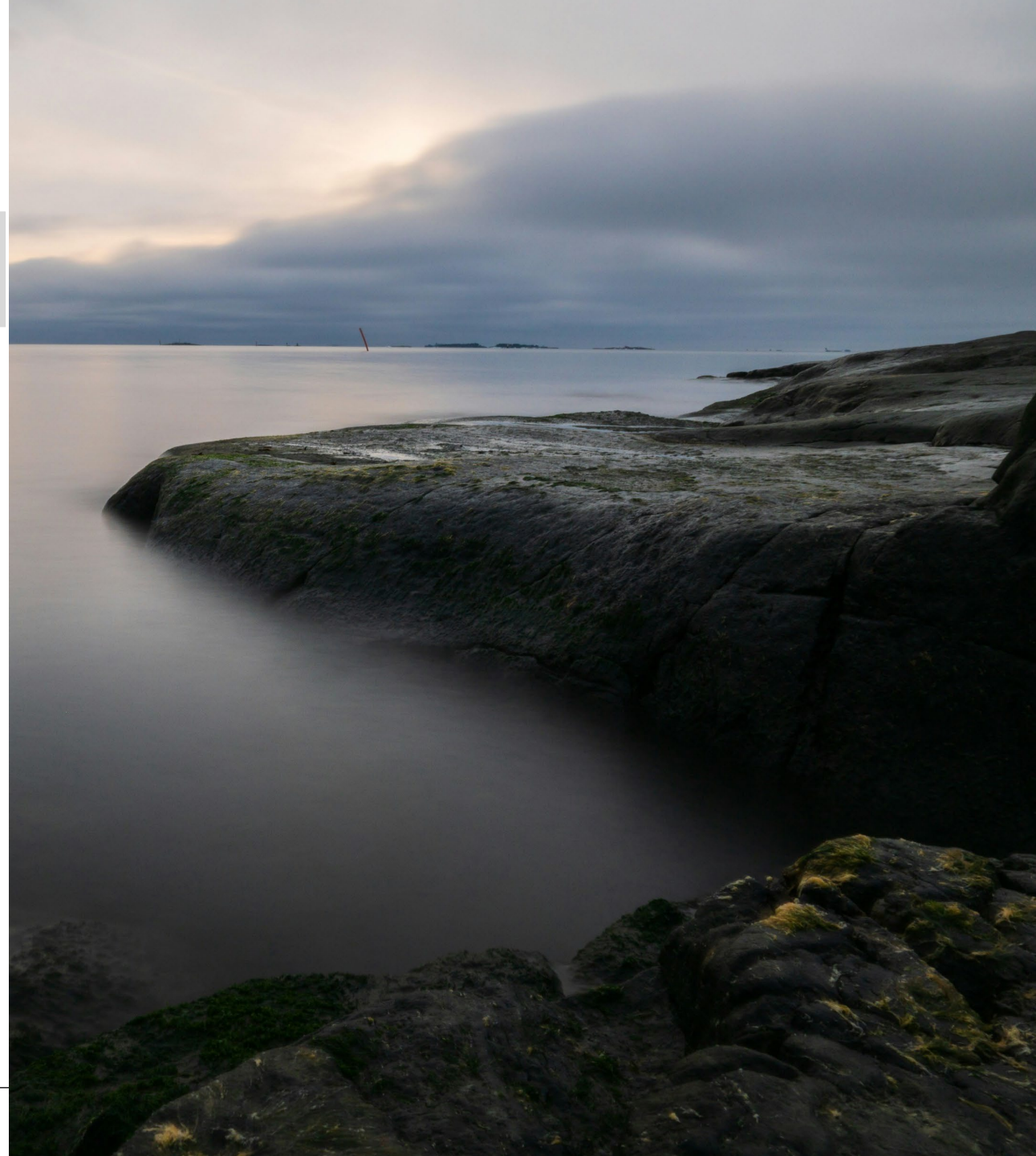
Agenda

- Summary
- Scope and definitions
- Cleantech firms in Finland
- Funding environment
- Investor landscape
- Nordic comparison
- Appendix



The cleantech industry in Finland is developing rapidly, and there's a growing need for bigger investments to support firms to reach the next stage

Executive summary

- **Background:** In this study, we have studied Finnish startups and scaleups in the cleantech industry and evaluated the funding dynamics of venture capital investments behind them. We have leveraged HolonIQ's Global ClimateTech taxonomy, mapping companies into 10 distinct categories considering e.g. the business models, technologies and relationships among the ecosystem companies. Study is extension to Nordic Cleantech study.
- **Rapid Development:** The cleantech industry in Finland is developing rapidly, showing double-digit growth figures – revenue increased by 38% and employee count by 31% CAGR from 2018 to 2022.
- **Declining New Companies:** An observation consistent with our previous studies e.g. in Deep Tech and Health Tech is that the number of new companies founded has been declining over the past few years.
- **Innovation and Growth:** Innovation takes time, and most companies are still in the early growth stages. Based on our analysis, there is a solid foundation for future development with many early-stage firms currently scaling up their innovations.
- **Investment Volumes:** Annual cleantech investment volumes vary significantly year by year due to the timing of larger investment rounds, with a single round potentially accounting for 50% of annual volumes. However, there is a stable underlying investment volume and an upward trend across a broader range of companies.
- **Early-Stage Investments:** In early-stage investments, Finnish capital markets seem to function well. However, for larger investment rounds, companies must rely heavily on foreign investors, and these rounds take more time to secure compared to other Nordic countries.
- **Industrial Scale-Up Investments**: There is growing need for bigger investments as companies are maturing to next growth stage. These investments are used for first-of-a-kind facilities and requires close cooperation between public and private investors.

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Study fundamentals

Background and objectives

- Our mission is to enhance the transparency of the cleantech ecosystem by fostering collaboration among an increasingly diverse group of market participants, thereby creating a comprehensive perspective.
- In May 2024, we published a report on Nordic cleantech companies and investors together with 6 partner organizations; the Nordic study and the work behind it acts as the backbone of this Finland-focused report. When crafting this report, some Nordic figures have also been updated with the latest financial reports.
- The primary goal of the research is to create a fundamental understanding of the Finnish cleantech industry and see how Finland compares to our peers in Scandinavia.

Limitations

- We recognize that our study may not include all relevant companies. This is partially due to limitations in data availability – to our knowledge, there is no fully accurate and up-to-date database of cleantech firms or investors. Furthermore, the evaluation of ”cleantech” is subjective, and differences both in categorization and inclusion/exclusion between our study and others’ are likely.
- The data used for this study has been collected from several databases (listed in the appendix) and by the local market knowledge of us and our Nordic partners. Slight deviations in definitions between the sources are possible, data utilized may be incomplete or faulty, and in cases where data is not available, we have given a rough estimate.
- Financial information for smaller Danish companies is limited, lowering the comparability in financials between the countries.
- For this study, we have used both Tesi’s proprietary data model, and the Nordic cleantech database built for the Nordic study. These complementary sources provide a wide variety of data but are not fully comparable due to partially different primary sources.

We have analysed cleantech-focused startup and growth companies headquartered in Finland

Inclusion criteria for company analysis

Growth companies

VC funding received between 2018-24

or

Over 10 FTEs, and >20% CAGR in sales or FTE count

Manual adjustments for most relevant companies not captured by above metrics

Headquartered in Finland

Standalone firm or mother company with headquarters in Finland.

Focused on cleantech

- The company has an emissions-focused or net zero–focused strategy
- The company addresses a challenge area or lever of critical importance to reaching net zero
- The company demonstrates innovation or use of technology

Active company with financial data available

We have leveraged a wide number of company and transaction databases to identify relevant companies active today; see appendix for detailed sources.

Note: The study was conducted using the same inclusion criteria as in our Cleantech in the Nordics study, but the scope has been limited to Finland.

The categorization used in this study is based on HolonIQ's Climate Tech taxonomy, which splits cleantech/climatetech into 10 distinct categories

HolonIQ Global Climate Tech Landscape 1.0 Taxonomy

Category	Renewables	Resources	Storage	Biosphere	Agriculture + Food	Circular Economy	Carbon Markets	Data + Finance	Built Environment	Mobility
Description	Technologies and systems for generating energy from renewable sources	Management and conservation of natural resources	Solutions for storing energy sustainably, particularly from renewable sources	Preservation and restoration of ecosystems and biodiversity	Innovations in agriculture and food production to reduce environmental impact	Systems designed to eliminate waste and continuously reuse resources	Carbon capture and trading of carbon emission allowances to incentivize reduction of greenhouse gases	Data and financial services to support climate initiatives	Sustainable construction and infrastructure development	Transportation solutions that minimize ecological footprint
Sub-categories	• Solar • Wind • Hydro • Geothermal • Biomass	• Hydrogen • Nuclear • Minerals • Oil Transition • Gas Transition	• Batteries • Alternative, Grids • EV Charging • P2P	• Land • Forests • Oceans • Ice and Snow • Air	• Smart Farming • Crops • Livestock • Meat + Seafood • Dairy + Egg	• Materials • Recycling • Solid Waste • Water Waste • Textiles	• Carbon Capture and Storage • B2B/B2C Offsets • Carbon Intelligence	• IoT • Climate Data • Climate Finance • Climate Risk • Insurance	• Design and constr'n • Heating and Cooling • Residential • Commercial • Transport Infra	• Micro Mobility • Vehicles • Trains, Boats and Ships • Aircraft
Example firms	BIOGASOL	GASERA	VIRTA	arbonaut	ODDLY GOOD	BETOLAR	puro.earth	KELLUU	polarmatic	NORSEPOWER

Note: The company categorization is subjective, and many cleantech firms can be argued to belong to several categories.

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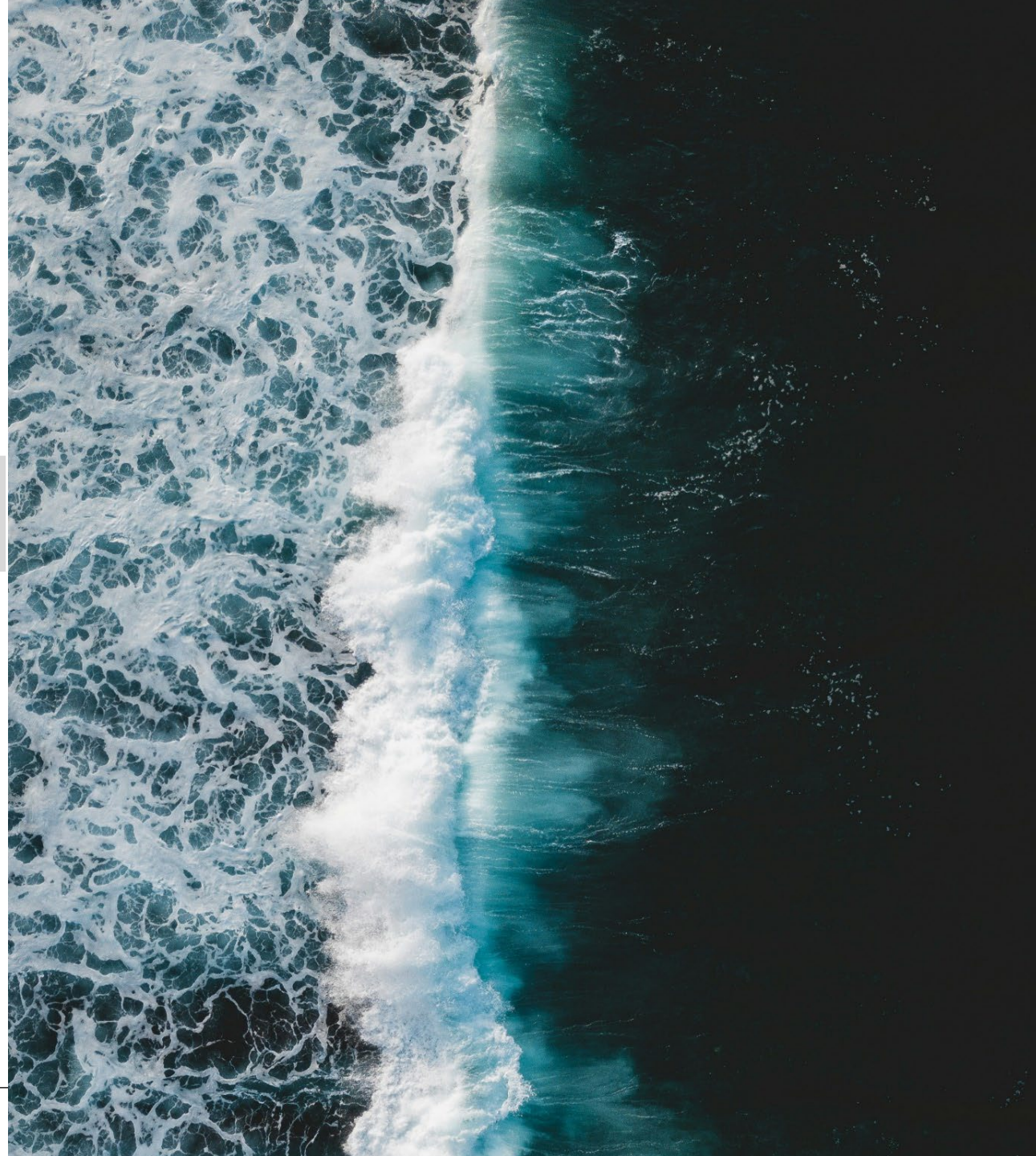


Our analysis consists of approximately 400 companies across the cleantech spectrum – sample weighted towards firms with low or no revenue

Key figures by category and revenue size group

		Renewables	Resources	Storage	Biosphere	Agr. + Food	Circular Economy	Carbon Markets	Data + Finance	Built Environment	Mobility
Sales >10 m€	Example firms	SAALASTI		VIRTA		ODDLY GOOD	Swappie		RELEX	Adapteo.	
	# of firms	1		3		1	12		3	2	
	Median sales, m€	34,1		27,8		21,4	47,2		49,4	189,4	
	Median sales CAGR, %	16,9 %		36,5 %		0,0 %	11,0 %		80,8 %	0,0 %	
	Median EBITDA, %	7,5 %		-40,2 %		-47,1 %	5,8 %		-13,5 %	20,5 %	
Sales 1-10 m€	Example firms	QHEAT	GASERA	PARKING ENERGY	arbonaut	meeat.	SULAPAC	soletair power	One Click LCA	polarmatic	NORSEPOWER
	# of firms	8	2	4	4	5	36	1	11	9	3
	Median sales, m€	1,6	2,2	5,6	4,1	3,4	2,5	1,8	1,2	6	3,1
	Median sales CAGR, %	36,4 %	7,8 %	32,9 %	11,0 %	56,4 %	30,9 %	203,6 %	26,1 %	28,9 %	47,3 %
	Median EBITDA, %	5,3 %	20,8 %	-69,8 %	-76,0 %	-32,8 %	1,6 %	-3,3 %	-51,3 %	7,1 %	-78,5 %
Sales <1 m€	Example firms	sftec	FINNO EXERGY	SENSMET	Aeromon		woodio	puro.earth	rocsole	HEAT	verge
	# of firms	9	8	16	12	11	44	12	29	14	7
	Median sales, m€	0	0,1	0,2	0,4	0,1	0,1	0,1	0,1	0,1	0
	Median sales CAGR, %	36,9 %	27,9 %	6,4 %	75,4 %	36,2 %	21,1 %	21,2 %	12,5 %	34,9 %	21,0 %
	Median EBITDA, %	1,1 %	-43,5 %	-56,1 %	-96,7 %	-219,9 %	-151,0 %	-121,7 %	-140,4 %	-113,0 %	-34,9 %
No sales data	# of firms	16	9	8	3	9	29	3	11	14	8

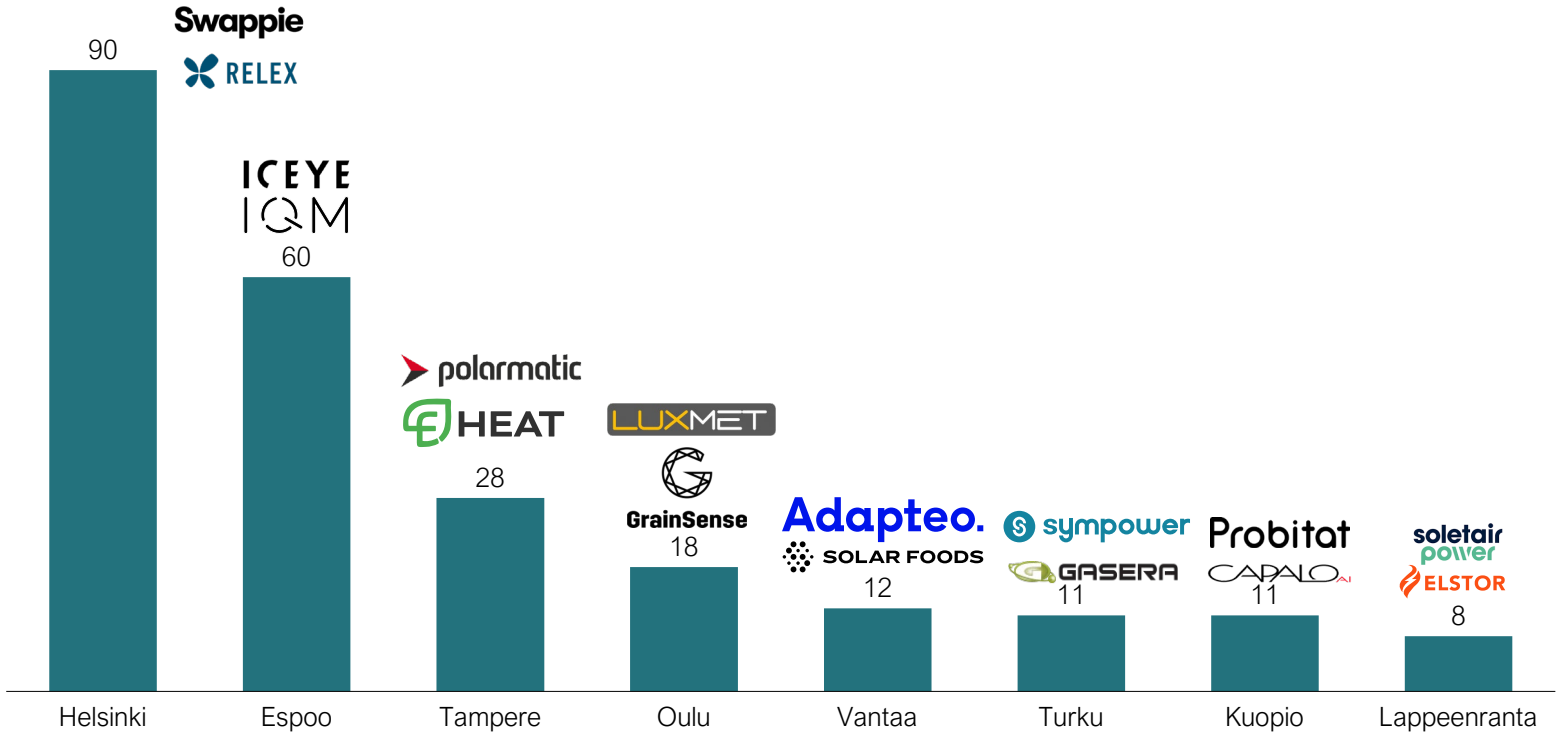
Source: Cleantech in the Nordics database
Note: Sales CAGR for 2018-22; No sales data could mean that the company either has no sales yet, or that the financial information is not available.

Cleantech companies are centered around university cities

Geographical distribution of Finnish cleantech companies

- Cleantech companies are heavily centered around the capital region, with almost half of the cleantech companies being located there.
- Cleantech companies are primarily located in larger, growing cities, often near Finland's largest universities.

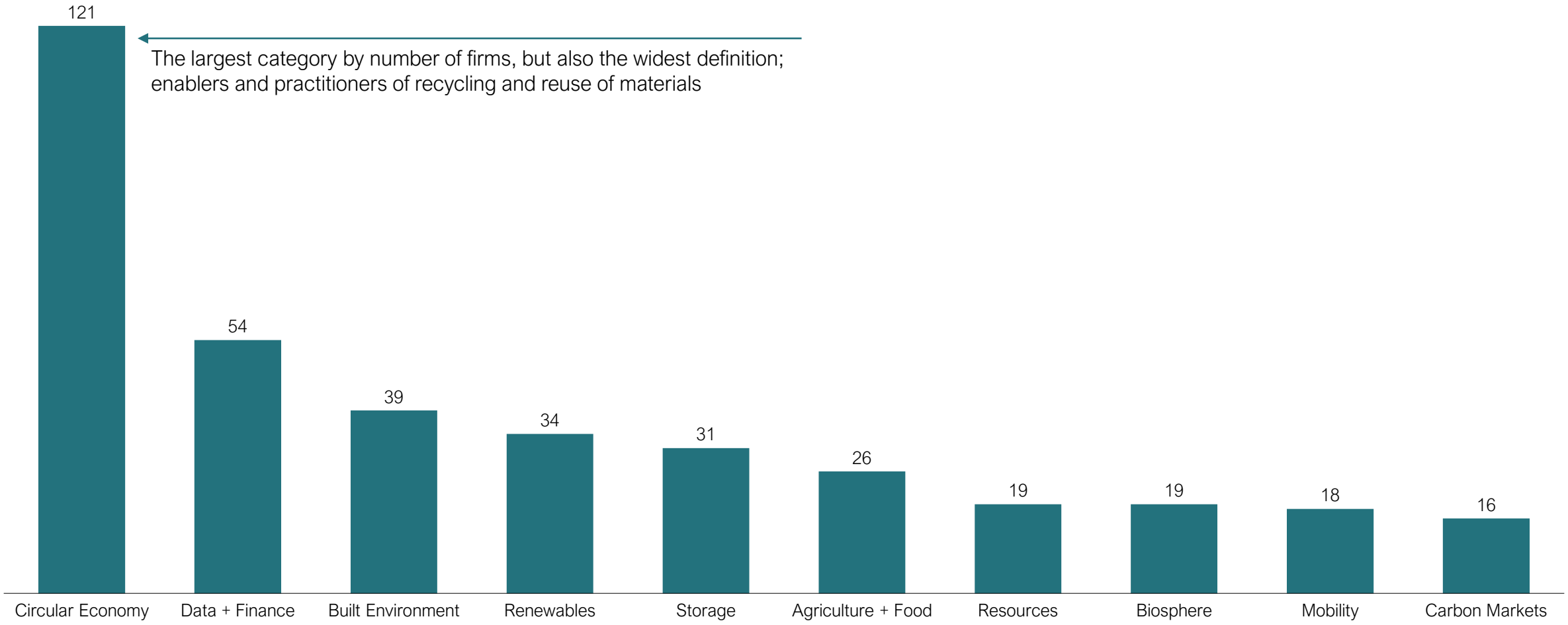
Number of cleantech companies in Finnish cities



Source: Cleantech in the Nordics database

Circular Economy is by far the largest cleantech category by number of firms

Number of companies per category

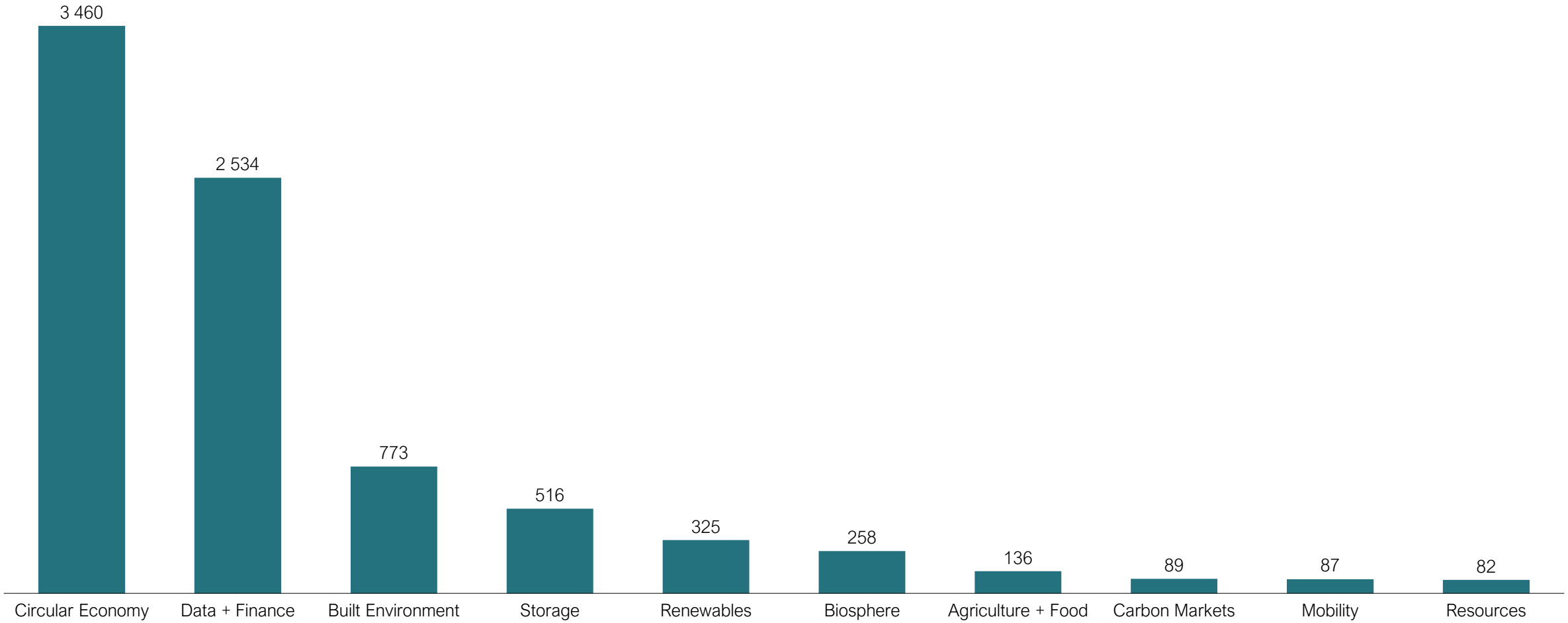


Source: Tesi proprietary data model

Circular Economy and Data + Finance companies are the largest employers

Number of employees by category

Employees, latest available data



Source: Tesi proprietary data model
Note: Figures also include the firms' employees outside Finland

The most typical cleantech growth firms are manufacturing firms within Circular Economy

Distribution of cleantech companies amongst conventional industries

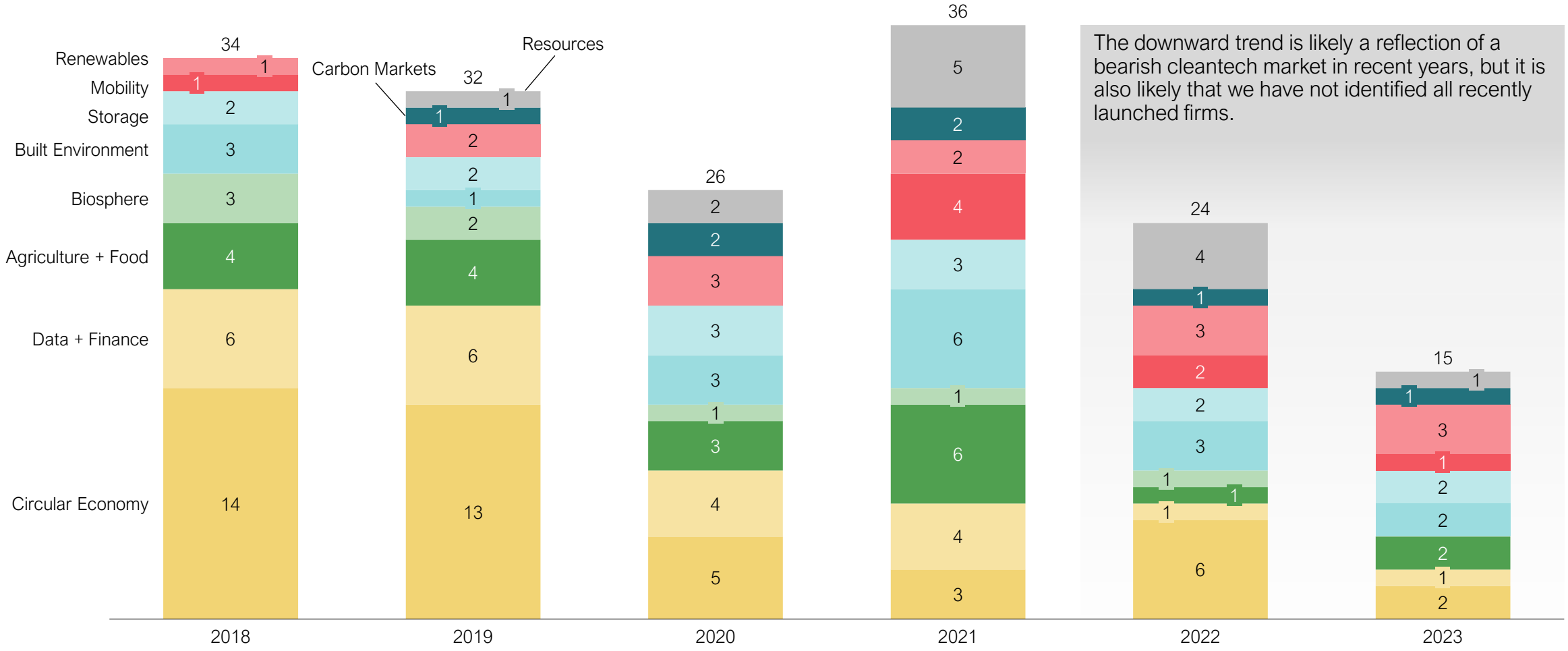
	Agriculture + Food	Biosphere	Built Environment	Carbon Markets	Circular Economy	Data + Finance	Mobility	Renewables	Resources	Storage	Total
Professional, scientific and technical services	10	6	7	6	34	15	2	9	6	9	104
Administrative and support services			1		1	1	1			1	5
Information and communication	2	3	6	1	7	26	2			8	55
Construction			4		5			1			10
Manufacturing	10	5	11	5	57	8	9	10	10	8	133
Wholesale and retail trade[1]	1	2	3		6		3	4			19
Total	**23**	**16**	**32**	**12**	**110**	**50**	**17**	**24**	**16**	**26**	**326**

Source: Tesi proprietary data model
[1] Including repair of motor vehicles and motorcycles

Relatively steady founding rate until 2021, slight decline since then

Companies by category and founding year

Count of companies, 2018-23

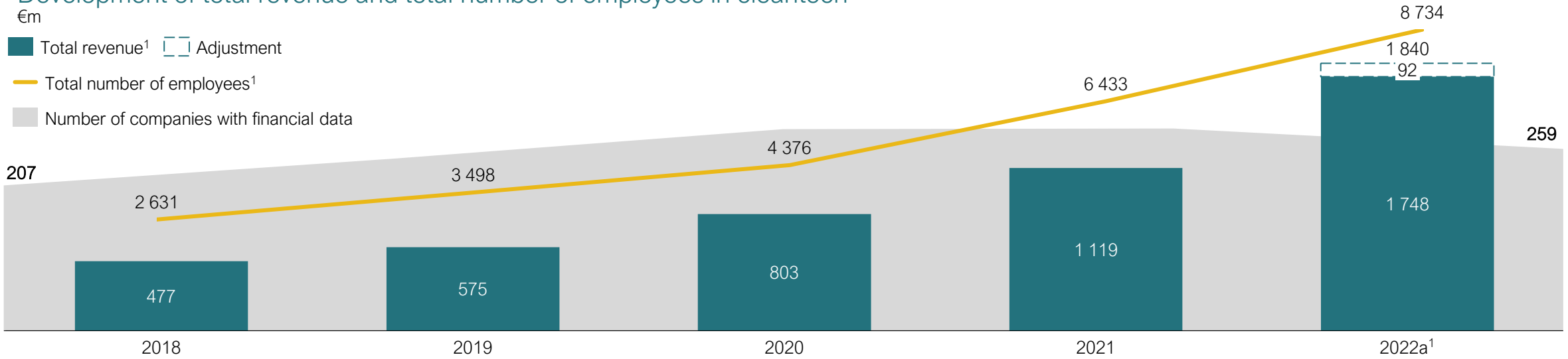


Source: Tesi proprietary data model

Note: The sample includes firms founded before 2018, but fewer due to the criterion requiring startups to have received VC funding between 2018-24.

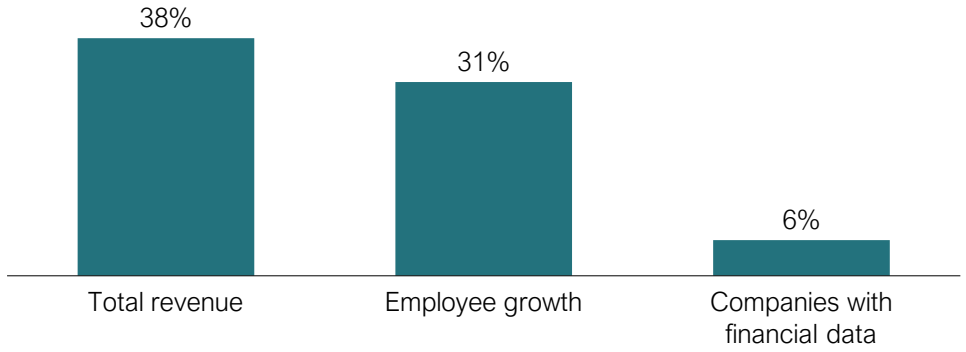
Despite the slowdown in new company foundations, the cleantech industry is booming with over 30% CAGR in both revenues and employee growth

Development of total revenue and total number of employees in cleantech



Compound annual growth rates

2018-2022



Comments

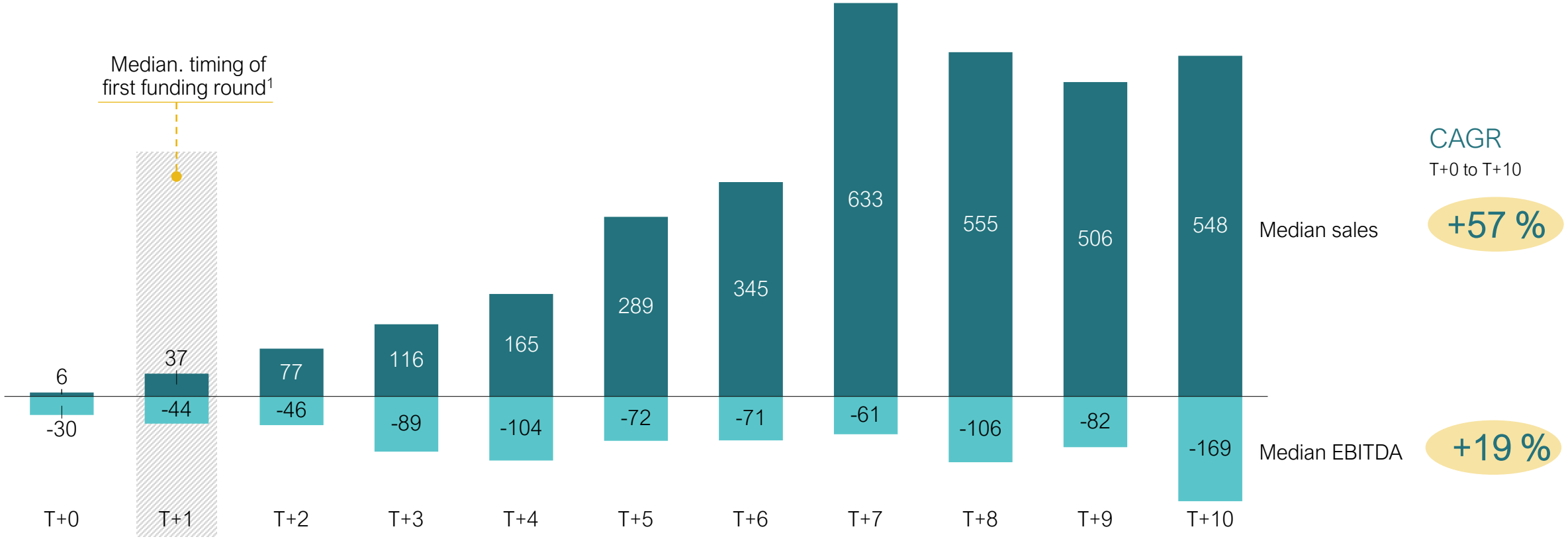
- The total revenue of cleantech companies has increased from €480 million to €1.7 billion between 2018-2022 (38% CAGR).
- The number of employees working in cleantech companies has nearly tripled between 2018-2022, growing at a 31% CAGR.

Source: Tesi proprietary data model
[1] Adjusted data by adding the 2021 revenue and number of employees for companies with data available for 2021 but not for 2022.

It generally takes cleantech companies three years for the revenue to be higher than the negative EBITDA

Median development of revenue and EBITDA

€t

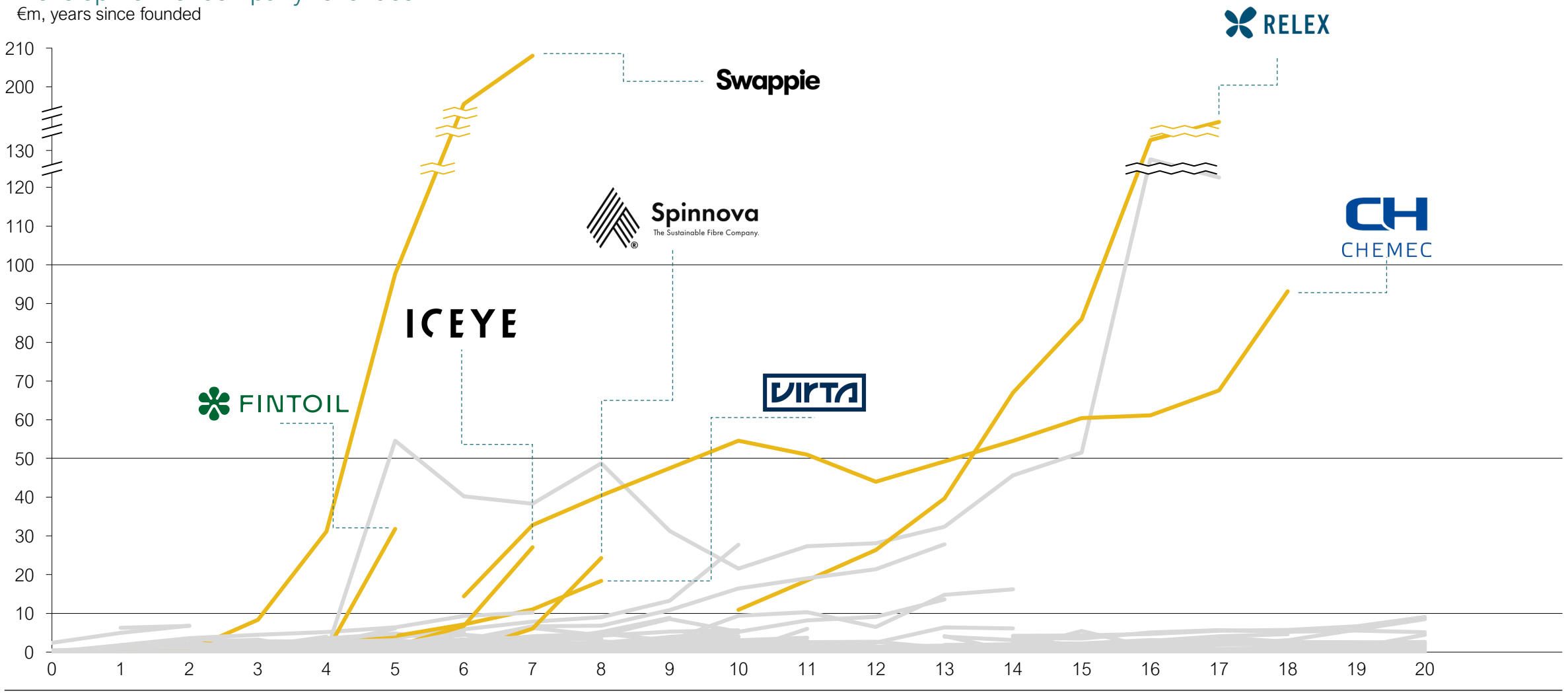


Source: Tesi proprietary data model
[1] First identified VC funding round.

Innovation takes time – most companies start scaling first after five years of founding

Development of company revenues

€m, years since founded

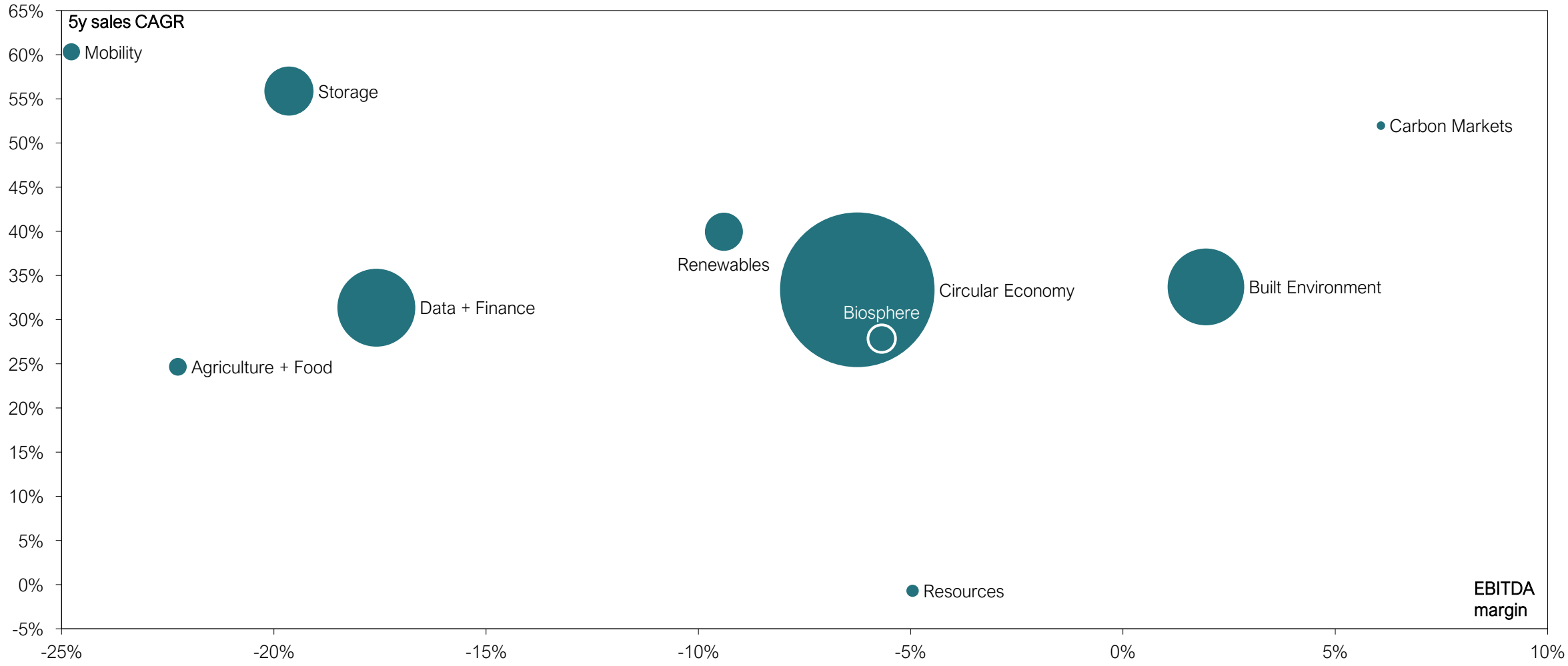


Source: Tesi proprietary data model

Growth correlated with unprofitability; Mobility and Storage quickest growers

Sales, sales development and profitability by category

Category total sales (2022), sales CAGR (2018-2022), category total EBITDA margin

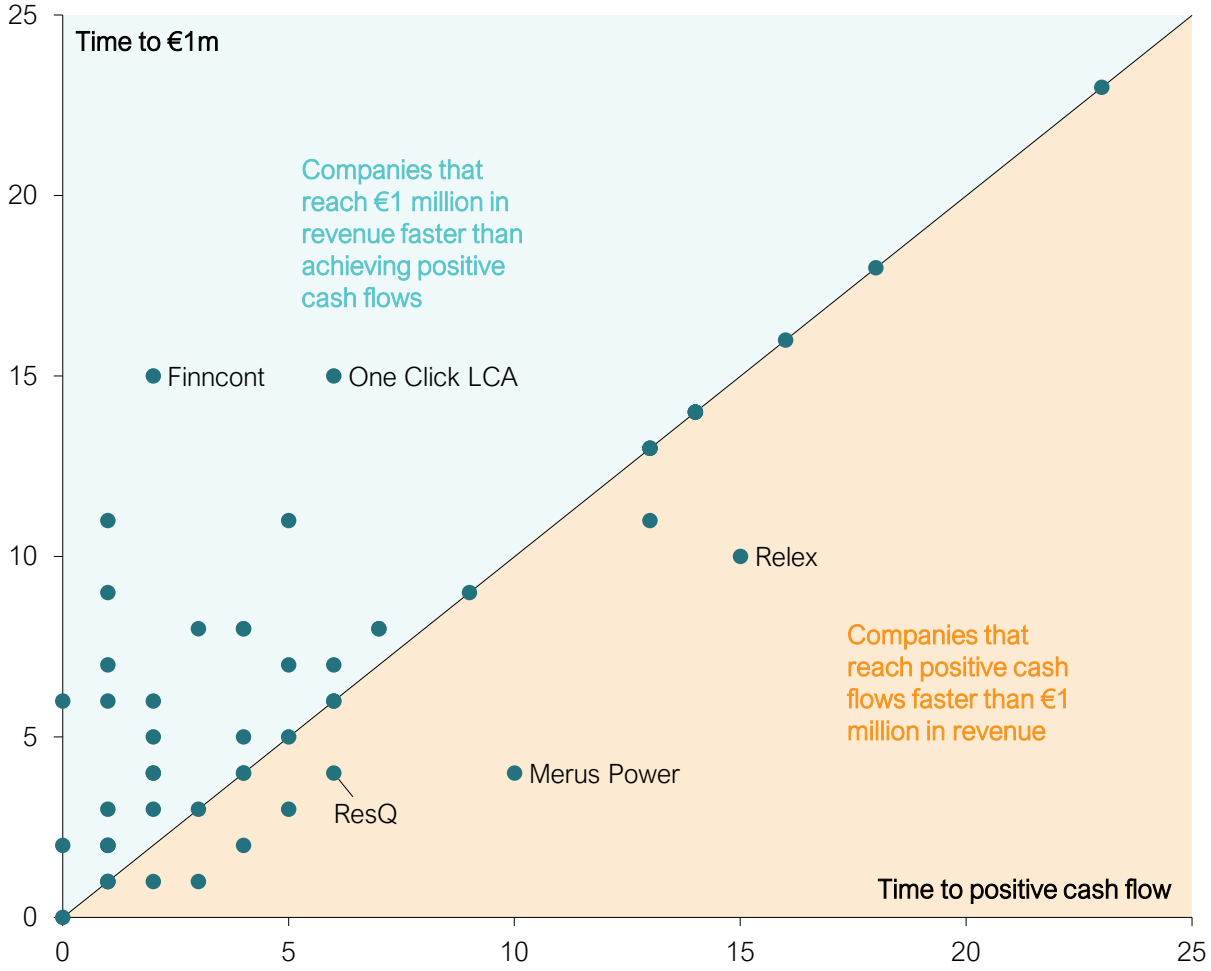


Source: Tesi proprietary data model

Cleantech companies typically achieve positive cash flows faster than reaching €1 million in revenue

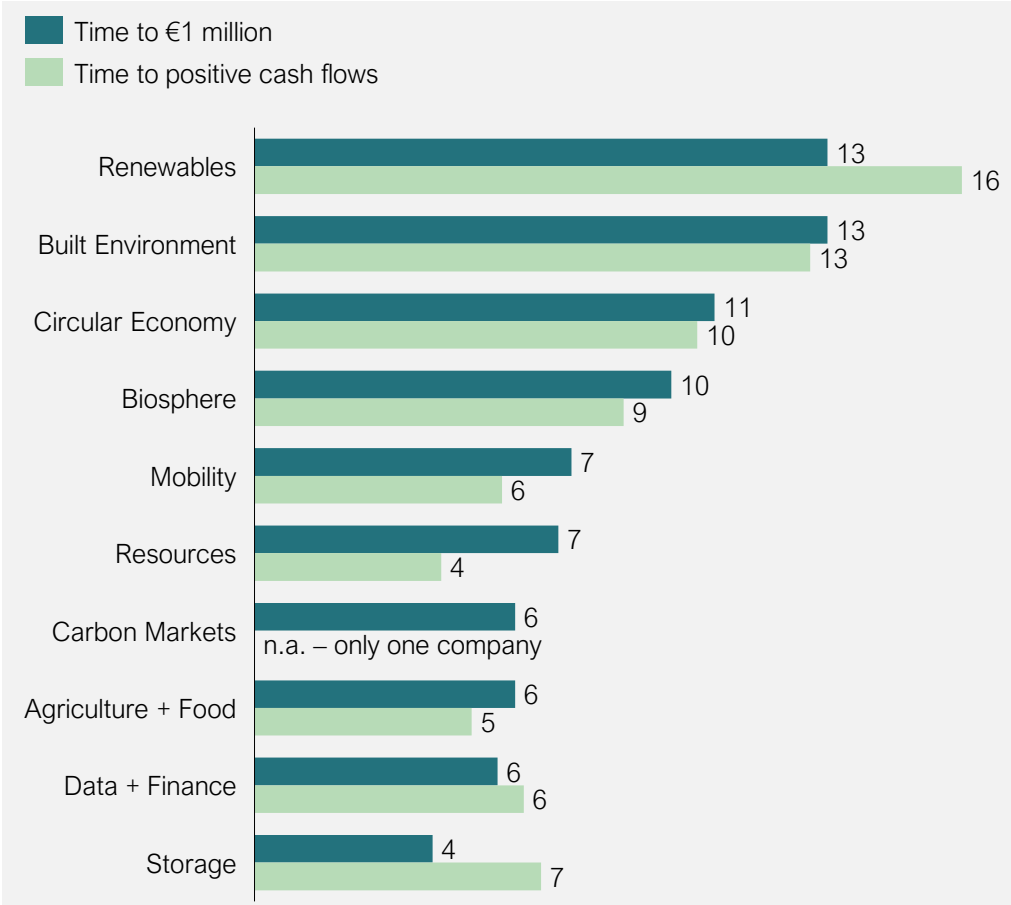
Time to €1 million in revenue and positive cash flows

Years, only companies with at least €1m in revenue and positive cash flows are accounted



Time to €1 million in revenue and positive cash flows

Years, includes companies with either at least €1m in revenue or positive cash flows[1]



Source: Tesi proprietary data model

[1] The scatter plot includes only companies with €1m and positive cash flows, while the bar chart separates those with €1m revenue and those with positive cash flows.

While the cleantech market has seen significant growth, it is still in its infancy, with a limited number of companies attaining mid or large cap levels

Cleantech size distribution development over time

Number of companies, adjusted[1]

Based on the European Commission's definitions collected by Orbis; division made by sales, balance sheet and/or employee count.

	2018	2019	2020	2021	2022
Large cap					1
Mid cap	2	2	3	7	7
Medium-sized	16	19	21	20	26
Small	39	47	57	74	87
Micro	128	150	182	185	198
Not enough data	22	28	25	3	
Total	**207**	**245**	**287**	**288**	**319**

Source: Tesi proprietary data model, European Investment Bank
[1] Companies without financial data available for 2022 assumed to remain in same size group as in 2021.

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Cleantech investments peaked in 2021-22; over 30% CAGR in the last five years

€2.4b

Invested capital between 2018-2023

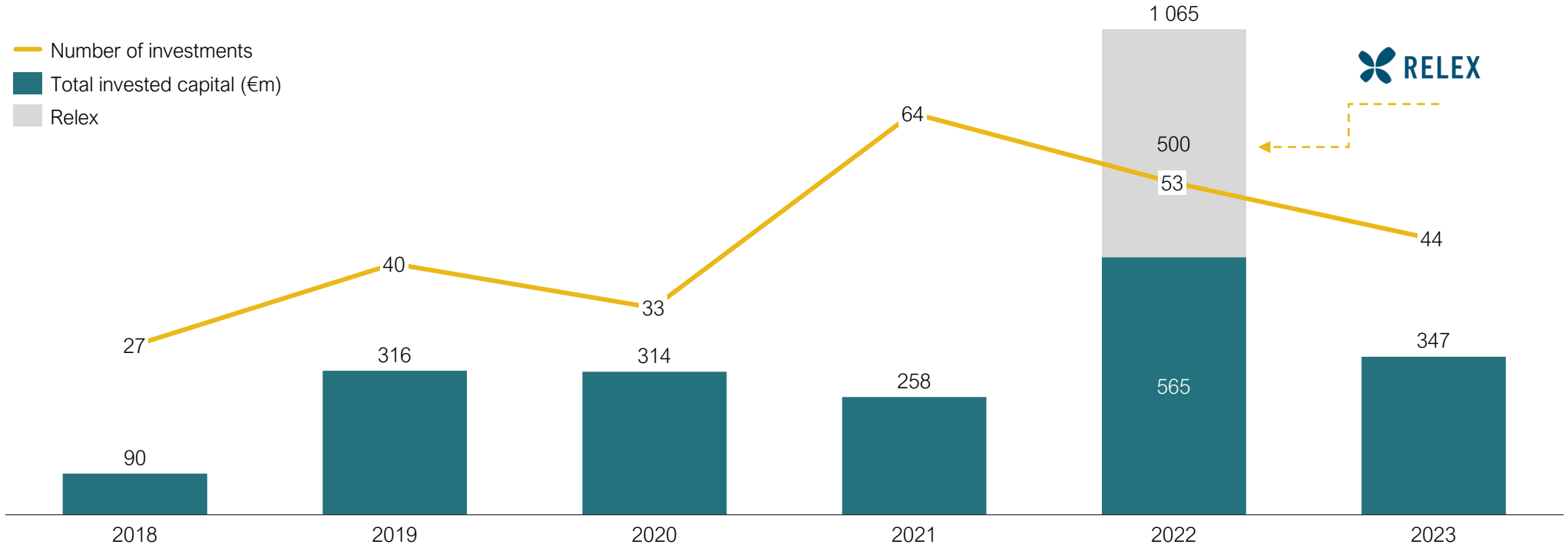
382

Investments in 170 companies

- Cleantech has grown rapidly in Finland during 2018-2023, with total invested capital growing by 31% CAGR during this period.
- The number of investments has nearly doubled since 2018.
- Large funding rounds cause large variance in yearly funding amounts. In 2022, Relex, IQM, ICEYE, and Swappie gathered €855 million in funding.

Investments[1] in cleantech companies since 2018

€m, number of companies



31%

CAGR 2018-2023

€398m

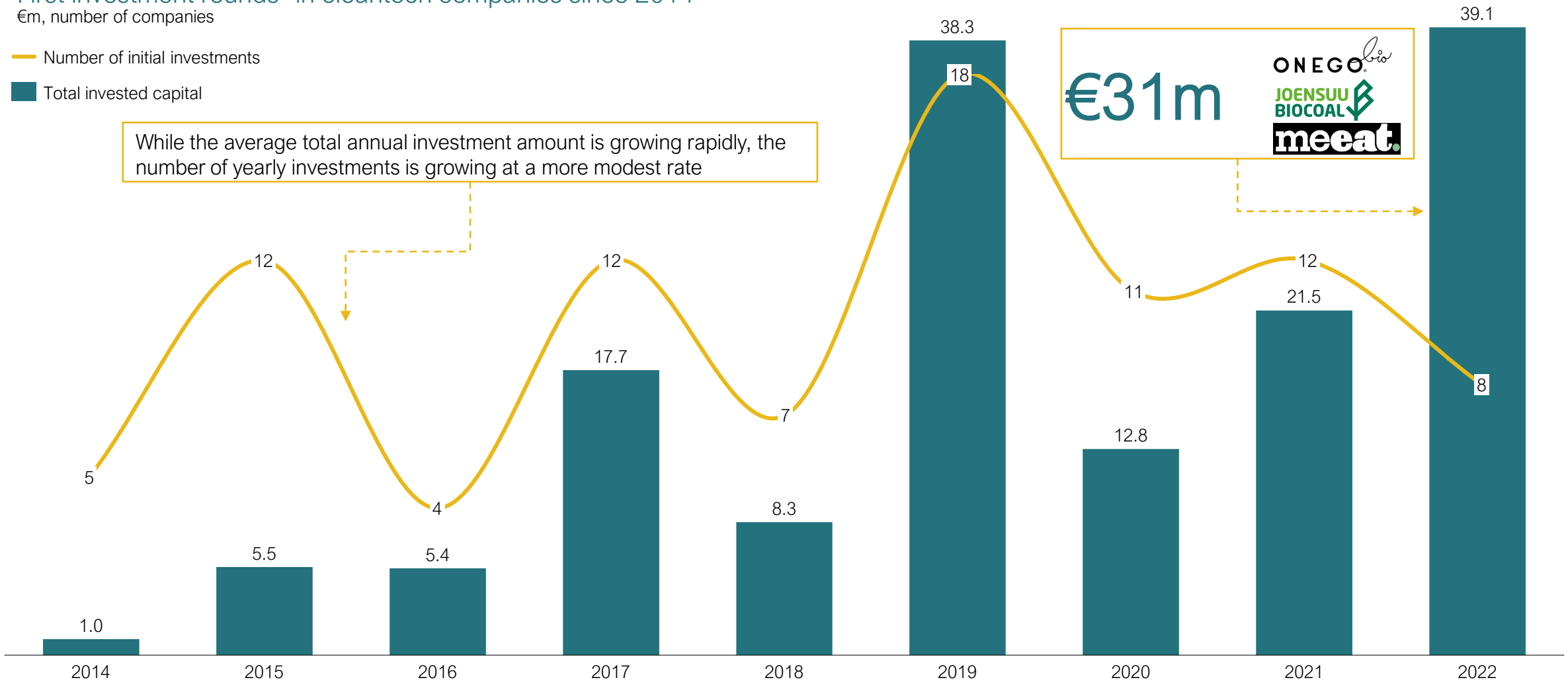
Invested yearly on average

Source: Tesi proprietary data model
[1] Private equity funding

The total investments in initial funding rounds is rising each year, with asset-heavy firms causing major fluctuations

First investment rounds[1] in cleantech companies since 2014

€m, number of companies

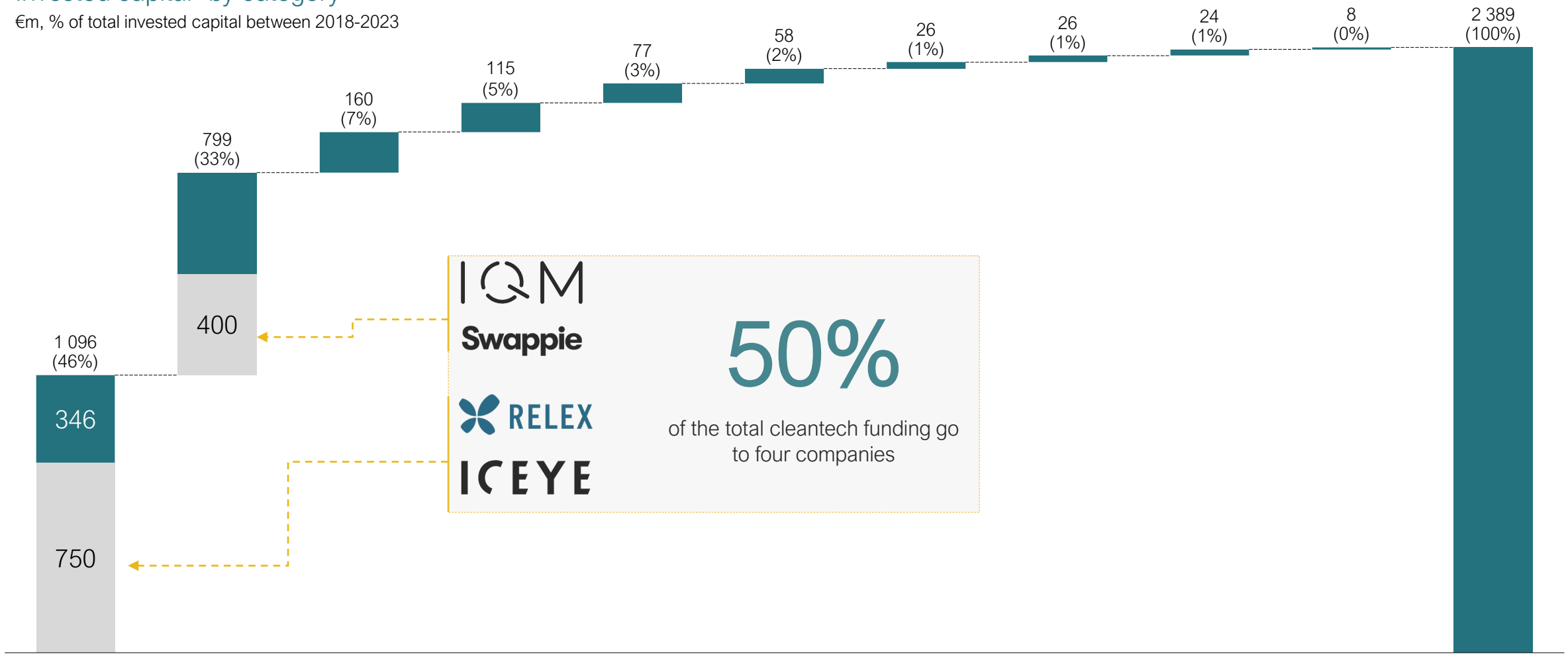


Source: Tesi proprietary data model
[1] First VC funding round

Most of the cleantech funding go to a handful of companies

Invested capital[1] by category

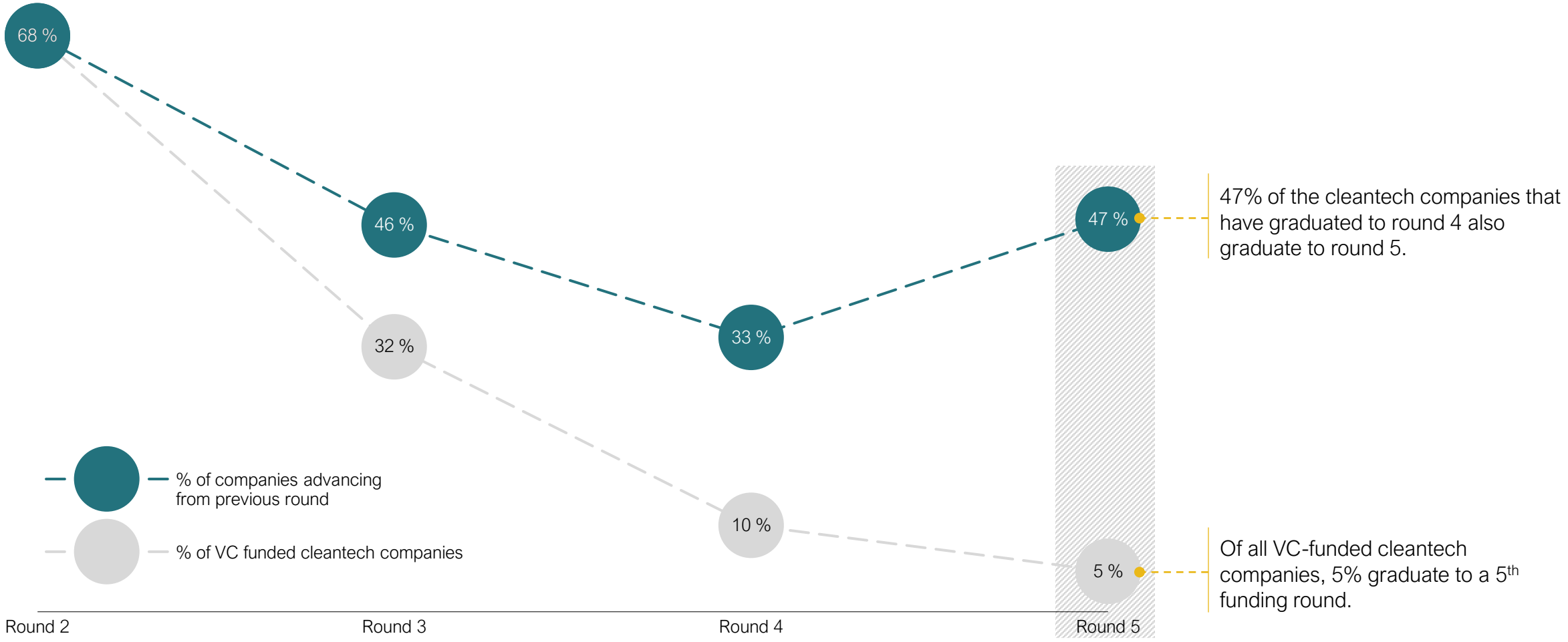
€m, % of total invested capital between 2018-2023



Source: Tesi proprietary data model
[1] Private equity funding

Over half of the cleantech firms that have received VC funding progress to the next funding round

Graduation rate analysis: the share of firms that have received VC funding receiving later financing



Source: Tesi proprietary data model

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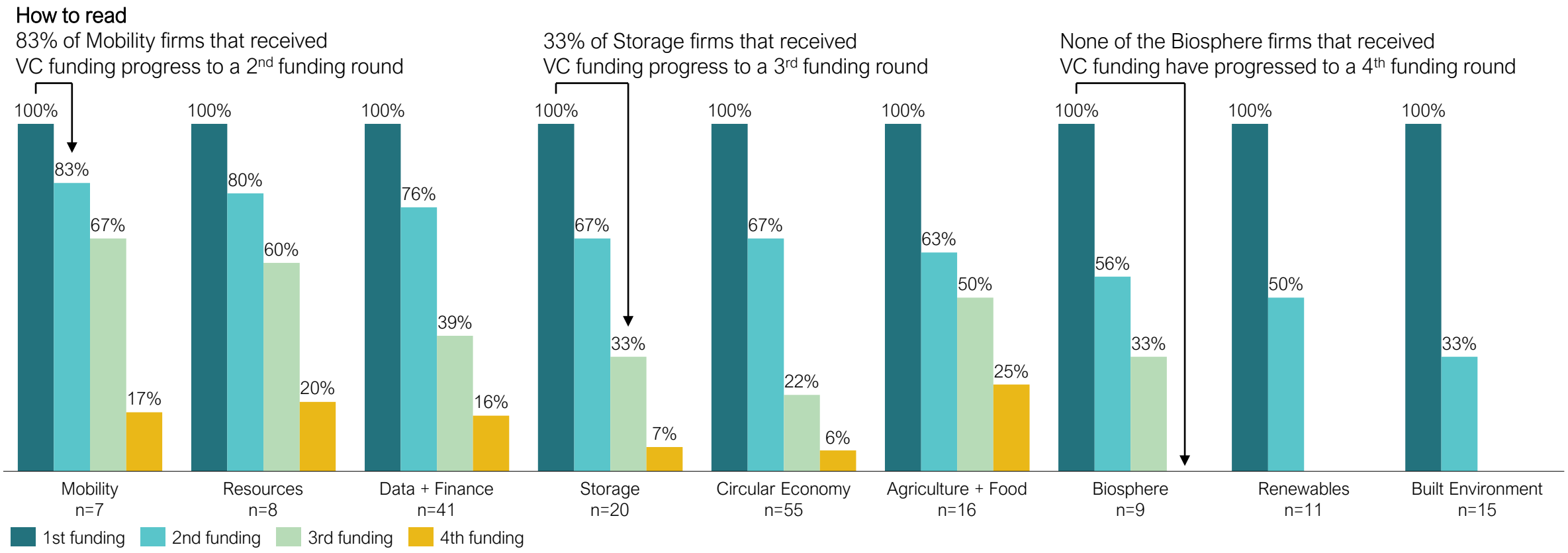
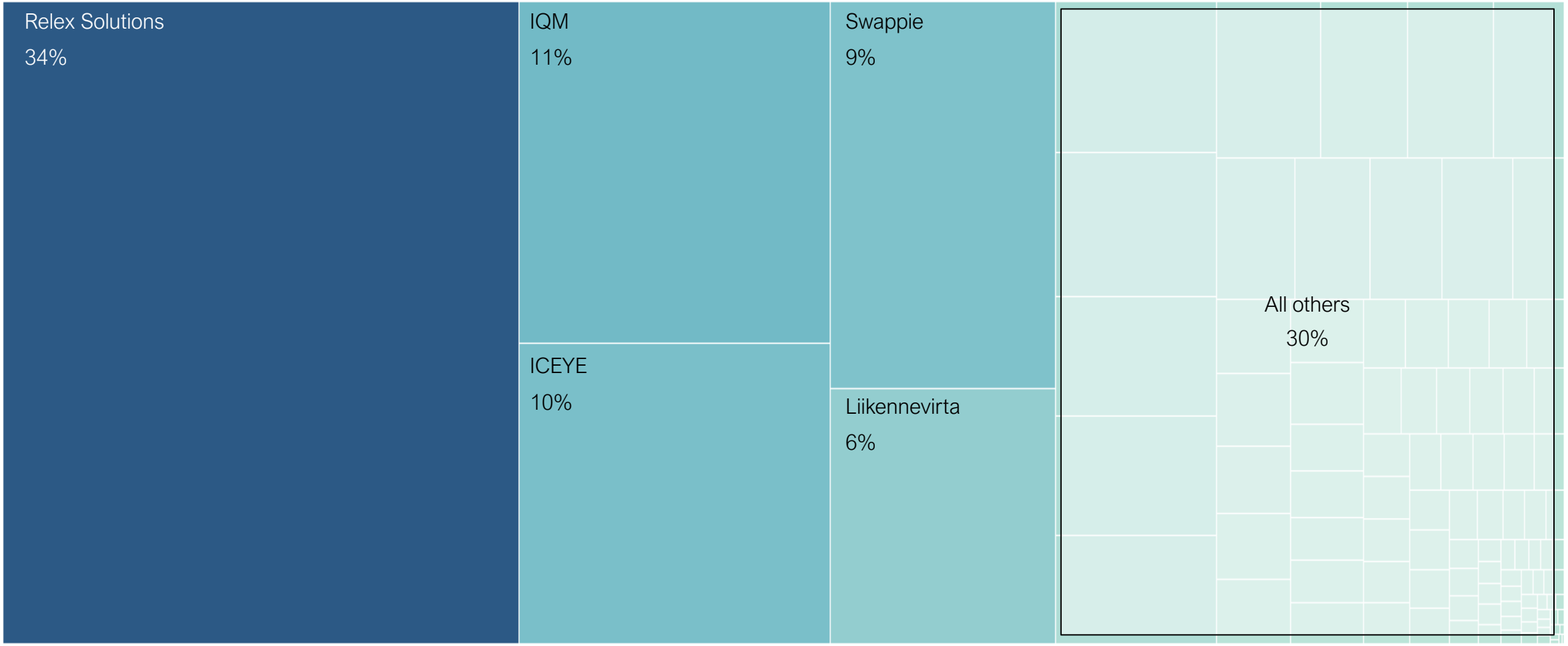


Source: Cleantech in the Nordics database
The Carbon Markets category is excluded of the graduation rate analysis, because the sample size is too small

The five largest fundraisers have collected 70% of all VC funding in recent years

Equity funding by firm

% of total identified VC funding rounds, 2018-23



Source: Cleantech in the Nordics database

80% of cleantech companies have received funding from Business Finland, with most of it going to a few high-growth outliers

290 / 370

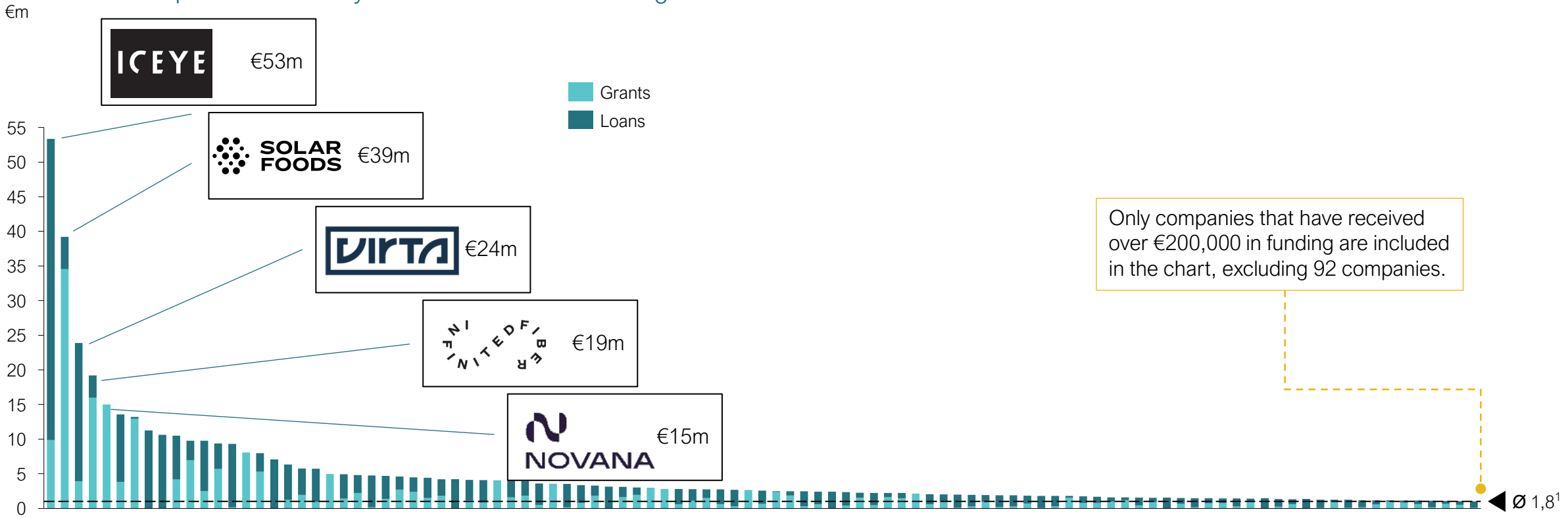
BF-Funded cleantech growth companies 2018-2023

€419m

Total funding between 2018-2023

- Business Finland is a Finnish government agency that promotes innovation and internationalization by providing R&D grants, innovation loans, and capital investments to enhance the competitiveness of Finnish enterprises.
- The amount of funding for the companies varies – 30 companies receive 60% of the total BF funding. ICEYE has received €53 million, while the median is €590,000.

Cleantech companies ranked by total amount of BF funding



Source: Tesi proprietary data model
[1] The average of the entire sample, not just the values included in the chart

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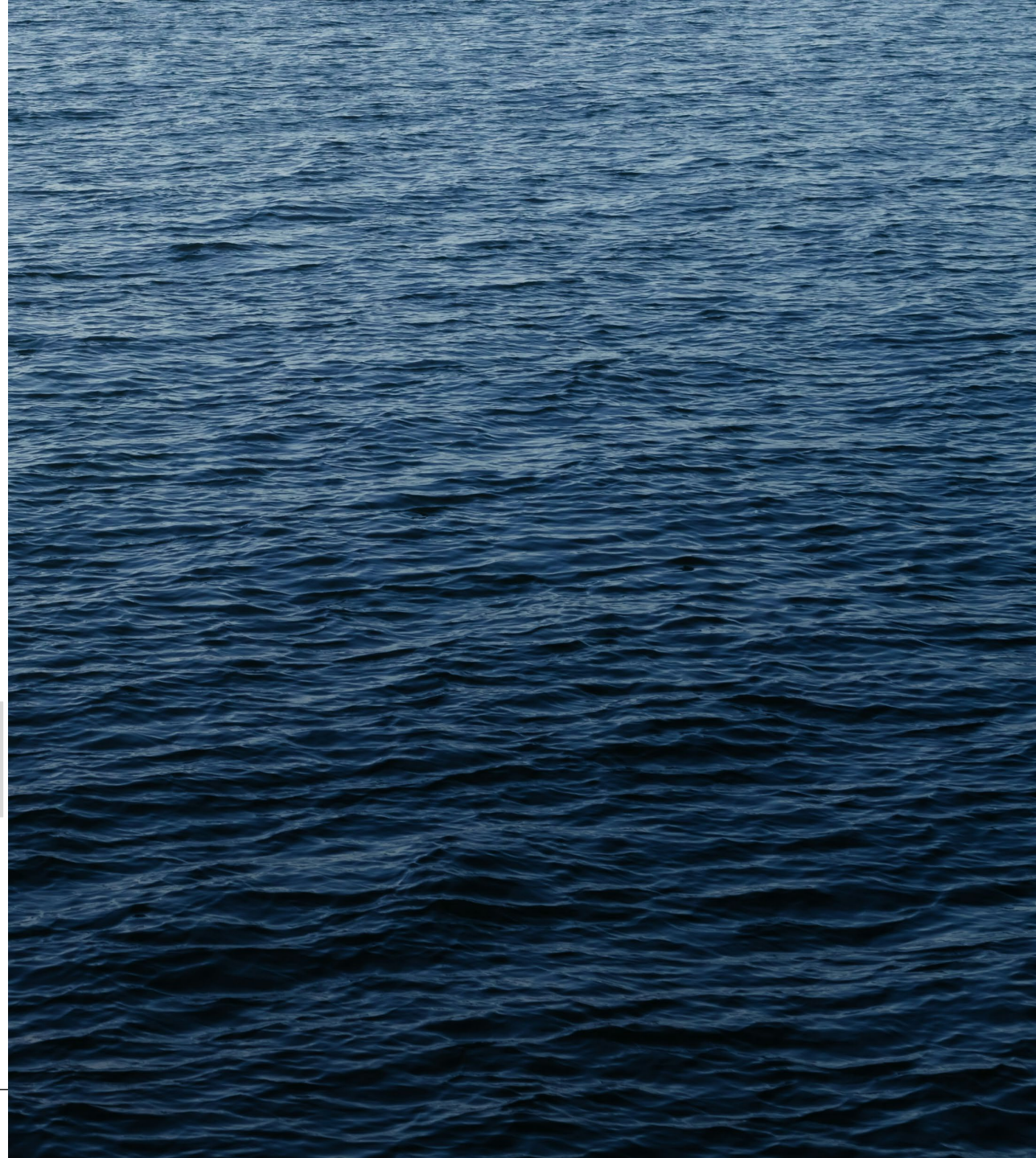
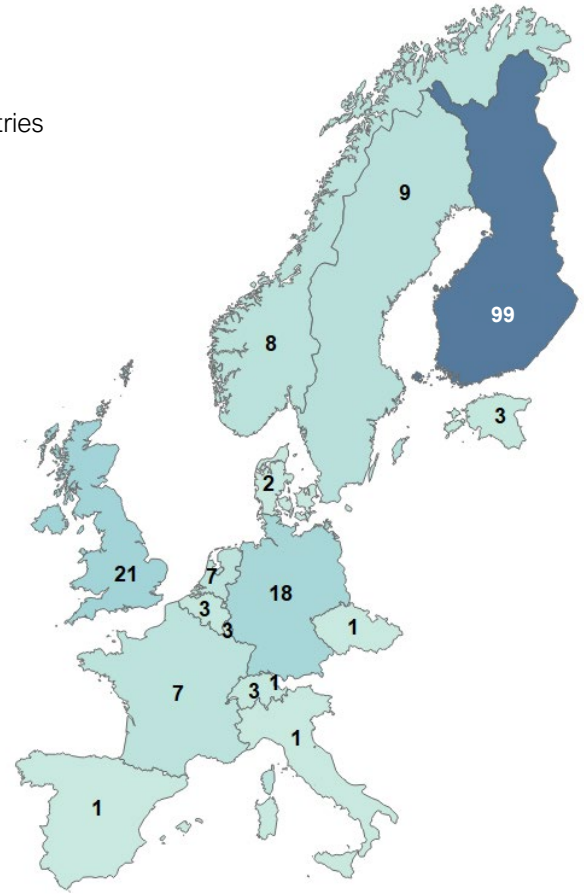


The Finnish cleantech industry is funded by a wide array of Finnish and foreign financiers

Cleantech investor summary

Investor types…	Include…	With…		Investors from…
Private Funds	Venture Capital, Growth, and Buyout funds	106[1] Investors	122 Investments	30 Different countries
Goverment	Goverment institutions	7[1] Investors	47 Investments	
CVC	Corporate venture capital, corporations	68[1] Investors	66 Investments	
Other	Family offices, Angel investors, Accelerators etc.	66[1] Investors	72 Investments	



\+ USA 29 investors

Source: Tesi Proprietary Data Model
[1] Investor data includes only transactions available on Pitchbook.

Cleantech investors comprise both specialists who focus solely on cleantech and generalist investors with a proven track record in cleantech investments

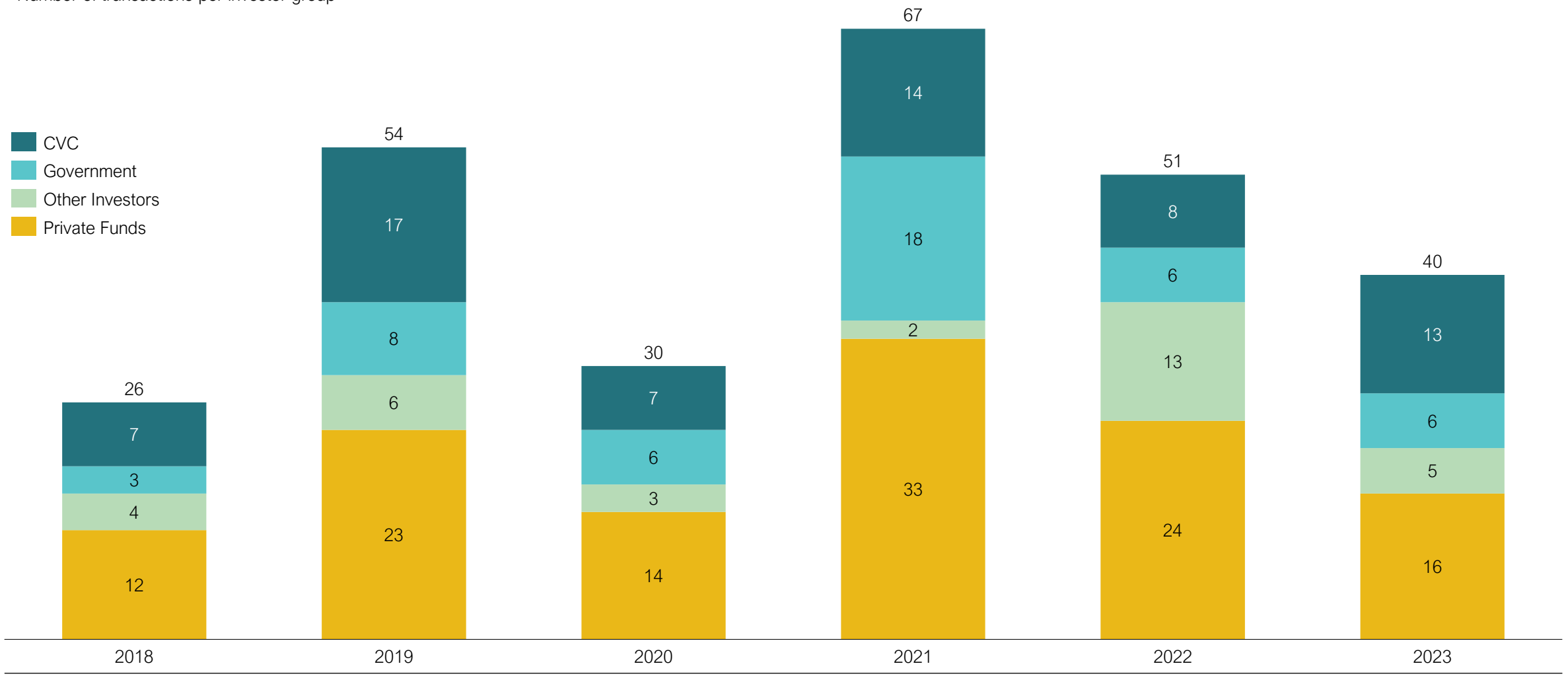
Notable investors in Finnish cleantech companies

Source: Cleantech in the Nordics database, Tesi Proprietary Data Model

Corporate VC and government investors play a crucial role in funding the cleantech ecosystem

Type of investors investing in Finnish cleantech companies

Number of transactions per investor group

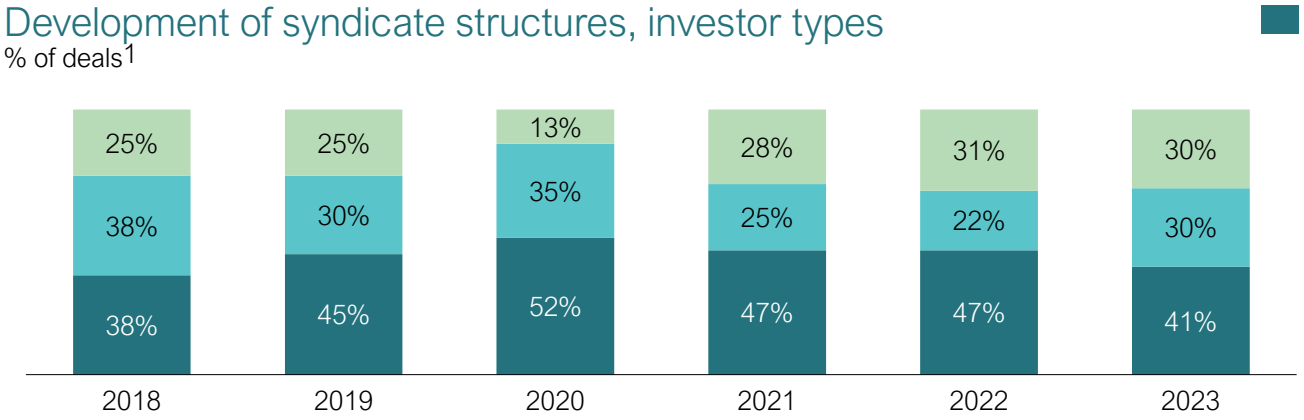


Source: Tesi proprietary data model
[1] Private equity transactions (venture capital, growth, buyout)

The role of CVC and government funding is especially notable in the early funding rounds

Development of syndicate structures, investor types

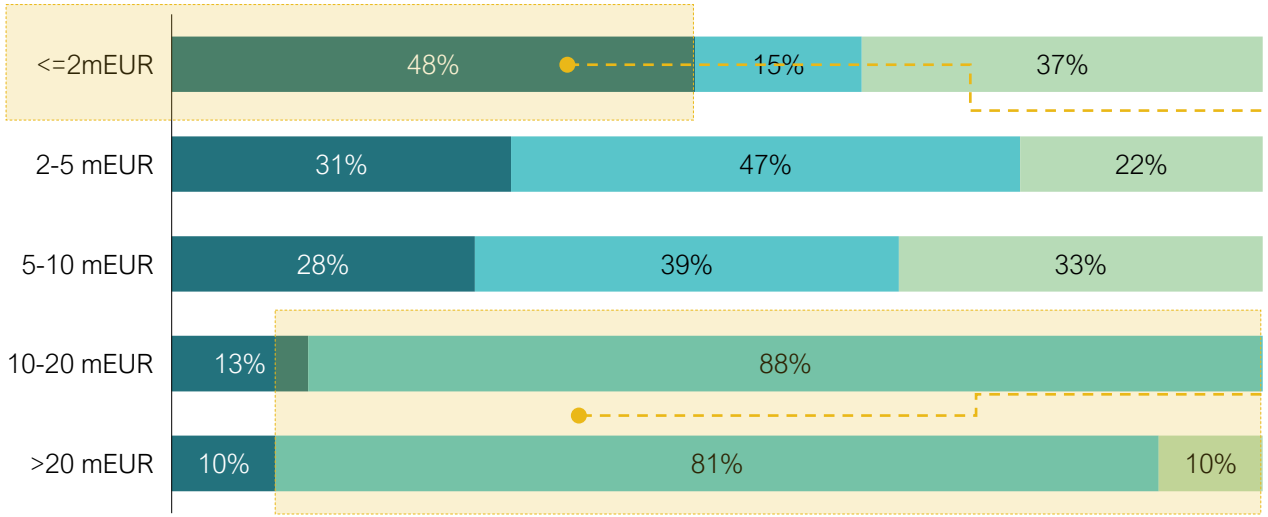
% of deals[1]



- Other investors than private funds have been the largest funding group since 2018, highlighting the need for other investor types.
- Roughly 10% of over €10 million funding rounds include only private funds.

Syndicate structures by round size

% of transactions in the deal size class



The "No private funds" category includes national and multinational entities such as EIF, Tesi, and VTT; corporate investments from companies like Wärtsilä; angel investors and accelerators; and pension funds, family offices, and other similar organizations.

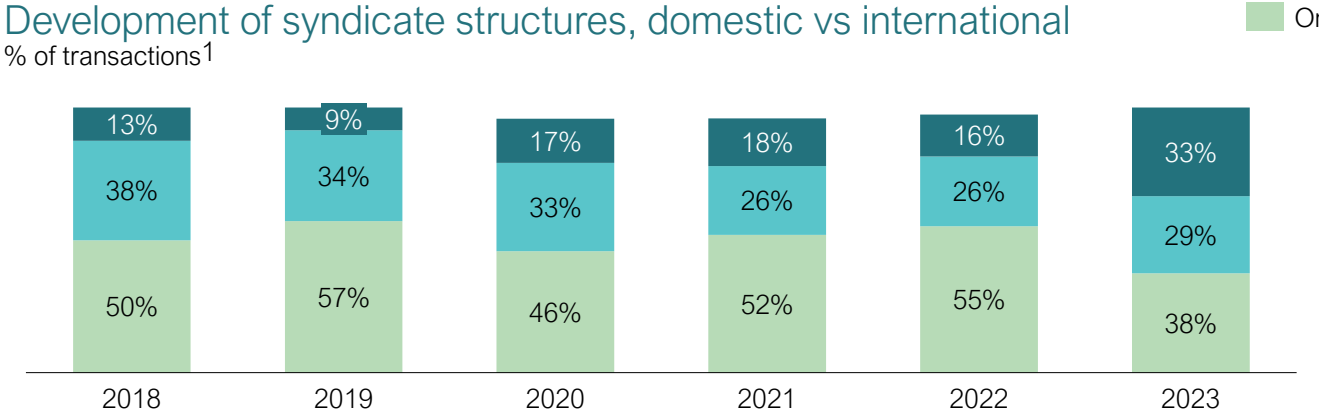
Over 80% of funding rounds exceeding €10 million involve both private equity funds and other types of investors. These include government actors, large—often foreign—corporations such as BAE Systems, Tencent, and Hennes & Mauritz, as well as pension funds.

Source: Tesi proprietary data model
[1] Private equity transactions (venture capital, growth, buyout)

The Finnish cleantech market is seeing growing contributions from foreign investors, and under 15% of larger investment rounds are funded exclusively domestically

Development of syndicate structures, domestic vs international

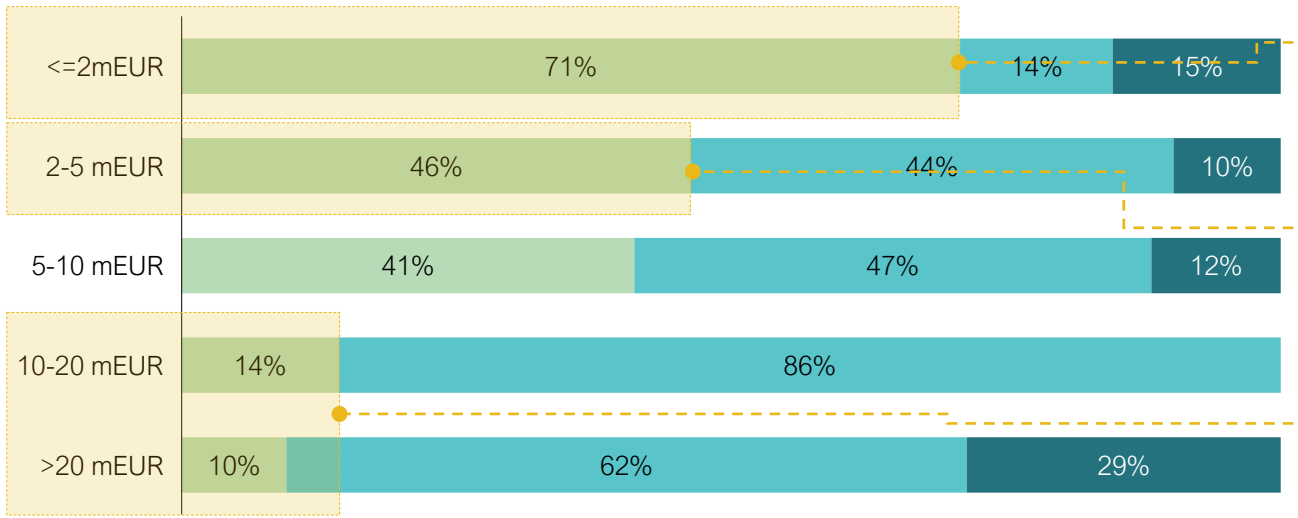
% of transactions[1]



- International investors play a significant role in the funding of Finnish cleantech companies. Since 2018, the number of purely Finnish syndicates has decreased, with an increasing number of funding rounds including foreign investors.
- Foreign investors are crucial in larger investment rounds, which in most cases involve international participation.

Syndicate structures by round size

% of transactions in the deal size class



Finnish investors are most prominent in sub €2 million funding rounds

Once the funding round size surpass €2 million euros, the syndicates are multinational in most cases.

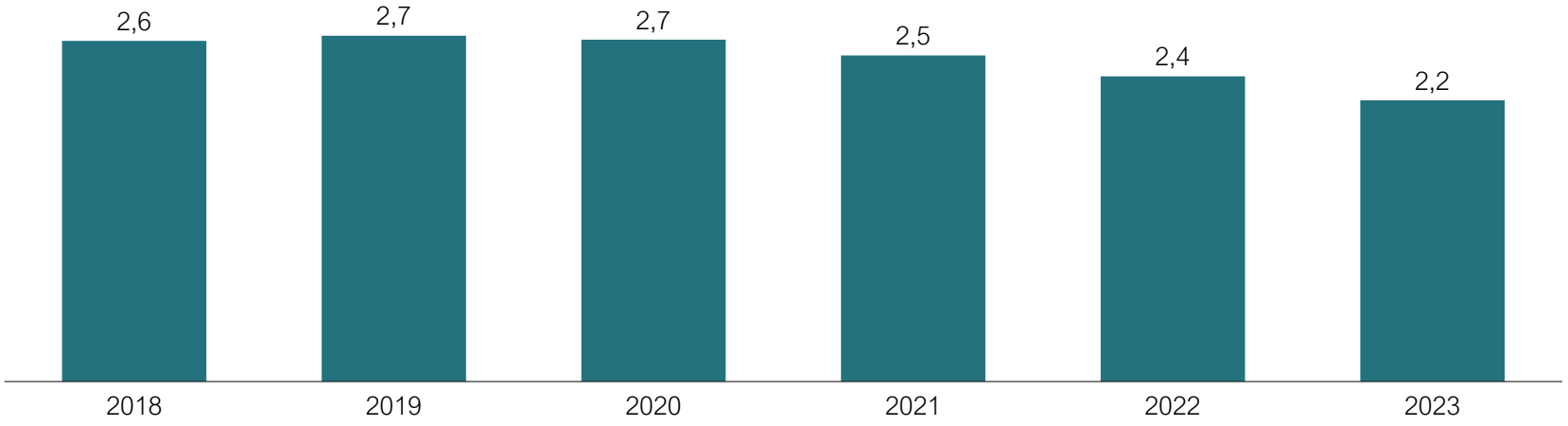
More than 85% of investment rounds above €10 million involve foreign investors.

Source: Tesi proprietary data model
[1] Private equity transactions (venture capital, growth, buyout)

The size of syndicates grows in tandem with cleantech round sizes, indicating a lack of capital for the larger rounds

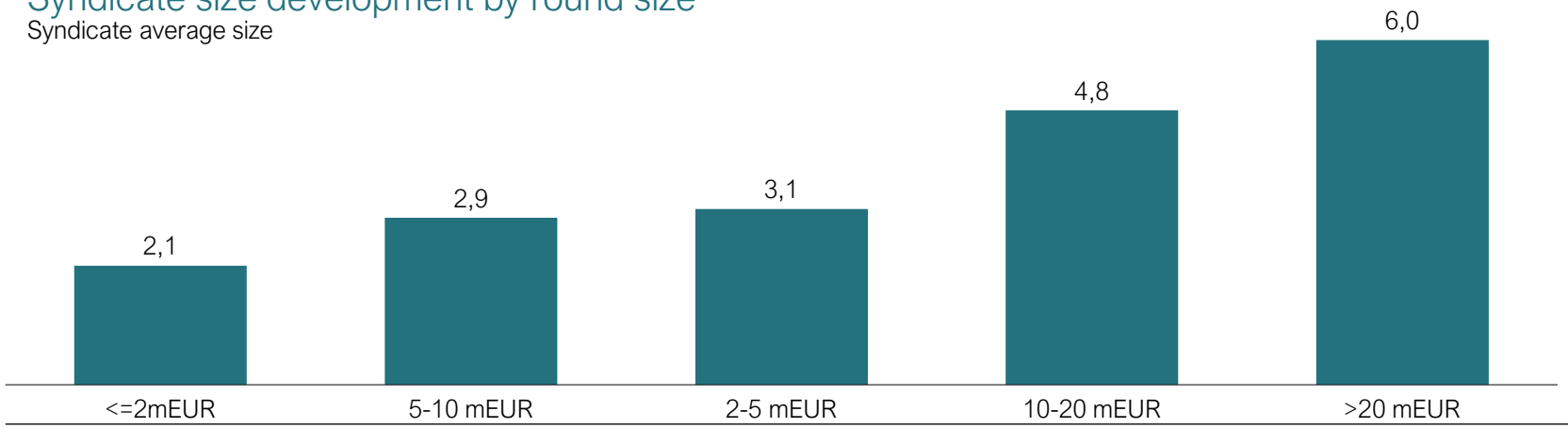
Yearly syndicate size development

Syndicate average size



Syndicate size development by round size

Syndicate average size



Comments

- The average size of syndicates has stayed relatively flat for the past six years, although a slight decline in the average size can be noticed between 2021 to 2023.
- The average syndicate size increases significantly as the round size increases. Rounds larger than €20 million have almost three times as many investors as rounds smaller than €2 million.
- The sharp increase in syndicate size as round size grows indicates that there isn't sufficient amounts of capital in the markets, leading to companies raising smaller sums from many investors.

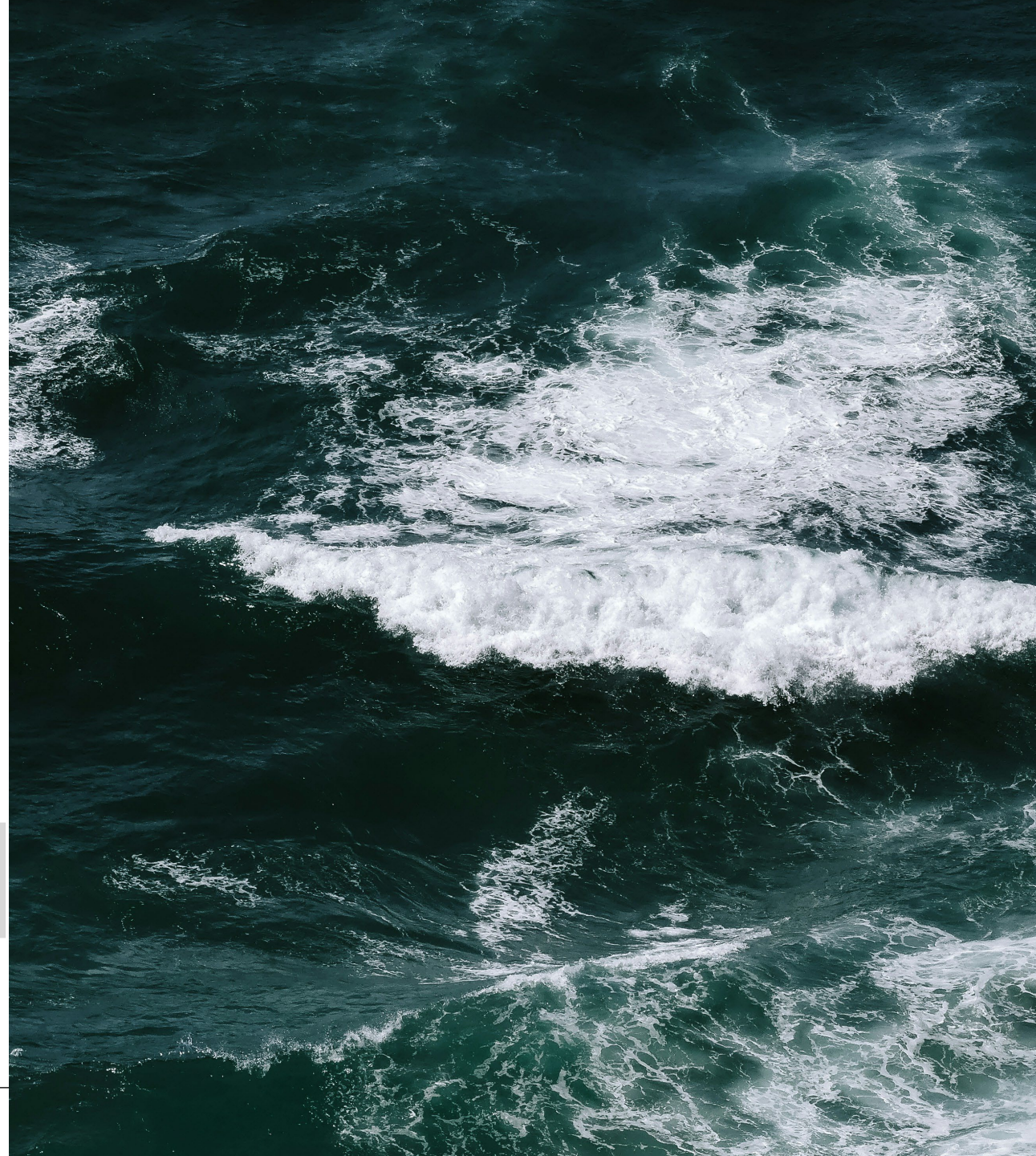
€2-3m

Is the maximum ticket size of Finnish VC funds in most cases

Source: Tesi proprietary data model

Agenda

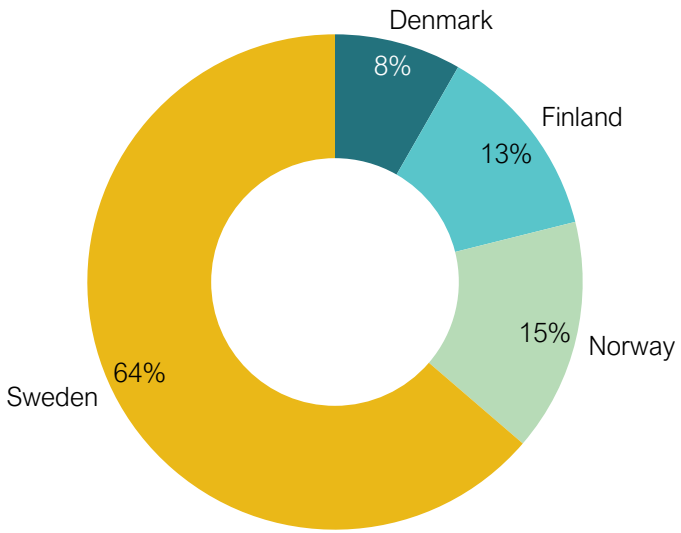
- Summary
- Scope and definitions
- Cleantech firms in Finland
- Funding environment
- Investor landscape
- Nordic comparison
- Appendix



Swedish cleantech companies have raised more funding than all other Nordic countries combined

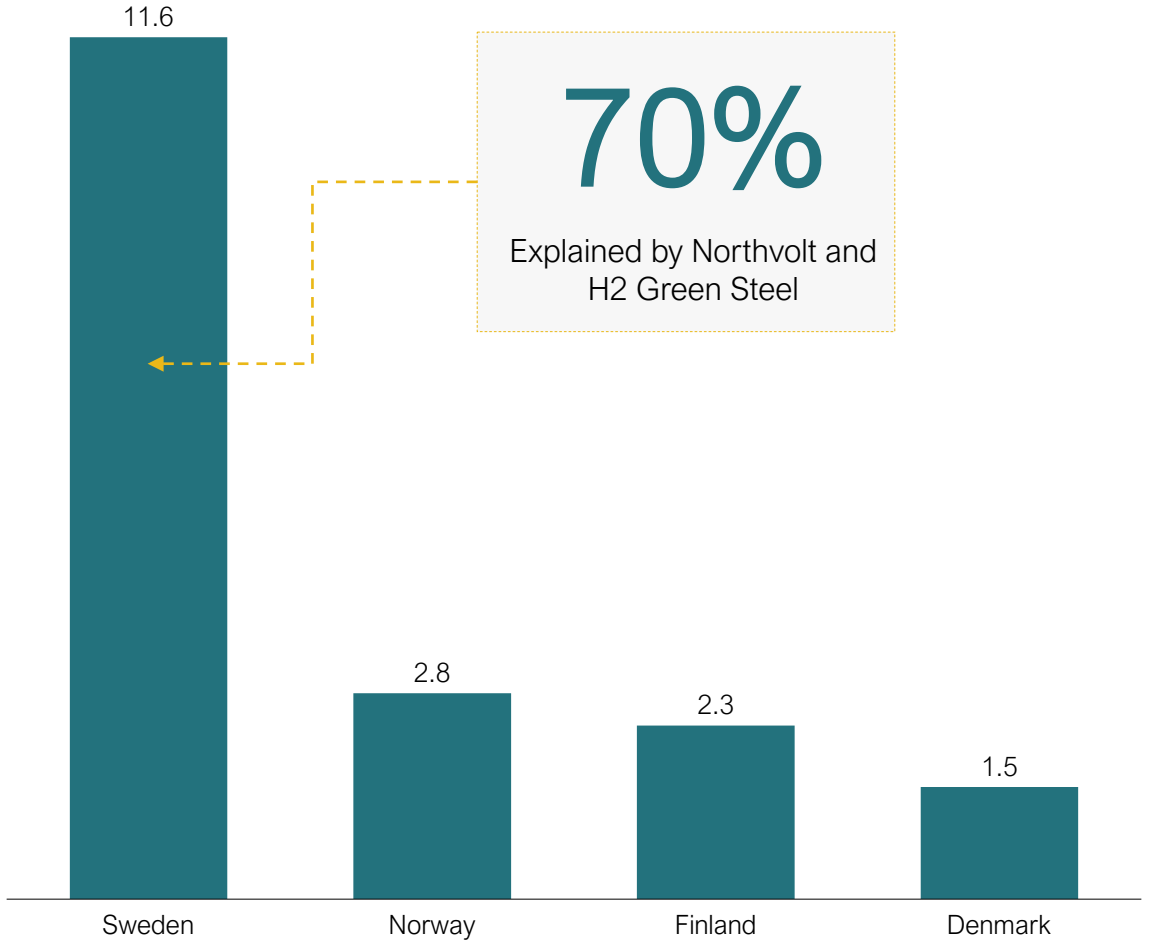
Distribution of the total cleantech funding money in the Nordics

% of total funding



Amount of funding raised per country

€b



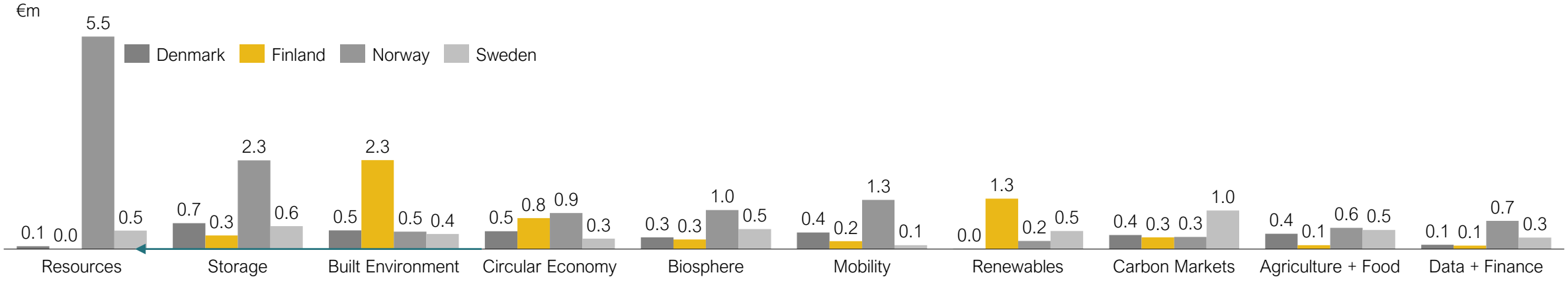
Comments

- Northvolt and H2 Green Steel alone have raised €8.3 billion from the Swedish funding.
- The funding in other countries is also heavily centered around a handful of companies. For instance, 70% of the total funding in Finland go to five companies.

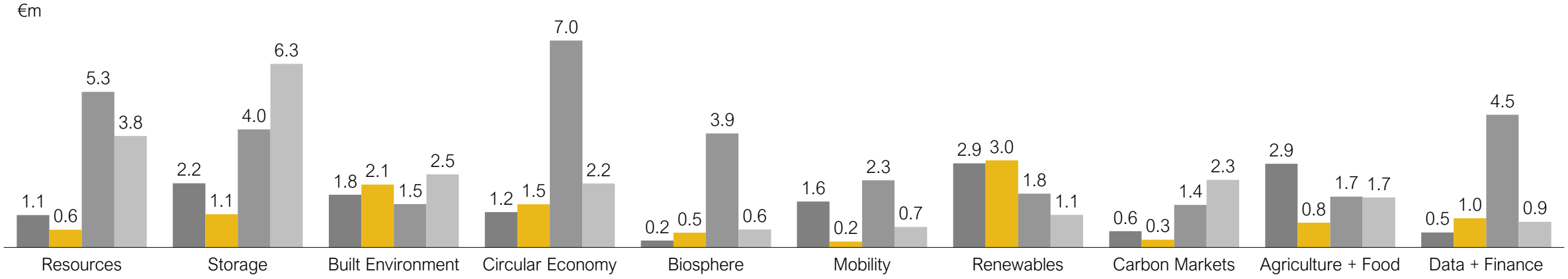
Source: Cleantech in the Nordics database

First funding rounds are smaller in Finland than in other Nordic countries

Median first funding round size by country and category



Average first funding round size by country and category

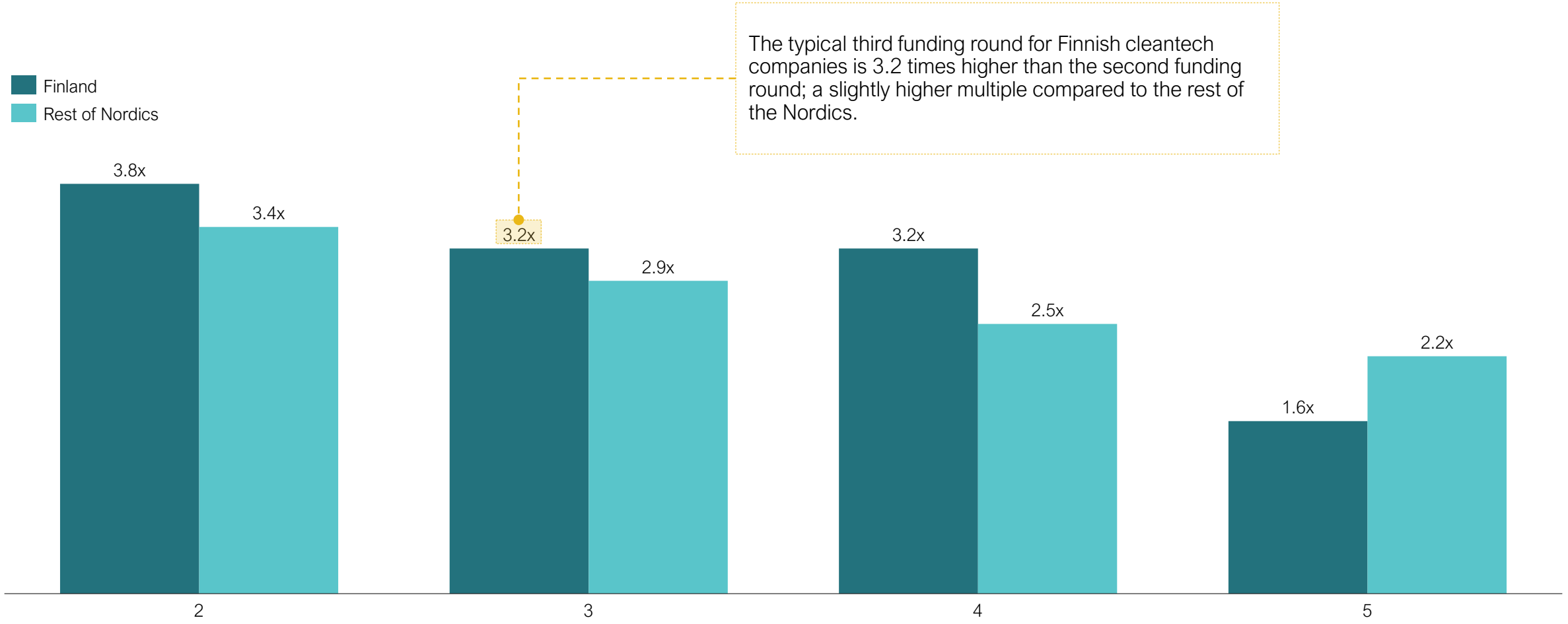


Source: Cleantech in the Nordics database

Later funding rounds are relatively larger in Finland vs. other countries when looking at firm-by-firm figures

Round size multiple compared to previous round

Firm-by-firm comparison between round sizes

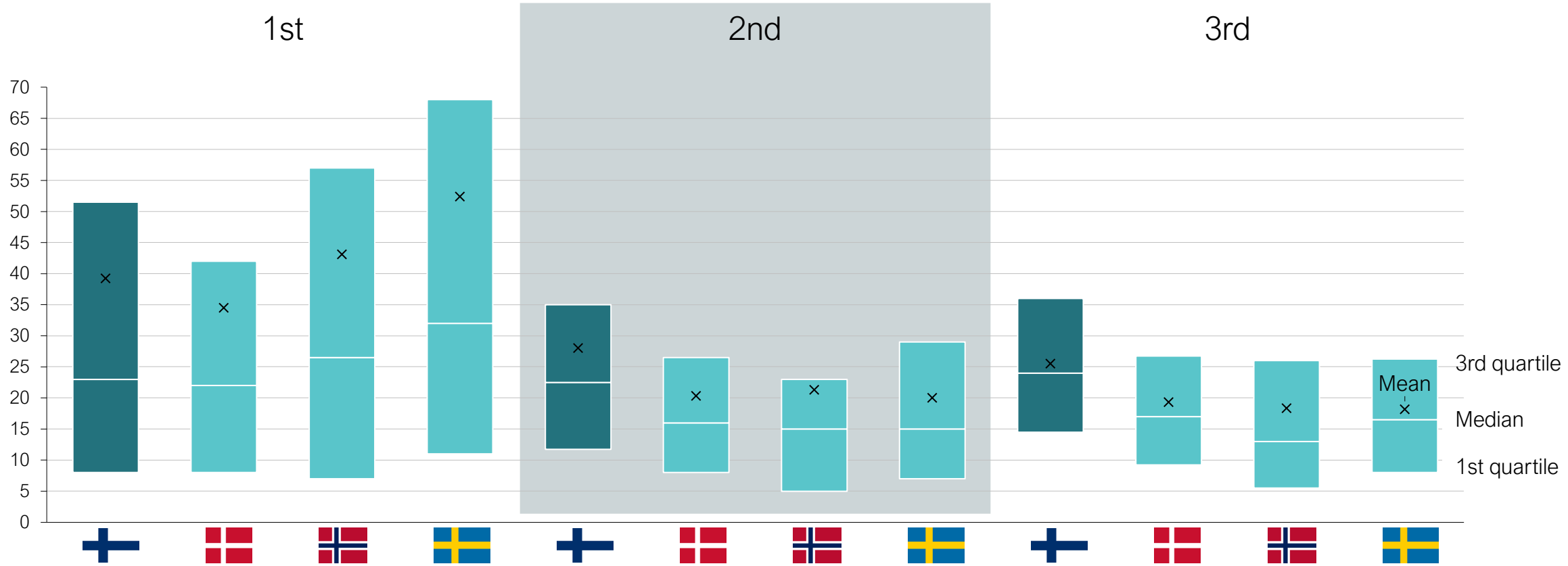


Source: Cleantech in the Nordics database

Finnish firms rather quick in gathering seed rounds, but slower than other Nordics in subsequent rounds

Graduation time by country and funding round

Months from previous round



Source: Cleantech in the Nordics database

Agenda

- Summary
- Scope and definitions
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- Nordic comparison
- Appendix

The companies in this study are the same as in our previous Cleantech in the Nordics study; financial and funding data have been complemented

Comparison between the cleantech studies

Company data

- Long list of potentially relevant companies

Cleantech Scandinavia · dealroom.co · PitchBook · VAINU · Valu8 · Net Zero Insights

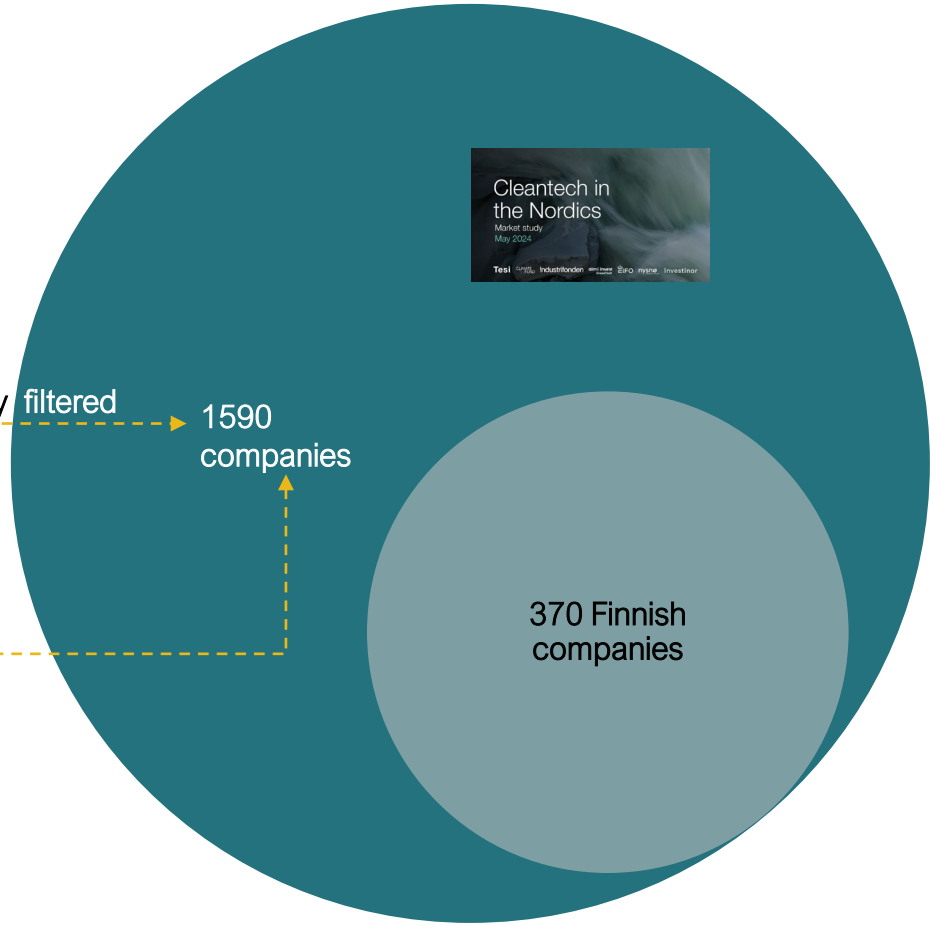
Manually filtered → 1590 companies

Transactions

dealroom.co · Mergermarket · PitchBook · S&P Capital IQ PRO

Financials

Valu8



Tesi's proprieritary data model

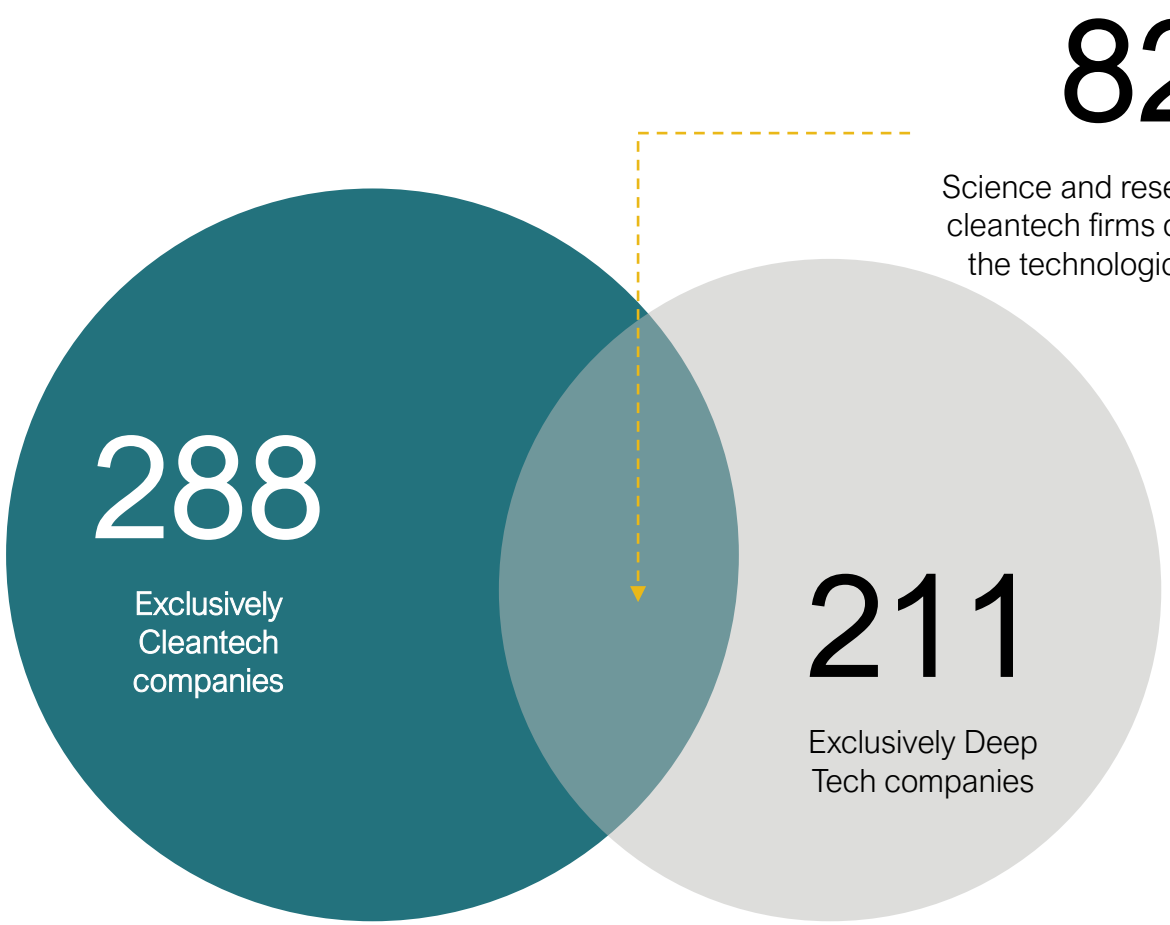
- Includes multiple different datasources, including Pitchbook, Dealroom, Talouselämä, Bureau van Dijk (Orbis), Mergermarket, and others.

Same 370 Finnish companies, but the financial and transaction data has been fetched from Tesi's proprietary data model

Note: The Nordic Cleantech Study and Tesi's proprieritary data model leverage partially different sources for the background data; for individual analyses concerning only Finland, we have mostly relied on Tesi's model due to higher data quality.

Roughly a quarter of the Finnish cleantech firms are based on important scientific or engineering innovations with strong disruptive potential and high barriers to entry

Finnish Cleantech and Deep Tech firms



Deep tech in brief

- Deep tech refers to technology-based firms that stemming from scientific and engineering breakthroughs, such as artificial intelligence, biotechnology, and quantum computing.
- We published a Deep Tech study in December 2023. For more information, you can access our report on the Tesi website.

370 in total

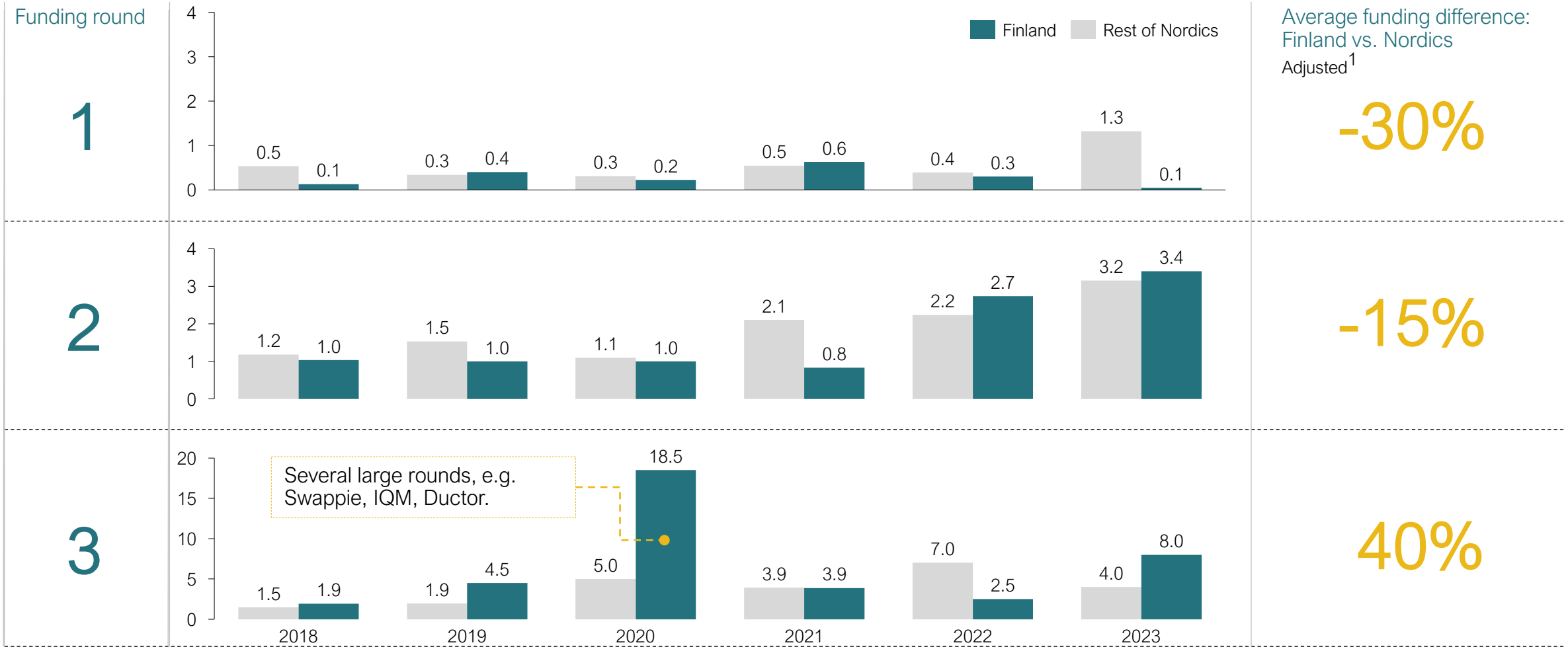
293 in total

Source: Tesi proprietary data model

Round sizes have grown over the years – similar trend in Finland vs. other Nordics

Annual median funding sizes in early VC funding rounds, comparison between Finland and the rest of the Nordics

€m



Source: Cleantech in the Nordics database

[1] The 3rd Funding round difference would be 78% if 2020 were included in the calculations

Companies in the in the cleantech study – see notes on p. 50

Registered Company Name	BusinessID	Category
Aircohol Oy	3221291-3	Agriculture + Food
Arctic Farming Oy	3107533-9	Agriculture + Food
BioMush Oy	3184625-2	Agriculture + Food
Bionido Oy	3114509-3	Agriculture + Food
eniferBio Oy	3133188-1	Agriculture + Food
Evergreen Farm Oy	2713863-2	Agriculture + Food
Fertilex Oy	2952517-7	Agriculture + Food
FIFAX Abp	2453290-9	Agriculture + Food
Finn Growers Oy	3240532-8	Agriculture + Food
Finnish Food Factory Oy	2911058-8	Agriculture + Food
Intellectual Farms Oy	3002620-1	Agriculture + Food
Manna Insect Oy	2952102-9	Agriculture + Food
Meeat Food Tech Oy	3162130-1	Agriculture + Food
Mö Foods Oy	2835966-4	Agriculture + Food
Netled Oy	2136682-9	Agriculture + Food
Oddlygood Oy	0112421-6	Agriculture + Food
Onego Bio Ltd	3260781-9	Agriculture + Food
PaRAS Aqua Oy	3375733-3	Agriculture + Food
Perfat Technologies Oy	3369286-7	Agriculture + Food
Plantagusto Group Ltd. Oy	3016223-8	Agriculture + Food
Probitat Oy	2998469-9	Agriculture + Food
Solar Foods Oy	2872116-8	Agriculture + Food
Volare Oy	3200110-4	Agriculture + Food
Yield Systems Oy	2942534-4	Agriculture + Food
Aeromon Oy	2651724-3	Biosphere
Airmodus Oy	2310319-2	Biosphere
Biocharmers Oy	3282543-7	Biosphere
Clewat Oy	2896110-2	Biosphere
CollectiveCrunch Oy	2764284-7	Biosphere
Eagle Filters Oy	1005647-0	Biosphere
EKOGRID Oy	2260208-8	Biosphere
Filtrabit Oy	2411880-4	Biosphere
Filtson Oy	3235995-8	Biosphere
Hydzone Oy	3129925-2	Biosphere
KÄÄPÄ BioTech Oy	2917439-7	Biosphere
Laponie Oy	2657359-5	Biosphere
Origin by Ocean Oy	2982879-2	Biosphere
Oy Arbonaut Ltd	0973526-5	Biosphere
Pallas Air Oyj	1092139-9	Biosphere
RH harvesting Oy	2939514-9	Biosphere

Registered Company Name	BusinessID	Category
Riverrecycle Oy	3087706-5	Biosphere
Small Data Garden Oy	2815472-2	Biosphere
Tamturbo Oyj	2326864-0	Biosphere
Adapteo Group Oy	3173642-4	Built Environment
AlfaFlame Oy	2540492-5	Built Environment
Ardor Oy	2175980-9	Built Environment
Asumma Group Oy	3194224-4	Built Environment
ASV Arctic Smart Village Oy	2830314-2	Built Environment
CirEco Finland Oy	1534782-4	Built Environment
Clouder Oy	3356072-5	Built Environment
Coldins Oy	3177993-4	Built Environment
Coolbrook Oy	2419630-0	Built Environment
Cozify Oy	2552557-5	Built Environment
EcoIntellect Oy	3276179-5	Built Environment
Ecowec Oy	2655395-7	Built Environment
E-Heat Oy	3233701-1	Built Environment
EKOTEKT Ab	3223411-9	Built Environment
Elstor Oy	2841894-3	Built Environment
ENERGIATUTKA OY	2456747-4	Built Environment
EST Energy Save Technologies Oy	2635273-3	Built Environment
Freesia Oy	0787450-1	Built Environment
Intergrid Oy	3364302-9	Built Environment
Iotoi Oy	2948434-4	Built Environment
Lem-Kem Oy	0600103-9	Built Environment
Metabar Technology Oy	2793187-6	Built Environment
Nohewa Finland Oy	2840788-1	Built Environment
Nunnanlahden Uuni Oy	0499243-0	Built Environment
OneFab Finland Oy	2936969-6	Built Environment
OptiWatti Oy	2537003-2	Built Environment
Polar Night Energy Oy	2910933-3	Built Environment
Polarmatic Oy	0153659-5	Built Environment
Poss Balance Oy	3175794-6	Built Environment
Prima Carbo Solutions Oy	2989570-9	Built Environment
Simap Oy	3159411-2	Built Environment
SteelLeanel Oy	3270056-2	Built Environment
Suomen Megawatti Oy	1735145-6	Built Environment
The Warming Surfaces Company Oy	3324358-6	Built Environment
Thermal Channel Technologies Oy	3201724-5	Built Environment
Thermokynnys Oy	2795888-4	Built Environment
Vacuum Insulation Solutions Oy	3226261-1	Built Environment

Companies in the in the cleantech study – see notes on p. 50

Registered Company Name	BusinessID	Category
Carbo Culture Oy	2750471-9	Carbon Markets
Carbofex Oy	2776845-8	Carbon Markets
Carbon Deed Oy	3013601-3	Carbon Markets
Carbonreuse Finland Oy	2614473-1	Carbon Markets
Cation Oy	2847771-6	Carbon Markets
CHAOS Architects Oy	2756811-4	Carbon Markets
Fifth Innovation Oy	2860817-3	Carbon Markets
Liquid Sun Oy	3328774-9	Carbon Markets
NOETON Oy	3224538-7	Carbon Markets
Nusa Sentara Oy	2865590-6	Carbon Markets
PajuCNielu Oy	3137762-8	Carbon Markets
PUHI OY	3184663-1	Carbon Markets
Puro.earth Oy	3114416-2	Carbon Markets
Puustako Oy	1627520-1	Carbon Markets
Soletair Power Oy	2753123-1	Carbon Markets
Woodgrow Oy	3324328-7	Carbon Markets
3AWater Oy	2968515-4	Circular Economy
Ab Nanol Technologies Oy	2359588-7	Circular Economy
Agile Composites Oy	3327328-3	Circular Economy
Aisti Analytical Oy	2893823-6	Circular Economy
Alanne & Halme Oy	3016800-7	Circular Economy
Altum Technologies Oy	2760901-9	Circular Economy
Amerplast Oy	0133025-5	Circular Economy
Arctic Biomaterials Oy	2634003-8	Circular Economy
Arman Oy	2915449-2	Circular Economy
Aterin Finland Oy	3094835-3	Circular Economy
Avant Wood Oy	2790001-7	Circular Economy
Betolar Oyj	2800638-3	Circular Economy
Betulium Oy	2559830-1	Circular Economy
Brightplus Oy	2627752-6	Circular Economy
Cajo Technologies Oy	2357638-7	Circular Economy
Caligo Industria Oy	2563551-2	Circular Economy
Carbonaide Oy	3326768-4	Circular Economy
Clean Plastic Finland Oy	2934090-6	Circular Economy
Clean Steel International Oy	2789904-4	Circular Economy
Cleaning & Recycling C & R Systems Oy	3267775-3	Circular Economy
Comptek Solutions Oy	2815285-8	Circular Economy
Conenor Oy	1007324-6	Circular Economy
Cupbio Oy	3165358-1	Circular Economy
CWP Coloured Wood Products Oy	1895925-2	Circular Economy

Registered Company Name	BusinessID	Category
Digital Fabric Oy	2688054-4	Circular Economy
Dolea Oy	2973619-3	Circular Economy
DTS Finland Oy	2834943-1	Circular Economy
Ductor Oy	2251686-8	Circular Economy
Ecomation Oy	2120945-2	Circular Economy
EHTA Talot Oy	2750790-1	Circular Economy
Endev Oy	2366305-0	Circular Economy
Entoprot Oy	2831944-3	Circular Economy
EPSE Oy	2477319-8	Circular Economy
FabPatch Oy	2934831-8	Circular Economy
FerroPower Oy	3157269-3	Circular Economy
Fiberwood Oy	3012157-5	Circular Economy
Fiber-X Finland Oy	2983321-7	Circular Economy
Finncont Group Oy	2129203-0	Circular Economy
Fintoil Oy	2871605-1	Circular Economy
Fredman Group Oy	2404631-0	Circular Economy
Froodly Oy	2764192-4	Circular Economy
GreenCI.fi Oy	3180427-1	Circular Economy
GreenLab Finland Oy	2630883-9	Circular Economy
Hannoa Oy	0140837-4	Circular Economy
Hetitec Oy	2534363-2	Circular Economy
Honkajoki Oy	0132676-6	Circular Economy
hyperion robotics Oy	3133430-2	Circular Economy
HyperMemo Oy	2292329-5	Circular Economy
Infinited Fiber Company Oy	2766860-9	Circular Economy
Infradreams Oy	3014182-4	Circular Economy
Inosence Polyol Oy	2756736-5	Circular Economy
Ioncell Oy	3289113-5	Circular Economy
IQM Finland Oy	2912625-6	Circular Economy
Jospak Oy	2618297-3	Circular Economy
KaiCell Fibers Oy	2737244-5	Circular Economy
Kamu Collective Oy	2937328-1	Circular Economy
Keeen Europe Oy	2684377-8	Circular Economy
Kemijärven Biojalostamo Oy	3180597-9	Circular Economy
Keskinen Recycling Oy	2235244-5	Circular Economy
KK Haapaselkä Oy	2816480-8	Circular Economy
KraftPal Finland Oy	3014754-8	Circular Economy
Laitex Oy	0634322-3	Circular Economy
Lamor Corporation Oyj	2038517-1	Circular Economy
Lekatech Oy	2911472-2	Circular Economy

Companies in the in the cleantech study – see notes on p. 50

Registered Company Name	BusinessID	Category
Lovia Oy	2628861-2	Circular Economy
Lumous lighting Oy	2991890-7	Circular Economy
MariMatic Group Oy	3016638-6	Circular Economy
Masercata Oy	2876128-2	Circular Economy
MetGen Oy	2075584-9	Circular Economy
MI Demo Oy	2943916-4	Circular Economy
Mjuk Group Ab	2988359-9	Circular Economy
Montinutra Oy	2879601-2	Circular Economy
Nanopar Oy	2148393-7	Circular Economy
Nanorefix Oy	2748443-9	Circular Economy
Nature Line Cutlery Oy	3114911-5	Circular Economy
New Life Holding Oy	2720608-4	Circular Economy
Nordtreat Oy	2927144-5	Circular Economy
Norratex Textile Fibre Finland Oy	3331586-9	Circular Economy
Nutrient Catcher Oy	3392875-3	Circular Economy
Original RePack Oy	2438835-3	Circular Economy
Owatec Group Oy	2520193-3	Circular Economy
Oy BioSorbio Ltd	2884509-9	Circular Economy
Oy Chemec Ab	1908442-7	Circular Economy
Paptic Oy	2677629-6	Circular Economy
Pure Recycle Oy	2994486-5	Circular Economy
Rasmix Oy	1070582-1	Circular Economy
Refeco Oy	3089664-5	Circular Economy
ReGreenMix Oy Ab	2750154-2	Circular Economy
Reittikioski Oy	2692913-3	Circular Economy
Resand Oy	2557551-3	Circular Economy
Resiclo Oy	2665075-7	Circular Economy
ResQ Club Oy	2725420-3	Circular Economy
Rester Oy	3005880-1	Circular Economy
Sansox Oy	2467832-6	Circular Economy
Savroc Oy	2496258-9	Circular Economy
Sedrock Oy	2595520-9	Circular Economy
Sofi Filtration Oy	2382770-5	Circular Economy
Soilfood Oy	2687453-1	Circular Economy
Solar Water Solutions Oy	2689917-3	Circular Economy
Sonotecc Oy	2926313-8	Circular Economy
Specim, Spectral Imaging Oy Ltd	1007923-4	Circular Economy
Spinnova Oyj	2653299-6	Circular Economy
Stofix Oy	0805841-8	Circular Economy
Sulapac Oy	2739393-2	Circular Economy

Registered Company Name	BusinessID	Category
Suominen Kuitukankaat Oy	0135649-8	Circular Economy
Swappie Oy	2692328-4	Circular Economy
Synbio Powerlabs Oy	3278880-8	Circular Economy
TactoTek Oy	2410512-2	Circular Economy
TM System Finland Oy	0141686-8	Circular Economy
Tonester Oy Ltd	0831922-7	Circular Economy
Tracegrow Oy	2462025-5	Circular Economy
Trifami 3D Oy	2905064-2	Circular Economy
Voda Nordic Oy	2575378-9	Circular Economy
Weeefiner Oy	2828241-7	Circular Economy
Winno Energy Oy	3254753-7	Circular Economy
Woamy Oy	3289841-7	Circular Economy
WOIMA Finland Oy	2810186-6	Circular Economy
Woodio Oy	2712152-3	Circular Economy
Woodly Oy	2417770-8	Circular Economy
Yara Eco Oy	0981104-5	Circular Economy
720 Degrees Oy	2512103-6	Data + Finance
Aila.Earth Oy	3340395-7	Data + Finance
AWAKE.AI Oy	2945733-8	Data + Finance
Battery Intelligence Oy	2906133-3	Data + Finance
Caidio Oy	2907307-8	Data + Finance
ColloidTek Oy	2829721-3	Data + Finance
CosmEthics Oy	2577445-9	Data + Finance
Earthster Oy	3173060-4	Data + Finance
Emir Holding Oy	3138878-1	Data + Finance
Enersize Oyj	2317518-8	Data + Finance
GrainSense Oy	2630019-1	Data + Finance
Green Carbon Finland Oy	2998894-8	Data + Finance
Hanna Marsh Oy	2319156-7	Data + Finance
Hukka AI Oy	2995012-2	Data + Finance
ICEYE Oy	2639822-1	Data + Finance
Infrakit Group Oy	2737848-4	Data + Finance
Inray Oy Ltd	2284336-7	Data + Finance
iQ Payments Oy	2564925-2	Data + Finance
JMK Instruments Oy	0885317-1	Data + Finance
Kapacity.io Solutions Oy	3135658-7	Data + Finance
Kausal Oy	3128135-1	Data + Finance
Kelluu Oy	2902007-2	Data + Finance
Koherent Oy	2979453-7	Data + Finance
Kuva Space Oy	2759225-3	Data + Finance

Companies in the in the cleantech study – see notes on p. 50

Registered Company Name	BusinessID	Category
Logmore Oy	2812529-4	Data + Finance
Material Maintenance MaMa Oy	3187751-8	Data + Finance
Materialisting Oy	3250110-9	Data + Finance
Meluta Oy	2683932-2	Data + Finance
Navidium Oyj	2520012-1	Data + Finance
Nuuka Solutions Oy	2478408-1	Data + Finance
One Click LCA Oy	1739154-6	Data + Finance
Quanturi Oy	2752725-9	Data + Finance
ReFaMo Oy	3121708-5	Data + Finance
Residentia Oy	2638772-5	Data + Finance
Retail Logistics Excellence - RELEX Oy	1963444-1	Data + Finance
RoadCloud Oy	2636436-3	Data + Finance
Rocsole Oy	2472921-8	Data + Finance
Safegrid Oy	3012035-3	Data + Finance
Seaber Oy	2855258-7	Data + Finance
Second Thought Oy	2876334-1	Data + Finance
SimAnalytics Oy	2526599-6	Data + Finance
Sizey Oy	2642975-3	Data + Finance
SkenarioLabs Oy	2664796-1	Data + Finance
Skyfora Oy	2966196-1	Data + Finance
Soil Scout Oy	2549257-4	Data + Finance
Spark Sustainability Ab	2866485-3	Data + Finance
Synergi Solutions Oy	3306817-5	Data + Finance
Terramonitor Oy	2722725-6	Data + Finance
TimeGate Instruments Oy	2615649-2	Data + Finance
Trilleco Oy	3189277-7	Data + Finance
Upright Oy	2848353-4	Data + Finance
Valaa Technologies Oy	2906337-1	Data + Finance
Wastebook Oy	2990778-1	Data + Finance
Wirepas Oy	2336463-2	Data + Finance
18 WHEELS OY	3309174-6	Mobility
Aurora Powertrains Oy	2825151-4	Mobility
elliTech Oy	3324178-3	Mobility
Fit Global Oy	2771766-9	Mobility
Harmaja 10 Oy	2789909-5	Mobility
Lentola Logistics Oy	2844385-8	Mobility
NDM Group Oy	3209687-9	Mobility
Norsepower Oy Ltd	2506251-5	Mobility
Oceanvolt Oy	1904140-0	Mobility
Oy Waulis Motors Ltd	2400931-7	Mobility

Registered Company Name	BusinessID	Category
Perille Mobility Services Oy	2701407-4	Mobility
Port 2.0 Oy	3206666-1	Mobility
Q Yachts Oy	2726567-4	Mobility
Retro-EV Oy	2880951-4	Mobility
Scouter Mobility Oy	2516260-4	Mobility
Solisee Projects Oy	3255486-8	Mobility
Valkama Watercrafts Oy	3274823-2	Mobility
Verge Motorcycles Finland Oy	3193816-5	Mobility
Ab BLN-Woods Ltd	2500090-4	Renewables
ATK-Rasala Oy	2855498-8	Renewables
AW-Energy Oy	1797737-9	Renewables
BioEnergo Oy	2257275-5	Renewables
Bioreactor Nordic Oy	3377441-6	Renewables
BioSairila Oy	2740947-1	Renewables
Bluesure Oy	3311542-9	Renewables
Chempolis Oy	0993282-4	Renewables
Convion Oy	2497977-8	Renewables
Fimuskraft Oy	2730617-3	Renewables
Fola Nature Oy	3168139-8	Renewables
Geneset Powerplants Oy	0921255-2	Renewables
Geonova Oy	3295535-4	Renewables
HP Heat Oy	2690122-9	Renewables
Jaloxi Oy	2498146-4	Renewables
Joensuu Biocoal Oy	3153997-3	Renewables
Jokilaaksojen Koneurakointi Oy	2170381-3	Renewables
KajaWoima Oy	3343508-6	Renewables
Ligneasy Oy	3269020-2	Renewables
Nordic Ren-Gas Oy	3222175-6	Renewables
OceanRider Energy Oy	3387583-1	Renewables
Ori Solution Oy	3014769-5	Renewables
Pielisen Bio Oy	3180130-2	Renewables
Q Power Oy	2999186-4	Renewables
Quantitative Heat Oy	2913224-2	Renewables
RecyclingEnergy Int. Oy	2337445-1	Renewables
RS Energy Oy	2436279-4	Renewables
Saalasti Oy	0297535-4	Renewables
SFTec Oy	2573995-2	Renewables
Sunshine Kaidi (Finland) New Energy Co. Oy	2738860-7	Renewables
Suomen Bioetanoli Oy	1950330-2	Renewables
Thermo Rock Oy	3122306-3	Renewables

Companies in the in the cleantech study

Registered Company Name	BusinessID	Category
Valoe Oyj	0749606-1	Renewables
Vuo Power Oy	2792876-5	Renewables
Botnia H2Tec Finland Ab Oy	3189070-4	Resources
CeLLife Technologies Oy	3299862-9	Resources
Exote Oy	1837782-6	Resources
Finno Exergy Oy	2565701-7	Resources
Fluff Stuff Oy	3312625-9	Resources
Gasera Oy	1930453-0	Resources
Green North Energy Oy	3238750-2	Resources
Hemka Oy	3191125-3	Resources
Hycamite TCD Technologies Oy	3108281-1	Resources
LignoSphere Company Oy	3285966-1	Resources
Luxmet Oy	2602532-9	Resources
Neovolt Oy	3204444-6	Resources
Netanol Oy	3325380-5	Resources
Novana Oy	3240046-3	Resources
P2X Solutions Oy	3155276-4	Resources
Sapotech Oy	2505583-3	Resources
Steady Energy Oy	3364479-3	Resources
Virta IC Oy	2977820-3	Resources
BrightCharger Oy	2652604-3	Storage
Cactos Oy	3249847-2	Storage
Capalo AI Oy	3268277-1	Storage
Comsel System Oy	2504050-0	Storage
Danfoss Editron Oy	2273170-1	Storage
eMabler Oy	3021922-2	Storage
Enersense Charging Oy	2851232-3	Storage
Ensense Oy	3009151-3	Storage
EVA Solutions Group Oy	2868557-4	Storage
Exaum Oy	3234848-2	Storage
Farol Oy	3215580-8	Storage
Geyser Batteries oy	2931567-1	Storage
Heliostorage Oy	3106653-9	Storage
Hidas Oy	2077590-3	Storage
Hytrade Oy	3351974-9	Storage
L7 Drive Oy	2375358-2	Storage
Liikennevirta Oy	2588986-2	Storage
Marine Charging Point Ab Oy	3134791-2	Storage
Merus Power Oyj	2230775-9	Storage
Nelinor Oy	3121013-1	Storage

Registered Company Name	BusinessID	Category
Parking Energy Oy	2612184-7	Storage
PLUGIT FINLAND OY	2513960-7	Storage
Rebelvolt Oy	3403164-9	Storage
Sensmet Oy	2839890-3	Storage
Sympower Oy	2770601-1	Storage
Tanktwo Oy	2491563-5	Storage
Teraloop Oy	2644770-8	Storage
Tespack oy	2534766-8	Storage
Thrunnel Ltd,Oy	2833141-8	Storage
Vensum Power Oy	2914250-4	Storage

Notes on company sample

- We recognize that our study may not include all relevant companies.
  - The scope limitations of this study act as the key gatekeeper: firms included in this analysis have a focus on cleantech, and either recent VC funding or strong sales and/or FTE growth.
  - Data availability acts as a further limitation: to our knowledge, there is no fully accurate and up-to-date database of cleantech firms.
  - Last but not least, the evaluation of ”cleantech” is subjective, and differences both in categorization and inclusion/exclusion between our study and others’ are likely.
- Many firms can also be argued to belong to any of several categories.
- We aim to give an updated view on the Finnish cleantech market on an annual basis. Feedback on the inclusion, exclusion, or categorization of firms (according to the study scope available on p. 7 of this report) can be directed to jakob.sandell@tesi.fi

Tesi