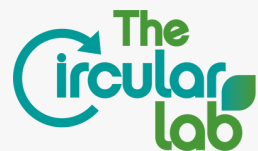


Circular¹ startup

funding in Europe

H2 2024



ABOUT



[Ecoembes](#) is a non-profit organisation based in Spain that focuses on promoting sustainability and protecting the environment.

Ecoembes is responsible for managing the recycling and recovery of packaging waste in Spain. Ecoembes works with businesses, municipalities, and other organisations to promote responsible waste management practices, reduce waste generation, and increase recycling rates.



[TheCircularLab](#) by Ecoembes is an open innovation center specialised in circular economy, which focuses its activity on the study, testing and development of best practices in the field of packaging and its subsequent recycling.

TheCircularLab also serves as a space for testing and validating new technologies and business models related to the circular economy.



[Net Zero Insights](#) is the leading source for data, research and insights in Climate Tech.

Investors, large enterprises, policy-makers and businesses use their market intelligence platform and data to spot climate solutions and to keep track of emerging trends in the venture space and beyond.

Its ultimate aim is to provide decision makers with actionable insights to finance the transition more efficiently.

2024 KEY TAKEAWAYS

Europe's circular economy funding surges in 2024

In 2024, circular economy funding in Europe saw a remarkable surge, driven by fewer but larger rounds, underscoring the growing maturity of the sector in the region.

Batteries & vehicles top funding, food & water lead deals

In 2024 Batteries and vehicles lead in funding, while food, water, and nutrients dominate the product value chain with more deal activity.

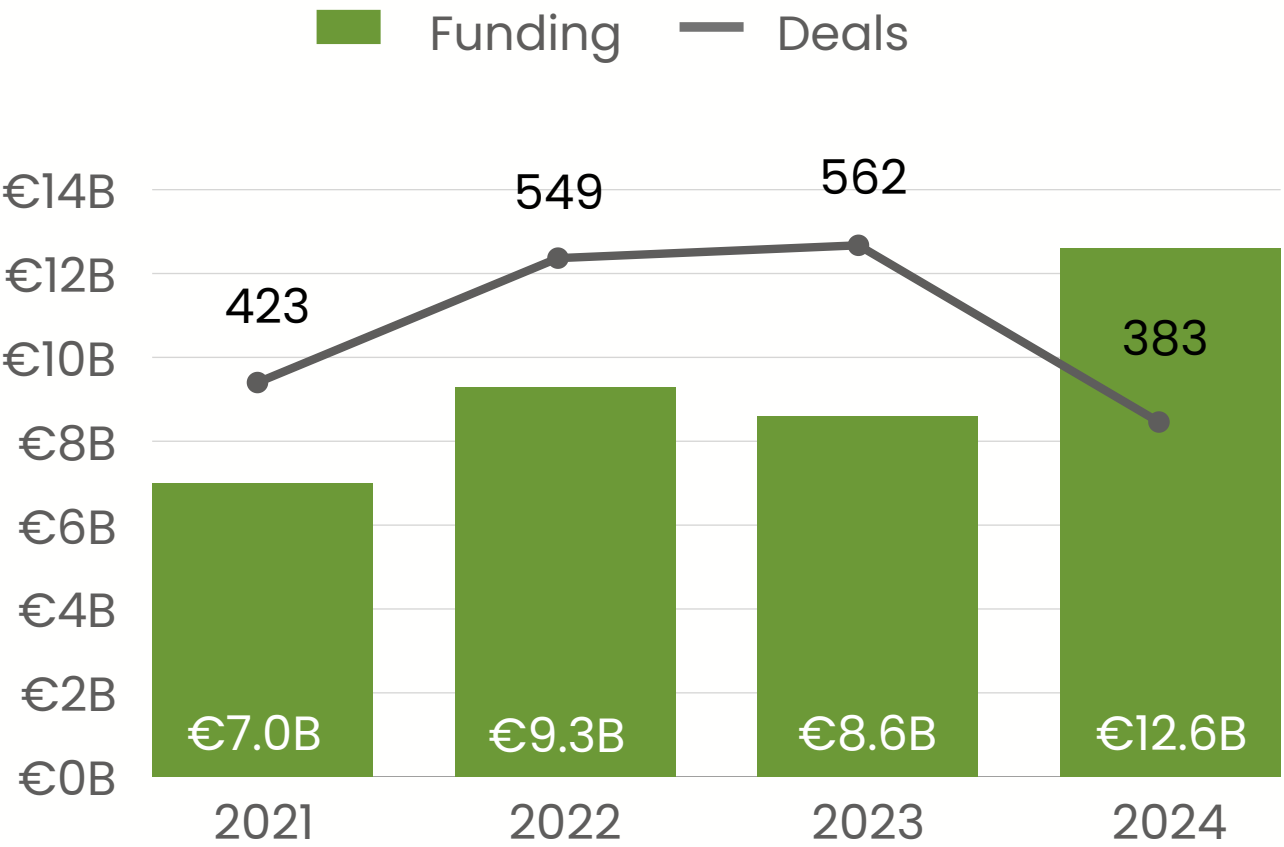
Debt-backed mega-rounds fuel 2024 circular economy growth

Debt-backed megarounds defined 2024 for European circular economy startups, with particularly strong activity in the first half of the year.

Top-funded European countries in 2024

France, Germany, the Netherlands, and the UK were the top-funded European countries in 2024, Sweden and Italy joined in H1 and H2, respectively, driven by notable mega-round activity.

FUNDING AND DEALS IN EUROPEAN CIRCULAR ECONOMY STARTUPS



Source: Net Zero Insights

The figures illustrate funding and deal activity in private ventures, covering equity, debt, grants, and other financial instruments, while excluding exits and post-exit financing.

2024 PACKAGING TAKEAWAYS

2024 circular packaging funding boom

The 2024 peak in circular economy funding was also driven by significant investments in circular packaging startups.

Pre-seed and seed dominate European packaging deals

Deal activity in European circular packaging remains dominated by pre-seed and seed stages.

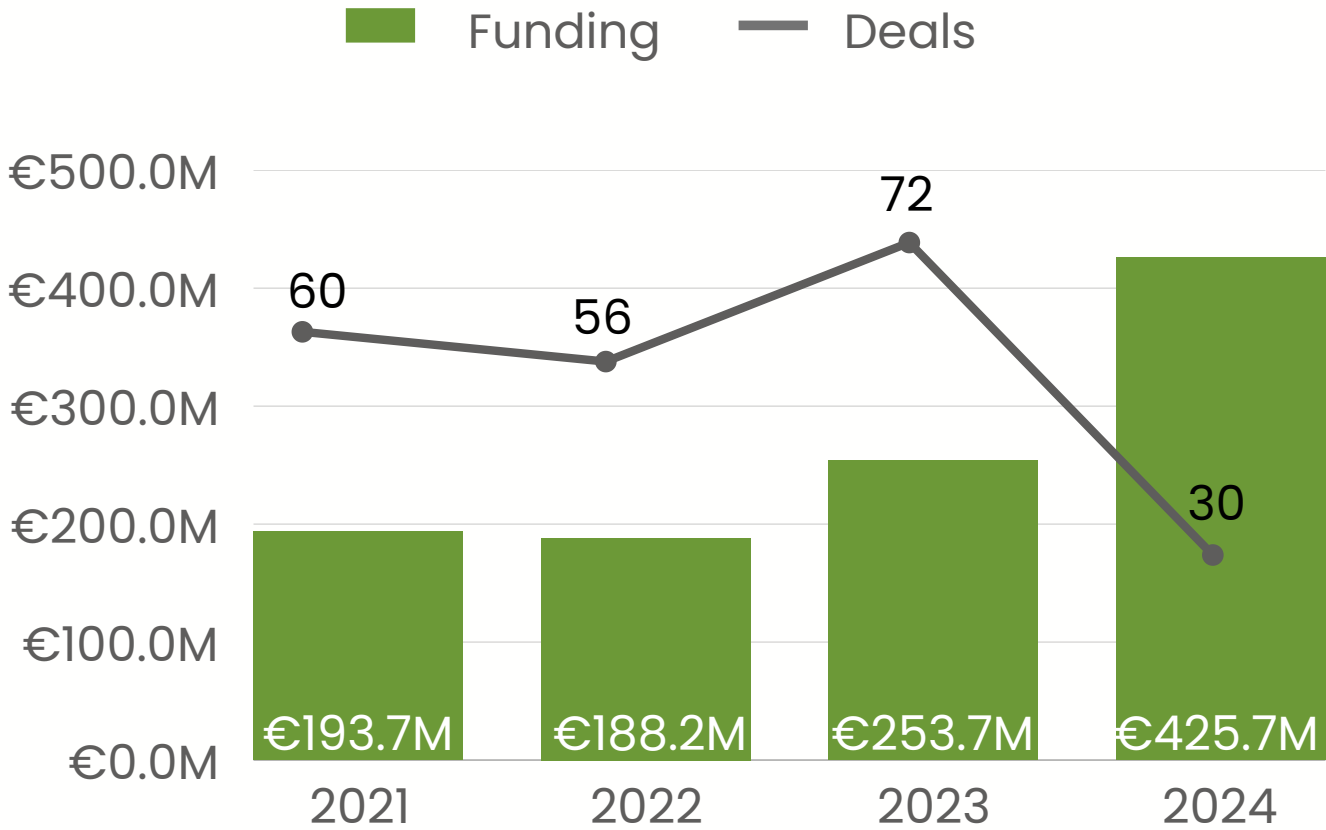
Biopolymer packaging dominates deals made in 2024

Biopolymer-based primary packaging materials lead deal activity, driving significant investment in the sector.

Equity supports European circular packaging startups

Equity was the primary driver of European circular packaging investments in 2024, while the contribution of non-dilutive capital remained minimal.

FUNDING AND DEALS IN EUROPEAN CIRCULAR PACKAGING STARTUPS



Source: Net Zero Insights

The figures illustrate funding and deal activity in private ventures, covering equity, debt, grants, and other financial instruments, while excluding exits and post-exit financing.

EXECUTIVE SUMMARY

The investment trends in the circular economy throughout 2024 were marked by a distinct division between the first and second halves of the year. In the first half, debt-backed large funding rounds dominated the landscape, while the second half saw a more cautious, conservative funding approach.

As non-dilutive funding sources waned, equity investments, especially from venture investors, became increasingly vital for supporting European circular startups through this more challenging phase.

Despite the changes in investment strategies over the year, investors in the circular economy and circular

packaging sectors maintained consistent preferences in terms of capital stages, product value chains, and regional investment trends.

Notably, Spain displayed resilience amid broader funding challenges for European circular startups in H2 2024, with the smallest contraction in investment across Europe and outperforming the regional average.

In H2 2024, circular packaging investors concentrated their efforts on the primary consumer-facing packaging category, predominantly composed of bio-polymeric materials.

Methodology

For a detailed examination of the analysis scope and the methodology employed, please refer to pages 32-33 at the end of the report.



CIRCULAR ECONOMY

H2 2024



DECELERATION IN DEAL ACTIVITY AND CAPITAL INFUSION IN H2 2024

€1B
RAISED

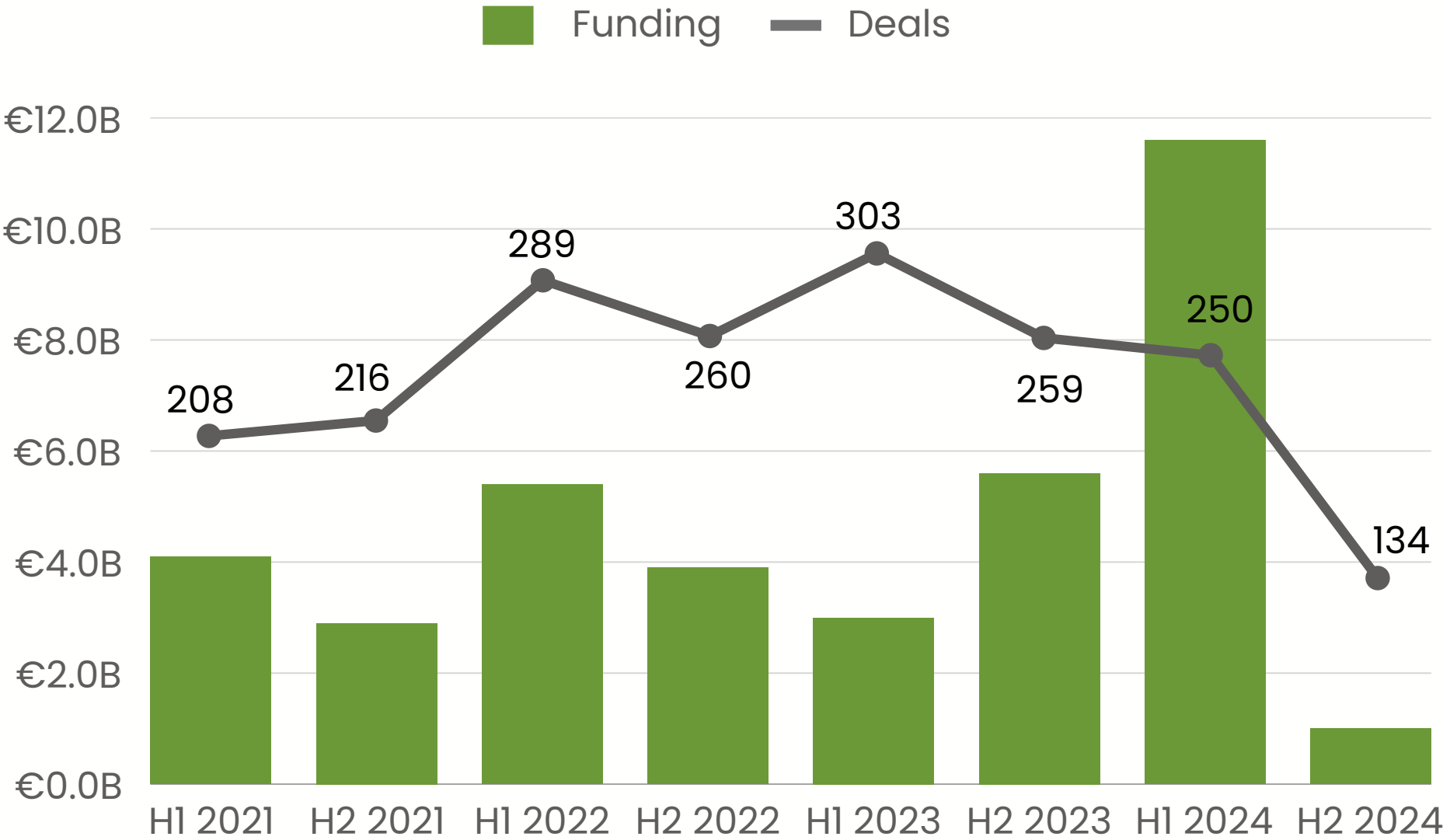
|

134
DEALS

H2 2024

H2 2024 highlights a deceleration in funding activity within Europe’s circular startups, following the record-breaking highs of H1 2024. While the period recorded €1 billion in funding across 134 deals with disclosed amount and a total of 208 deals, H2 2024 is marked by a significant contraction in both funding and deal activity comparing with the previous activity in the space.

FUNDING AND DEALS IN EUROPEAN CIRCULAR STARTUPS



Source: Net Zero Insights

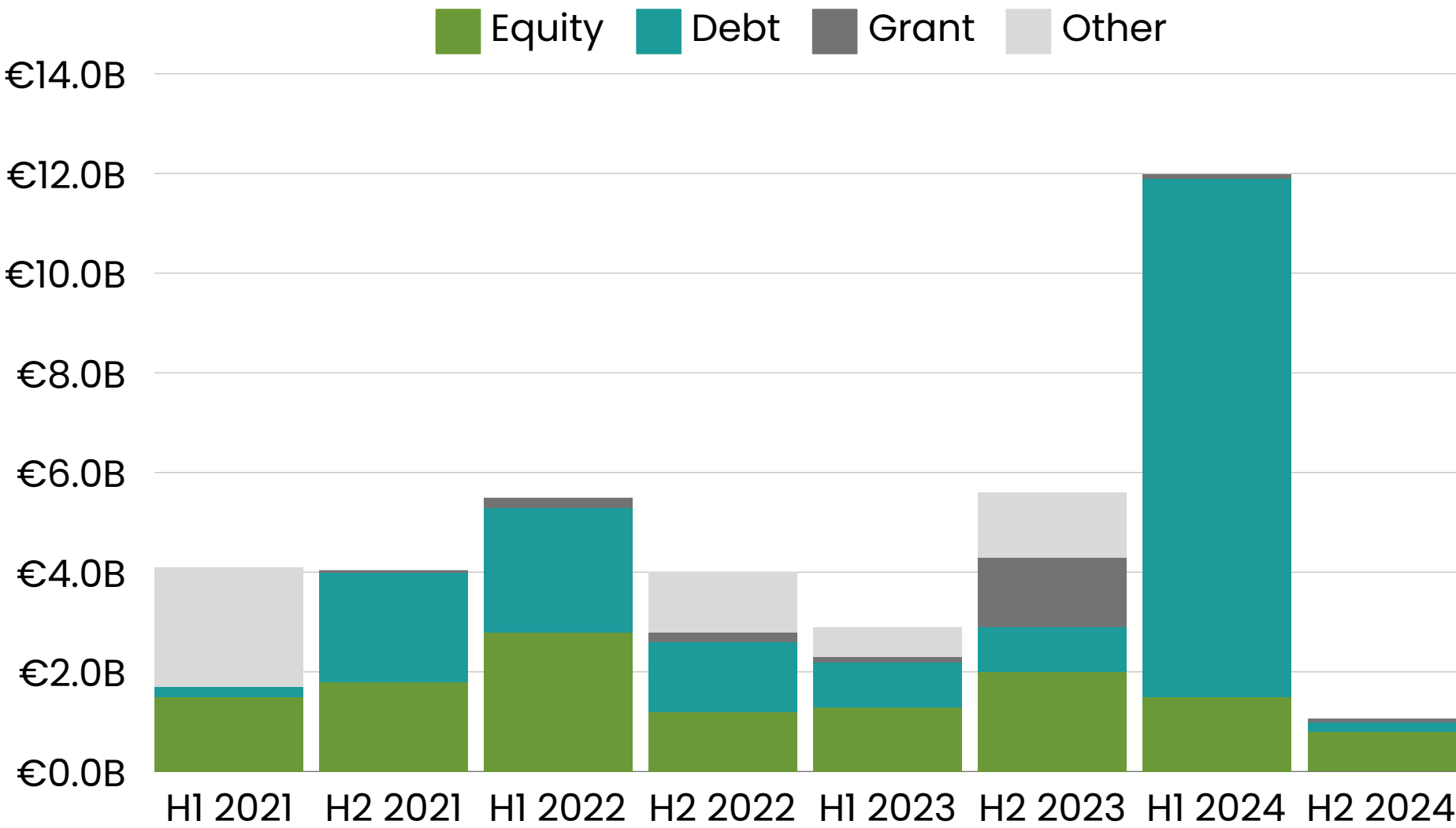
The figures illustrate funding and deal activity in private ventures, covering equity, debt, grants, and other financial instruments, while excluding exits and post-exit financing. Only deals with disclosed round amounts are included.

EQUITY BACKS FUNDING IN H2 2024

Unlike H1 2024, where debt-financed mega-rounds dominated the landscape, H2 saw a more measured approach, with fewer large-scale deals and an emphasis on steady equity investments.

The decline in funding activity in the second half of the year was primarily driven by a sharp drop in non-dilutive funding. This downturn may stem from economic uncertainties and a contraction in investor appetite, triggered by the fallout from challenges faced by heavily funded startups in H1 2024.





















FUNDING BY FINANCING TYPE IN EUROPEAN CIRCULAR STARTUPS



Source: Net Zero Insights

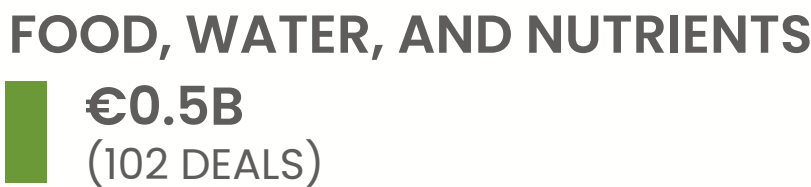
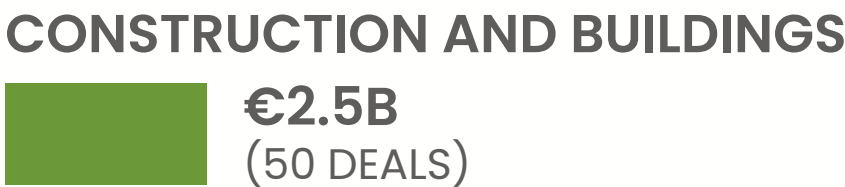
The figures illustrate funding and deal activity in private ventures, covering equity, debt, grants, and other financial instruments, while excluding exits and post-exit financing.

TOP 10 DEALS IN CIRCULAR STARTUPS IN EUROPE IN H2 2024

| | | | | |
|---|---|--|---|---|
|  <p><i>Germany</i></p> <p>THE EXPLORATION COMPANY</p> <p>€155M</p> <p>Series B</p> <p>#reuse #space vehicle</p>  |  <p><i>United Kingdom</i></p> <p>CIRCTEC</p> <p>€128M</p> <p>Growth Equity</p> <p>#pyrolysis #fuels</p>  |  <p><i>Netherlands</i></p> <p>RE&UP</p> <p>€70M</p> <p>Debt</p> <p>#textile recycling</p>  |  <p><i>Italy</i></p> <p>D-ORBIT</p> <p>€50M</p> <p>Series C</p> <p>#satellite #waste</p>  |  <p><i>Switzerland</i></p> <p>BE WTR</p> <p>€42M</p> <p>Series C</p> <p>#water filtration</p>  |
|  <p><i>Germany</i></p> <p>VAY</p> <p>€34M</p> <p>Debt</p> <p>#EV #telematic</p>  |  <p><i>Spain</i></p> <p>TEBRIO</p> <p>€30M</p> <p>Early VC</p> <p>#insect farming</p>  |  <p><i>Netherlands</i></p> <p>SCW SYSTEMS</p> <p>€25M</p> <p>Growth equity</p> <p>#CCUS #DAC</p>  |  <p><i>France</i></p> <p>PONY</p> <p>€23M</p> <p>Series B</p> <p>#shared mobility #EV</p>  |  <p><i>SWEDEN</i></p> <p>CHROMAFORA</p> <p>€23M</p> <p>Debt</p> <p>#water treatment</p>  |

TOP 3 KEY PRODUCT VALUE CHAINS

H1 2024



H2 2024



Source: Net Zero Insights

Despite a decline in megarounds and back rounds from H1 to H2 2024, the top three product value chains maintain consistent profiles.

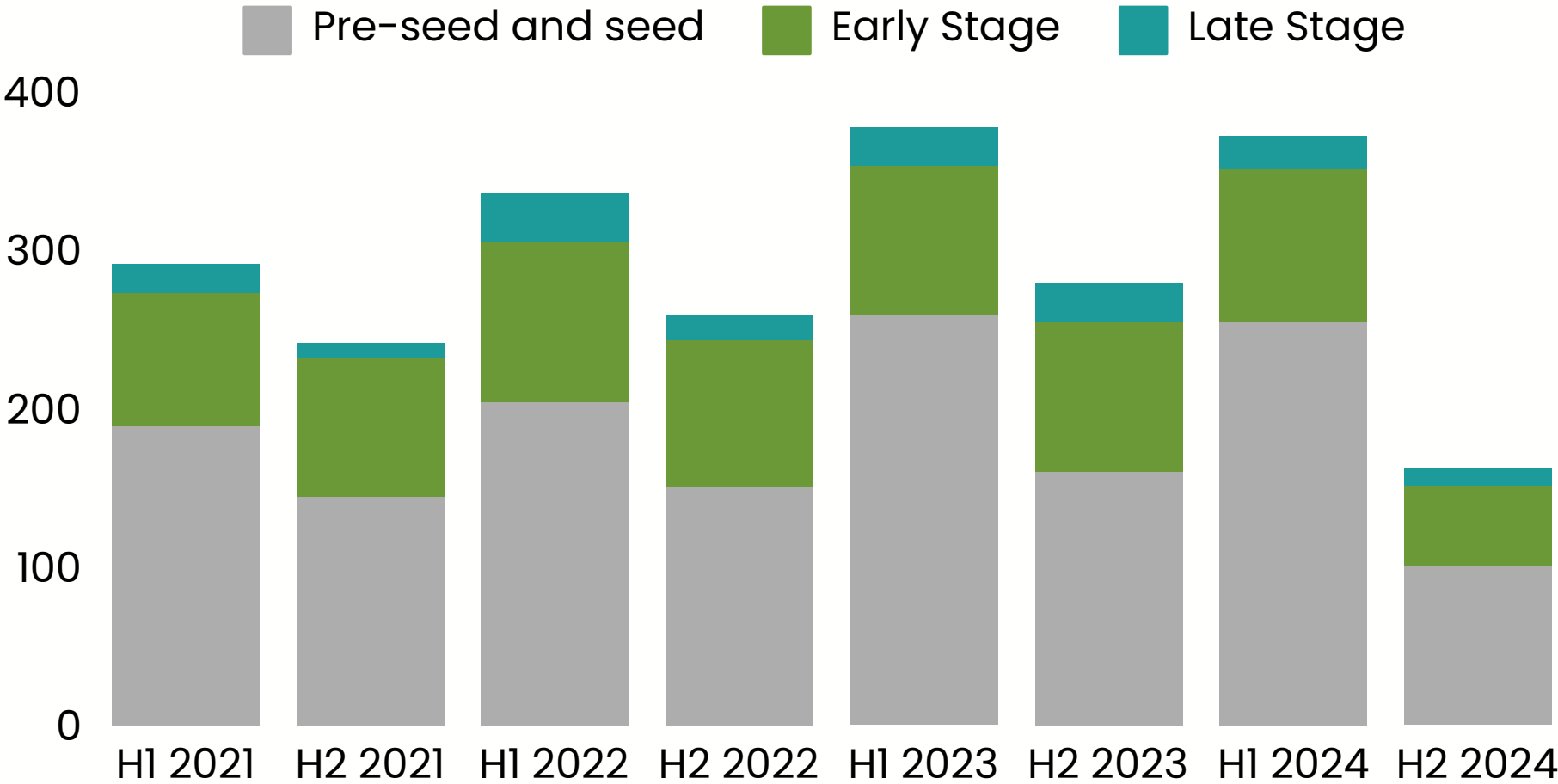
Batteries and vehicles remain the frontrunners in total funding, reflecting sustained investor confidence in energy and transport innovation. Meanwhile, food, water, and nutrients lead in deal volume, highlighting persistent interest in essential resources and sustainable consumption.

CONSISTENT PATTERNS ACROSS CAPITAL STAGES

The pattern of deal activity across capital stages in H2 2024 remained consistent with previous periods. Pre-seed and seed deals continued to account for the majority of transactions, reflecting an ongoing investor focus on nurturing emerging ventures. To a lesser extent, there is a focus on early-stage deals, followed by even fewer late-stage investments.

The noticeable reduction in late-stage deals underscores a growing caution among investors. This trend may be attributed to macroeconomic pressures, market recalibrations, or a shift toward consolidating investments in existing portfolios rather than initiating new ones.

DEAL ACTIVITY IN EUROPEAN CIRCULAR STARTUPS BY STAGE



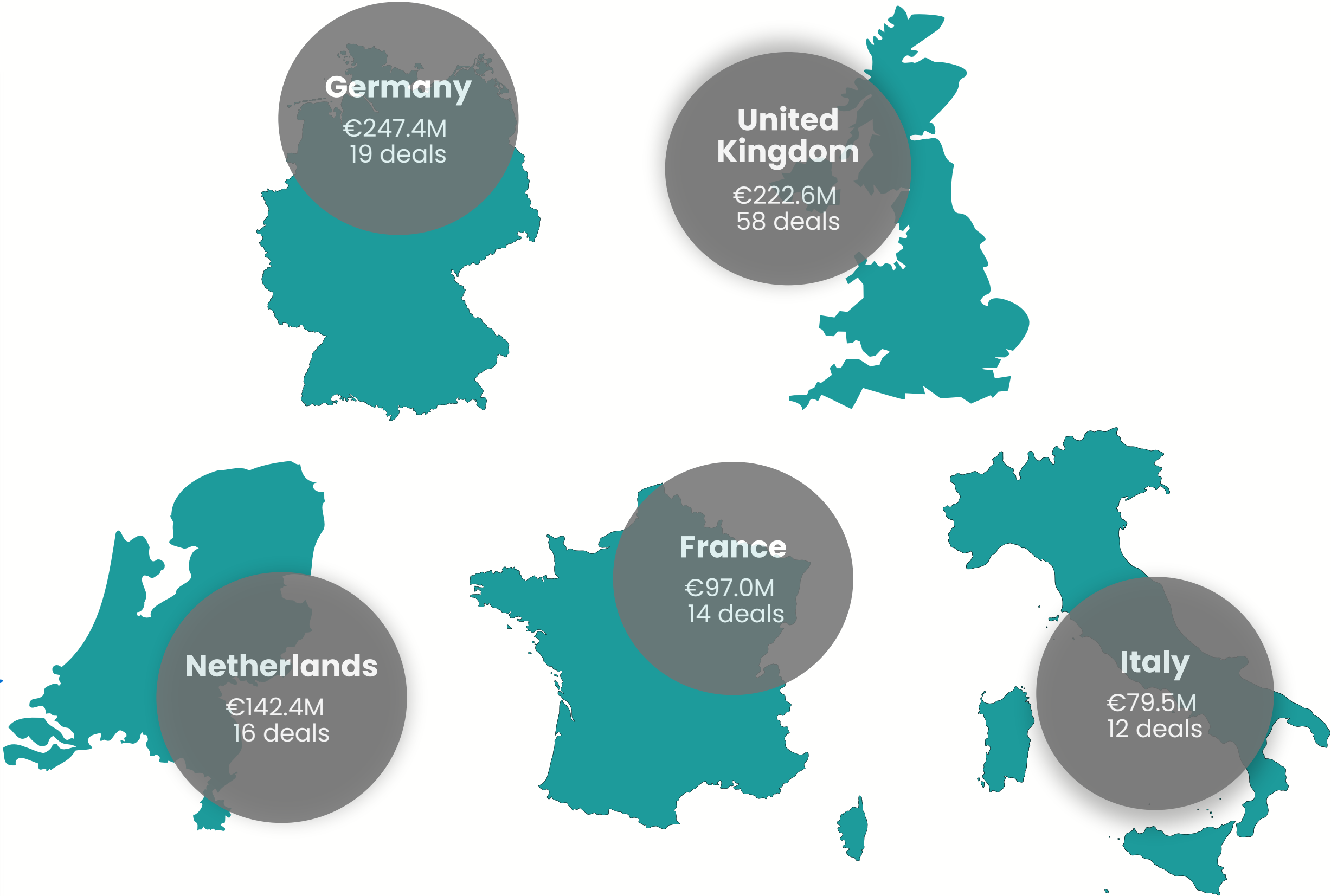
Source: Net Zero Insights

The figures illustrate total deal activity in private ventures, covering equity, debt, grants, and other financial instruments, while excluding exits and post-exit financing.

TOP 5 EUROPEAN COUNTRIES BY FUNDING IN H2'24

Germany leads the circular economy funding landscape in H2 2024, raising €247.4M across only 15 deals with disclosed round amounts, showcasing its strong position as a hub for innovation and investment.

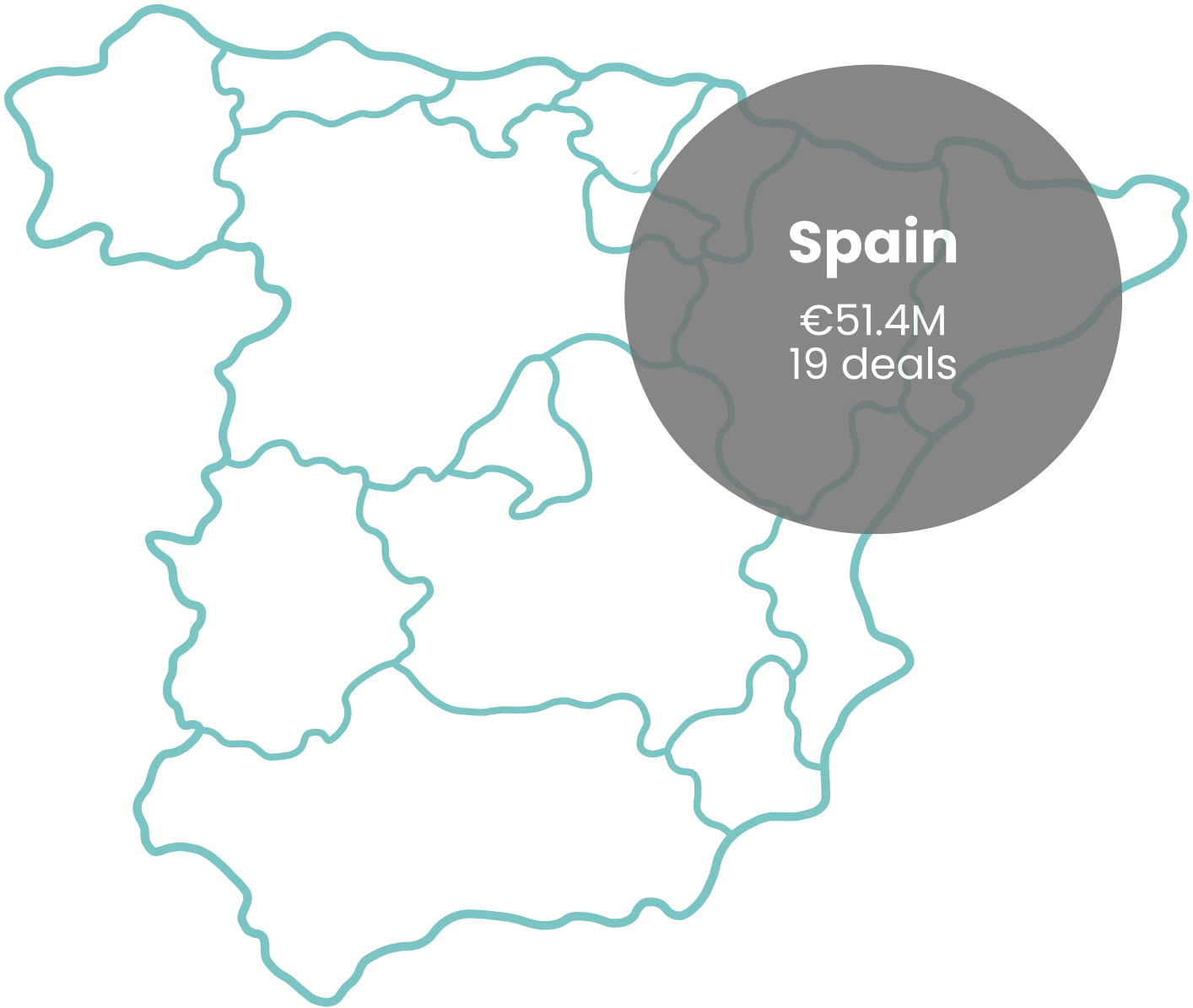
Despite the funding contraction across all countries in H2 2024, the UK, Netherlands, and France maintained their positions among the top-funded nations. Notably, Italy emerged as a standout, breaking into the rankings with a headline-grabbing top deal and 10 additional smaller funding rounds.



Source: Net Zero Insights

The figures illustrate funding and total deal activity in private ventures, covering equity, debt, grants, and other financial instruments, while excluding exits and post-exit financing.

SPAIN SUSTAINS STABLE FUNDING AND DEAL ACTIVITY IN H2 2024



In H2 2024, Spain secured €51.4M across 19 total deals in circular economy, compared to a greater deal activity of 32 total deals with the disclosed amount of €55.3M in the first half of the year. Beyond a sustained funding performance during a challenge second half of the year in Europe, this result also demonstrates the maturity of Spain’s innovation ecosystem, with fewer but larger rounds.

Spain stood out for its resilience amid declining European investments, posting the smallest funding contraction at just 7% from H1 to H2 2024. The country’s H2 funding surpasses the €40.2M average recorded across 22 European countries that secured investments during the same period. This underscores the increase competitiveness of the country and robustis of its circular innovation ecosystem.

Some notable deals include Tebrio (€30M), Geodesic (€14M) and BeePlanet Factory (€5M).

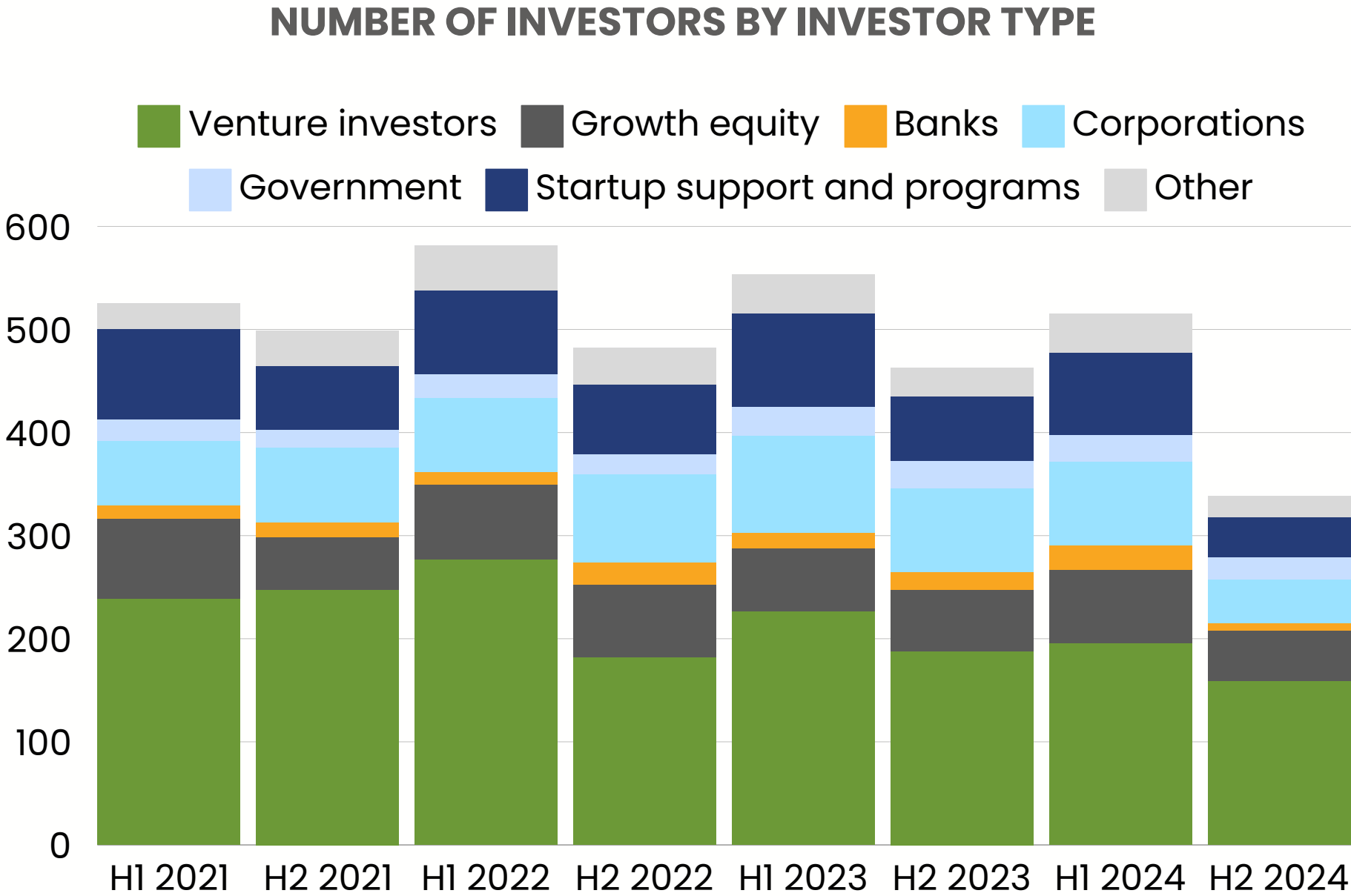
Source: Net Zero Insights

The figures illustrate funding and total deal activity in private ventures, covering equity, debt, grants, and other financial instruments, while excluding exits and post-exit financing.

VENTURE INVESTORS ANCHOR H2 2024 DEALS

Venture investors played a critical role in sustaining European deal activity in the circular economy during the second half of the year. Their contributions remained relatively stable compared to recent periods, while accounting for approximately 50% of all investor and ecosystem supporter types.












This stability was particularly significant given the retreat of banks, corporations, and growth equity investors from the sector compared to the first half of the year.



Source: Net Zero Insights

The figures illustrate funding and deal activity in private ventures, covering equity, debt, grants, and other financial instruments, while excluding exits and post-exit financing.

INVESTORS AND ECOSYSTEM PLAYERS: NOTABLE EXAMPLES IN H2 2024

| CORPORATIONS | | | VENTURE | | | BANKS | | | | | |
|--|---|--|---|---|---|---|--|---|---|---|---|
|  Vorwerk Ventures 2 deals GERMANY |  Cisco Investments 1 deal UNITED STATES | INDITEX Inditex 1 deal SPAIN |  CDP Venture Capital 4 deals ITALY |  Rumbo Ventures 2 deals SPAIN |  Green Angel Ventures 3 deals UNITED KINGDOM |  Htgf High-Tech Gründerfonds 3 deals GERMANY |  BeAble Capital 2 deals SPAIN |  daphni 2 deals FRANCE |  European Investment Bank 4 deals LUXEMBOURG |  Santander Group 2 deals SPAIN |  BPI France 2 deals FRANCE |



MAIN FUNDING FEATURES

EUROPEAN CIRCULAR ECONOMY STARTUP VENTURE FUNDING IN H2 2024

Total funding



€1B

Funded European countries



22

Financing Instrument



Equity



Debt



Grants



Others

Investors



356

Venture investors

≈ 50%

Technology Readiness Level (TRL)



TRL 1-5



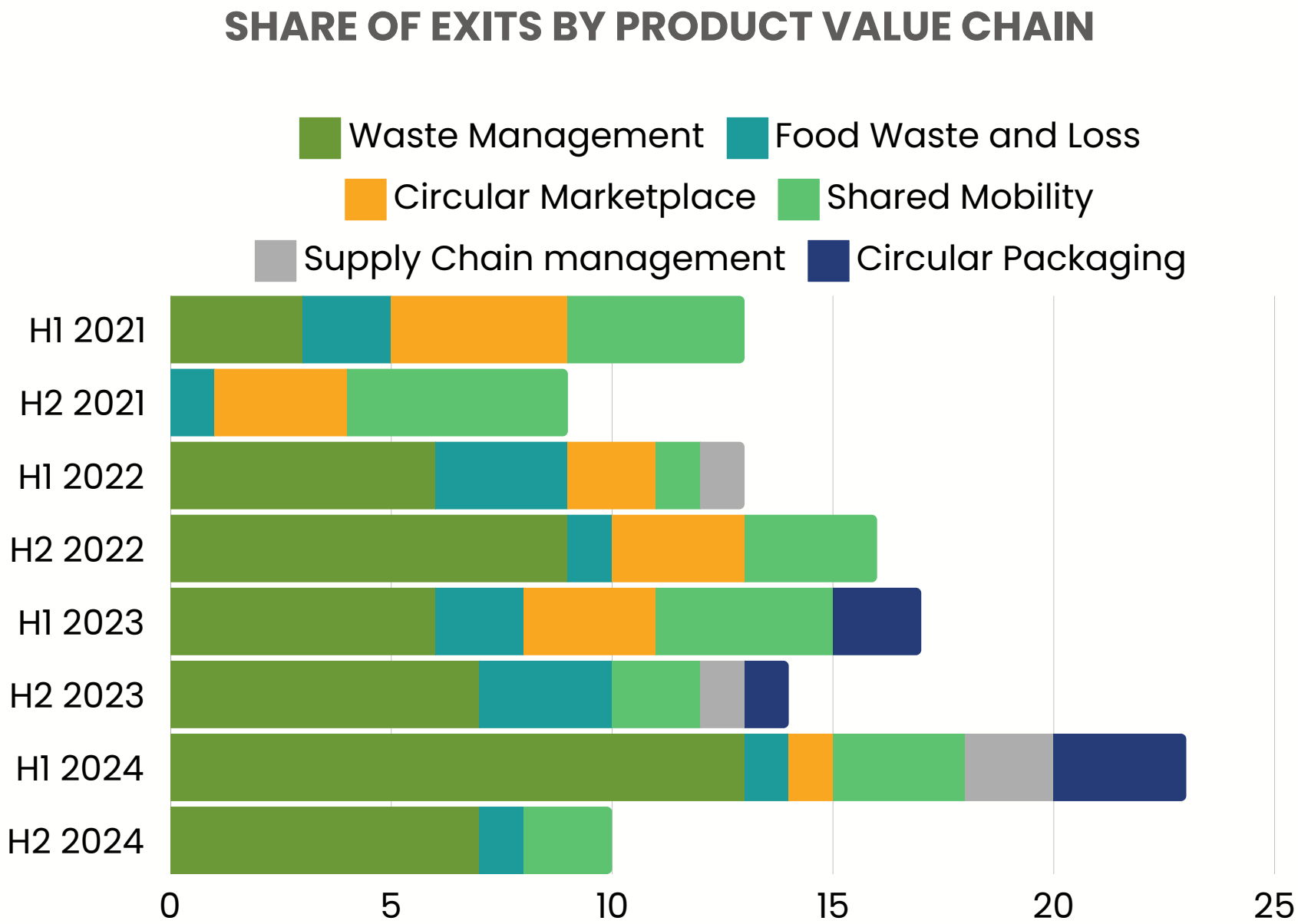
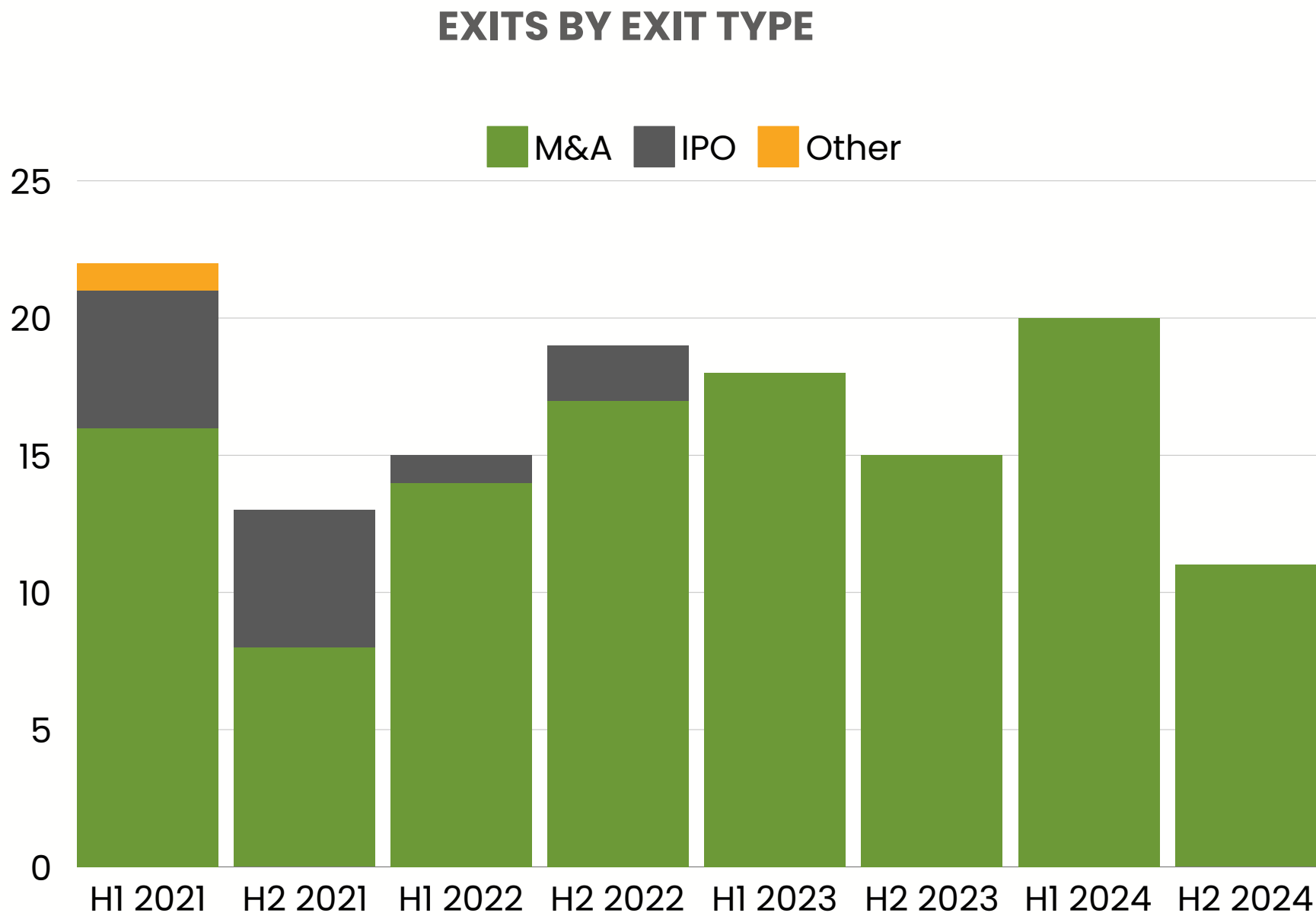
TRL 6-8



TRL 9

Source: Net Zero Insights

EXIT ACTIVITY DRIVEN BY M&A DEALS IN WASTE MANAGEMENT



Source: Net Zero Insights

The figures illustrate exit activity, including IPOs, SPACs, and mergers and acquisitions of private climate tech ventures. The data excludes venture and post-exit financing to focus solely on exit dynamics in the circular economy sector.

17

CIRCULAR PACKAGING

H2 2024



CIRCULAR PACKAGING
MIRROS CIRCULAR
ECONOMY FUNDING
PATTERNS

€30M
RAISED

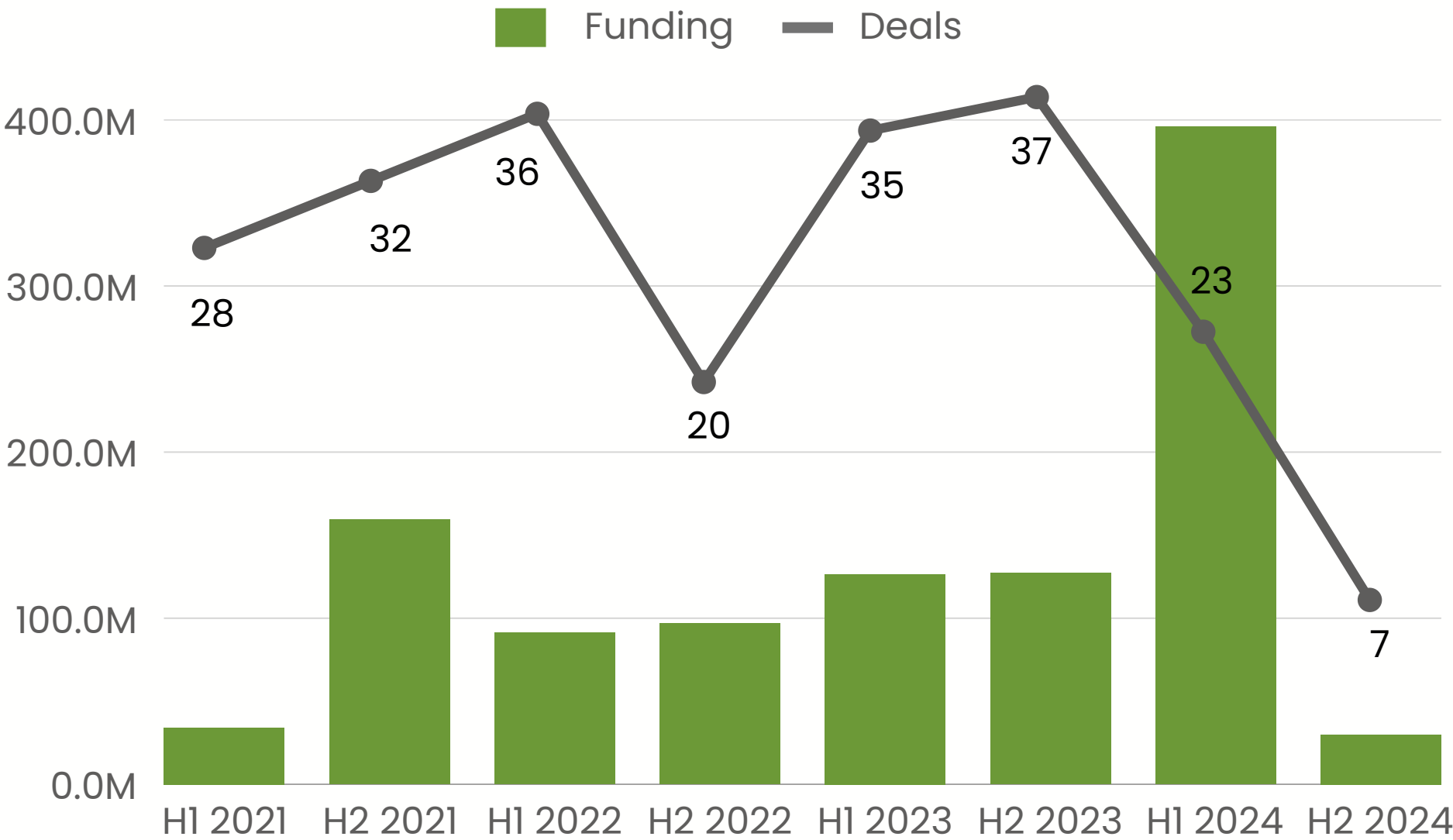
|

7
DEALS

H2 2024

Following the funding peak in the first half of the year, driven by larger investment rounds, circular packaging investment activity has rebalanced in the second half. This shift mirrors the broader trend observed within the entire circular economy sector, where initial growth has given way to a more stable, steady flow of investments in the latter half of the year.

FUNDING AND DEALS IN CIRCULAR PACKAGING STARTUPS

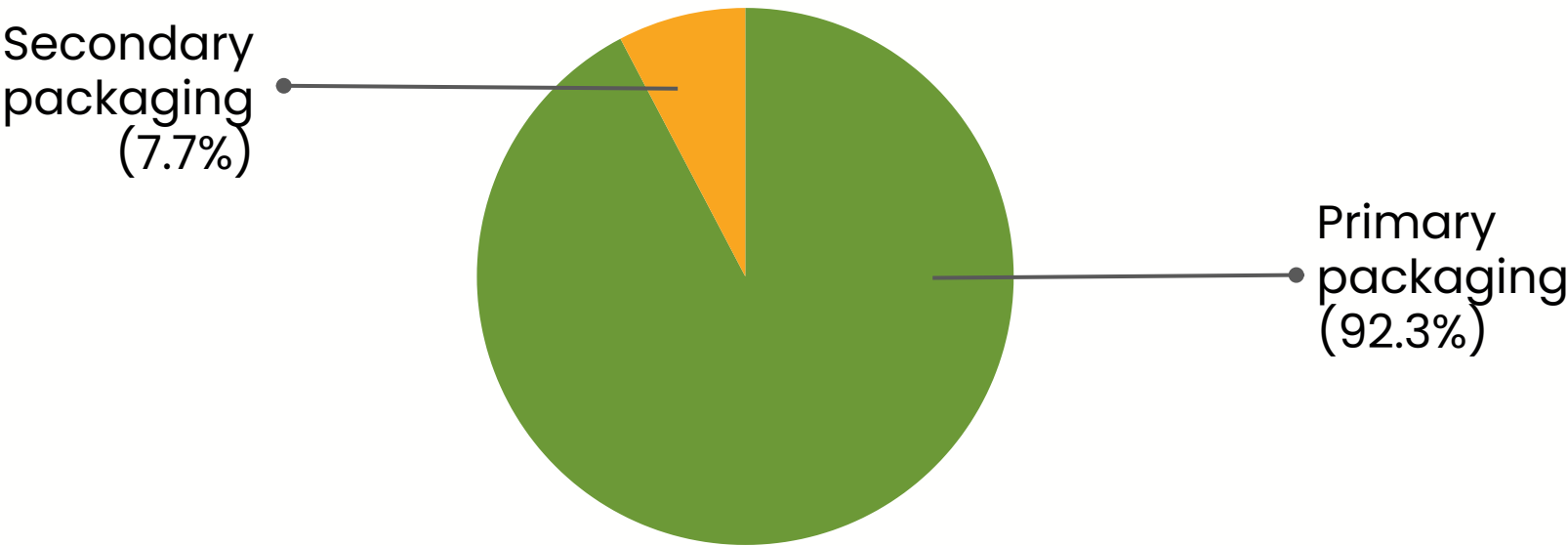


Source: Net Zero Insights

The figures illustrate funding and deal activity in private ventures, covering equity, debt, grants, and other financial instruments, while excluding exits and post-exit financing.

PRIMARY PACKAGING DOMINATES DEALS IN H2 2024

SHARE OF DEALS IN H2 2024 BY PACKAGING CATEGORIES



Source: Net Zero Insights

Primary packaging dominated H2 2024, accounting for over 90% of deals in the circular packaging space, reaffirming its importance as a key focus for investment. As the most visible and consumer-facing category, it attracts significant attention from investors and regulators, driven by the growing demand for sustainable, recyclable materials and innovative packaging solutions.

Secondary packaging, while comprising a smaller share of deals (7.7%), remains integral to enhancing supply chain efficiency and achieving sustainability objectives. This distribution highlights the sector's balanced approach, prioritizing consumer-facing solutions while addressing operational needs, underscoring a comprehensive commitment to advancing circular packaging innovations.

Notable examples

Primary packaging

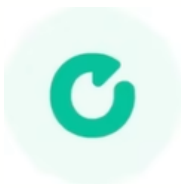


Lactips
€16M
(Late VC)



IonKraft
€3.5M
(Early VC)

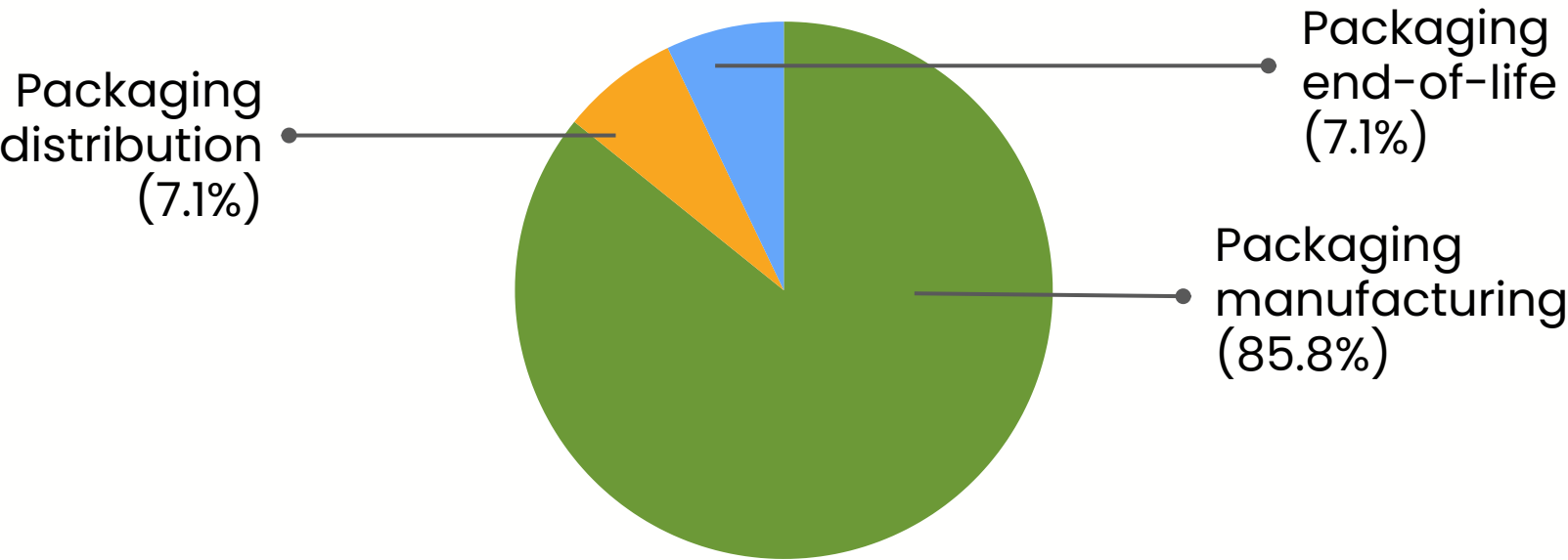
Secondary packaging



Movopack
€2.4M
(Seed)

MANUFACTURING LEADS CIRCULAR PACKAGING IN H2 2024

SHARE OF DEALS IN H2 2024 BY PACKAGING VALUE CHAIN



Source: Net Zero Insights

In a pattern strikingly similar to the first half of 2024, where packaging manufacturing deals accounted for over 80% of total investments, the second half follows suit with the same concentrated investment focus. This continued emphasis on manufacturing reflects the sector's priority on innovations that drive efficiency and sustainability at the core of the packaging value chain.

Conversely, packaging distribution and end-of-life stages remain less prioritized by investors, highlighting ongoing gaps in funding for these segments. While the manufacturing phase attracts the bulk of attention, the lesser focus on distribution and end-of-life solutions suggests untapped opportunities for future growth and investment within these critical stages of the packaging lifecycle.

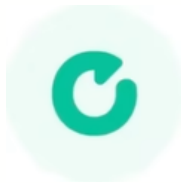
Notable examples

Packaging manufacturing



Lactips
€16M
(Late VC)

Packaging distribution



Movopack
€2.4M
(Seed)

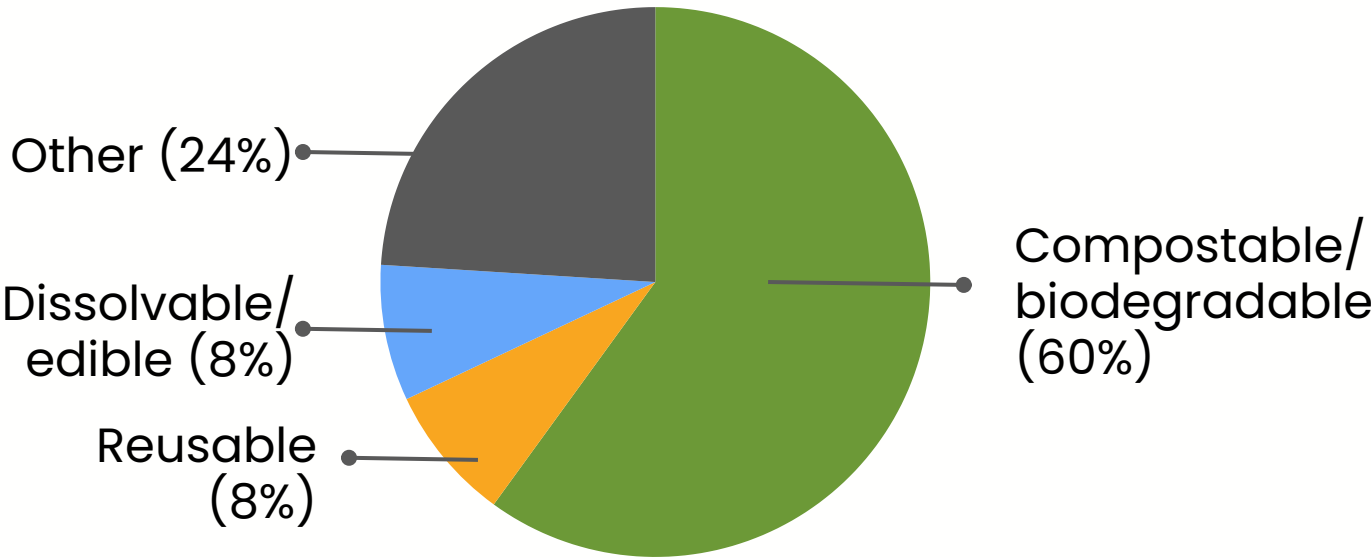
Packaging end-of-life



Recyda
€6.3M
(Series A)

BIODEGRADABLE SOLUTIONS ARE THE MOST FUNDED IN H2

SHARE OF DEALS IN H2 2024 BY PACKAGING PROPERTIES



Source: Net Zero Insights

Compostable / biodegradable packaging solutions continue to play an important role among circular packaging innovations. In the second half of 2024, these sustainable packaging alternatives saw a prominent representation in the share of deals, reflecting growing confidence in their potential to address environmental concerns. Investors are increasingly recognizing the long-term value of these solutions in reducing waste and minimizing environmental impact.

Notable examples

Compostable/biodegradable packaging

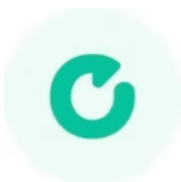


Lactips
€16M
(Late VC)



Bpacks
€1M
(Seed)

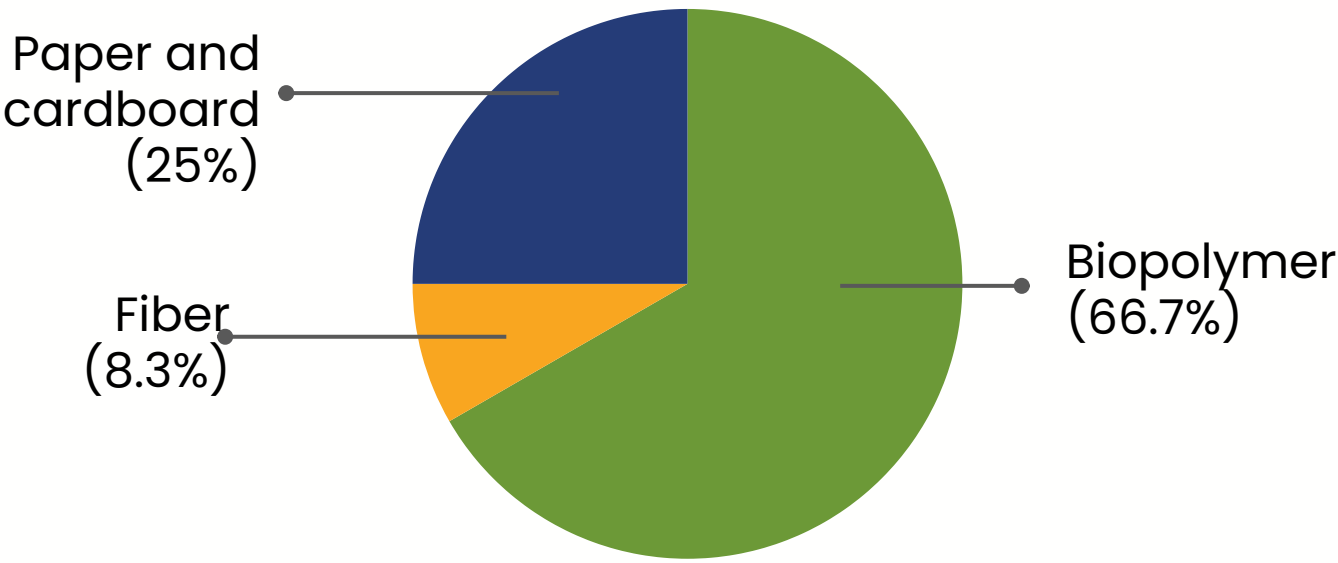
Reusable packaging



Movopack
€2.4M
(Seed)

BIOPOLYMERS A PRIME FOCUS FOR INVESTORS

SHARE OF DEALS IN H2 2024 BY PACKAGING MATERIALS



Source: Net Zero Insights

In the second half of 2024, deal activity in the circular packaging sector showed a more targeted investment approach, focusing on a narrower range of packaging materials compared to the diverse landscape in H1 2024. Biopolymer materials emerged as the clear frontrunner, accounting for 66.7% of deals, reaffirming their role as a cornerstone of packaging innovation.

This strong investor preference highlights biopolymers' versatility and potential to address sustainability challenges, particularly in reducing reliance on conventional plastics. The continued dominance of biopolymers underscores their critical importance in driving the transition toward sustainable packaging solutions and meeting regulatory and environmental expectations.

Notable examples

Biopolymer



Lactips
€16M
(Late VC)



Bpacks
€1M
(Seed)



B'Zeos
undisclosed
(Seed)



PlantSea
€166K
(Grant)



Transcend Packaging
undisclosed
(Growth equity)

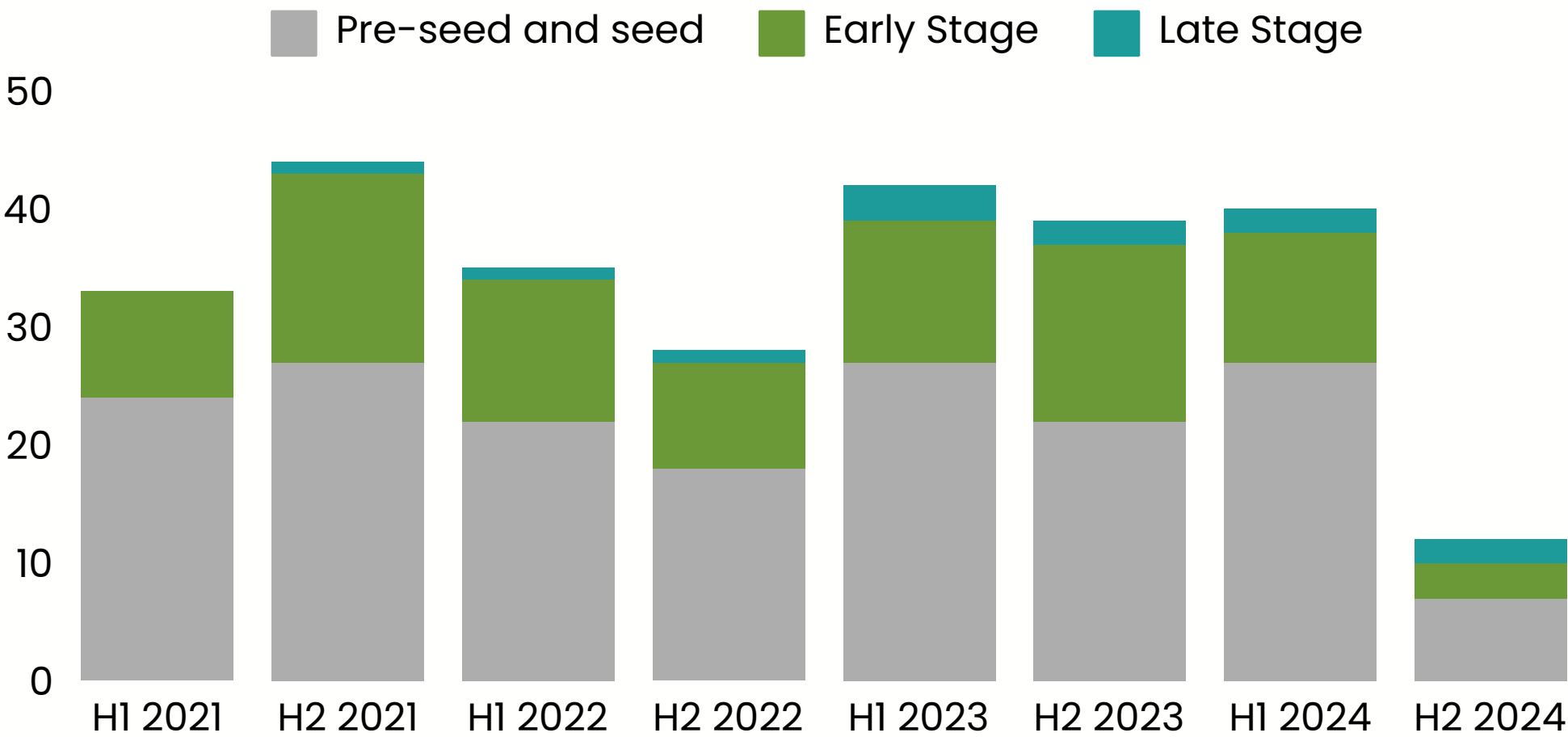


Envopap
undisclosed
(Accelerator/
incubator)

DEAL ACTIVITY SLOWS ACROSS ALL STAGES

The stage-wise deal activity in circular packaging during H2 2024 closely mirrors the overall trends in the circular economy. Pre-seed and seed-stage deals dominated the transactions, reflecting continued investor emphasis on nurturing emerging ventures. Early-stage deals followed, maintaining moderate activity, while late-stage deals remained minimal, showcasing the broader challenges of scaling ventures in the circular packaging sector. Decline in late-stage deals for circular packaging highlights growing investor caution, likely driven by macroeconomic uncertainties and a focus on portfolio consolidation.

DEAL ACTIVITY BY STAGE IN EUROPEAN CIRCULAR PACKAGING



Source: Net Zero Insights

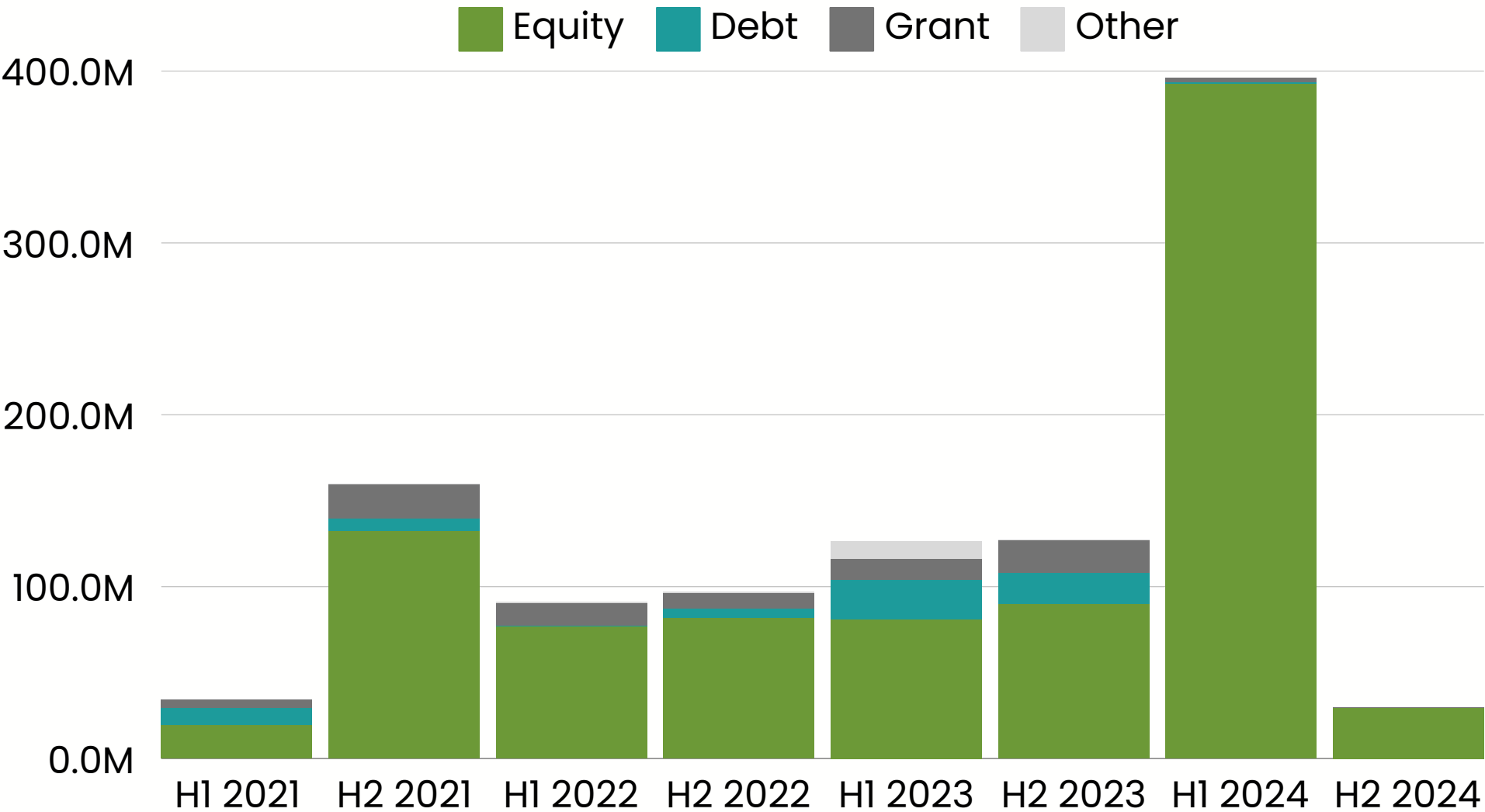
The figures illustrate deal activity in private ventures, covering equity, debt, grants, and other financial instruments, while excluding exits and post-exit financing.

EQUITY SUPPORTS CIRCULAR PACKAGING STARTUPS

Equity has predominantly funded European circular packaging startups, particularly at their initial venture stages, with most deals occurring in pre-seed and seed stages.

This trend was especially notable throughout 2024, with non-dilutive capital making only a minimal contribution to funding throughout the year.

FUNDING BY FINANCING TYPE IN EUROPEAN
CIRCULAR PACKAGING STARTUPS



Source: Net Zero Insights

The figures illustrate funding and deal activity in private ventures, covering equity, debt, grants, and other financial instruments, while excluding exits and post-exit financing.

TOP 5 DEALS IN CIRCULAR PACKAGING IN EUROPE IN H2 2024



France

LACTIPS

€16.0M

Late VC

#bioplastics



Germany

RECYDA

€6.3M

Series A

#recyclability software



Germany

IONKRAFT

€3.5M

Early VC

#package coating



Italy

MOVOPACK

€2.4M

Seed

#packing return system



Serbia

BPACKS

€1.0M

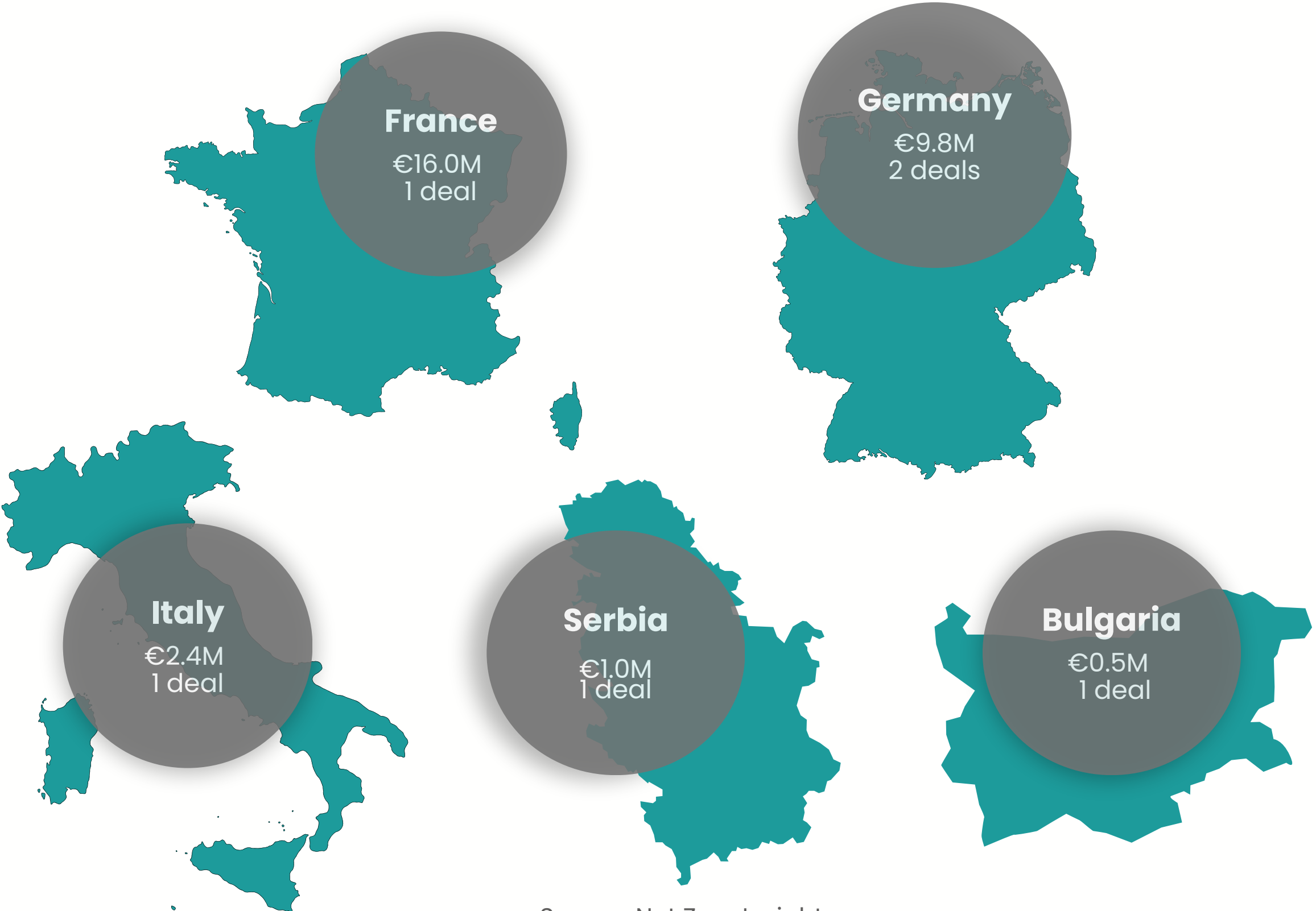
Seed

#bioplastics



TOP 5 EUROPEAN COUNTRIES BY FUNDING IN H2 '24

France led circular packaging funding among the European countries, raising €16M through a single deal, signaling robust interest in innovative solutions. Germany followed with €9.8M across 2 deals, emphasizing steady investment activity in Europe's largest economy. Italy, Serbia, and Bulgaria contributed smaller amounts of €2.4M, €1M, and €0.5M, respectively, each through a single deal. The funding distribution highlights a concentration of activity in Western Europe, while Eastern European countries like Serbia and Bulgaria continue to see limited but emerging participation.



Source: Net Zero Insights

The figures illustrate funding and total deal activity in private ventures, covering equity, debt, grants, and other financial instruments, while excluding exits and post-exit financing.



TOP CIRCULAR PACKAGING STARTUP THAT RAISED IN SPAIN IN H2 2024



B'ZEOS
Barcelona

B'ZEOS is a green-tech company that develops novel bio-based packaging solutions using seaweed as a feedstock.

Undisclosed

Seed

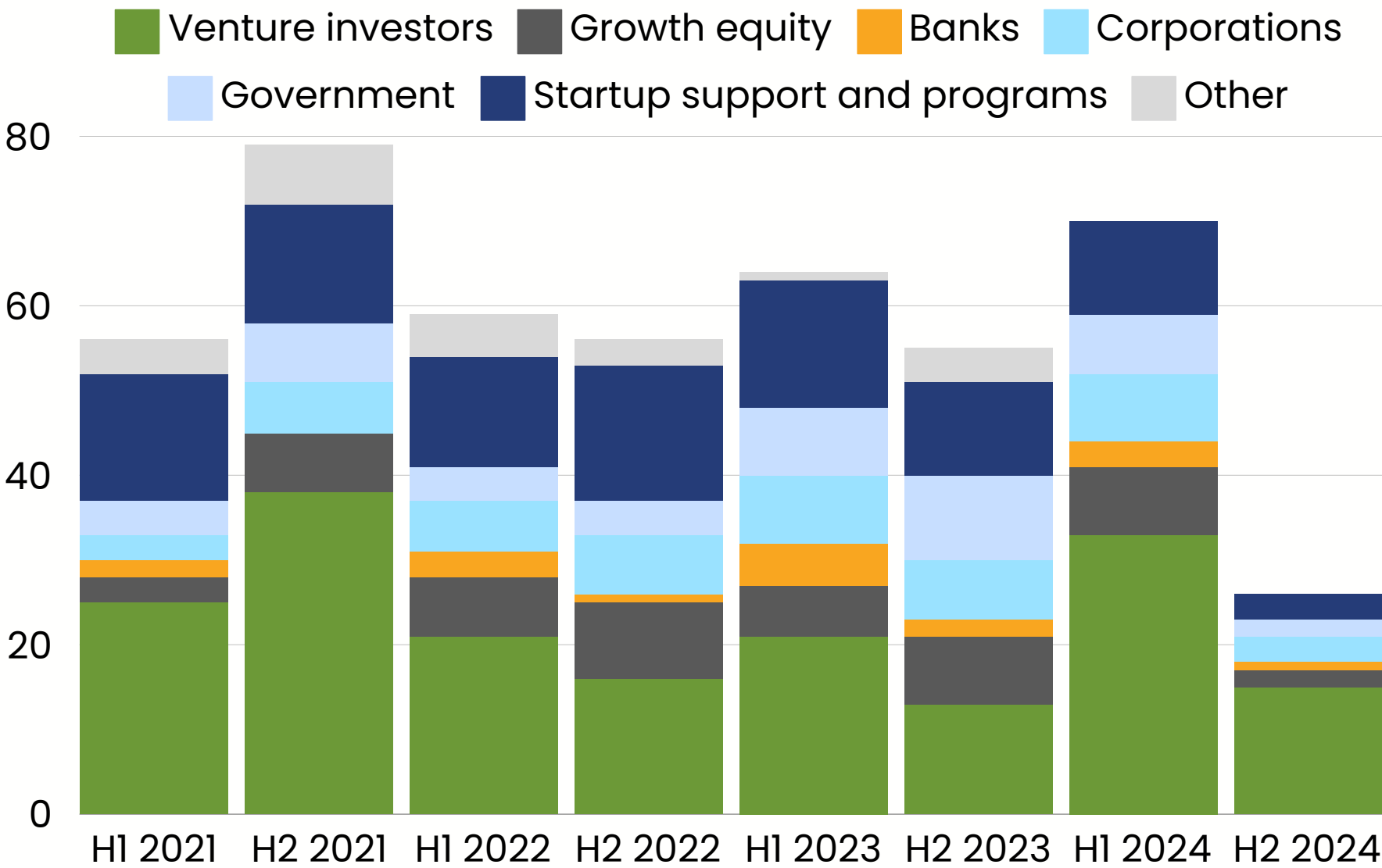


CORPORATE BACKING BOOSTS CIRCULAR PACKAGING IN EUROPE

In H2 2024, corporations continued to demonstrate consistent involvement in circular packaging investments, maintaining a strong presence among investor types. Their participation reflects a growing commitment to sustainability as part of broader corporate strategies to address environmental and regulatory pressures.







While venture investors remain the dominant player across deal activity, the steady contribution from corporations highlights their dual role as both funders and adopters of circular packaging innovations.

NUMBER OF INVESTORS BY TYPE, CIRCULAR PACKAGING




Source: Net Zero Insights

INVESTORS AND ECOSYSTEM PLAYERS: NOTABLE EXAMPLES IN EUROPE

| VENTURE INVESTORS | | | CORPORATIONS | | |
|---|---|---|---|---|---|
|  |  |  |  |  |  |
| Speedinvest 1 deal AUSTRIA | 360 Capital 1 deal FRANCE | Htgf High-Tech Gründerfonds 1 deal GERMANY | Mondelez International 1 deal UNITED STATES | M Ventures 1 deal NETHERLANDS | Greiner 1 deal AUSTRIA |

EXIT ACTIVITY

| Acquired Company | | HQ Country | Acquirer | HQ Country | Read More |
|---|----------------------------------|------------|--|---------------|---|
|  | APK Aluminium und Kunststoffe AG | GERMANY |  Lyondellbasell | UNITED STATES |  |



MAIN FUNDING FEATURES

EUROPEAN CIRCULAR PACKAGING STARTUP VENTURE FUNDING IN H2 2024

Total funding



€30M

Funded European countries



6

Financing Instrument



Equity



Debt



Grants



Others

Investors



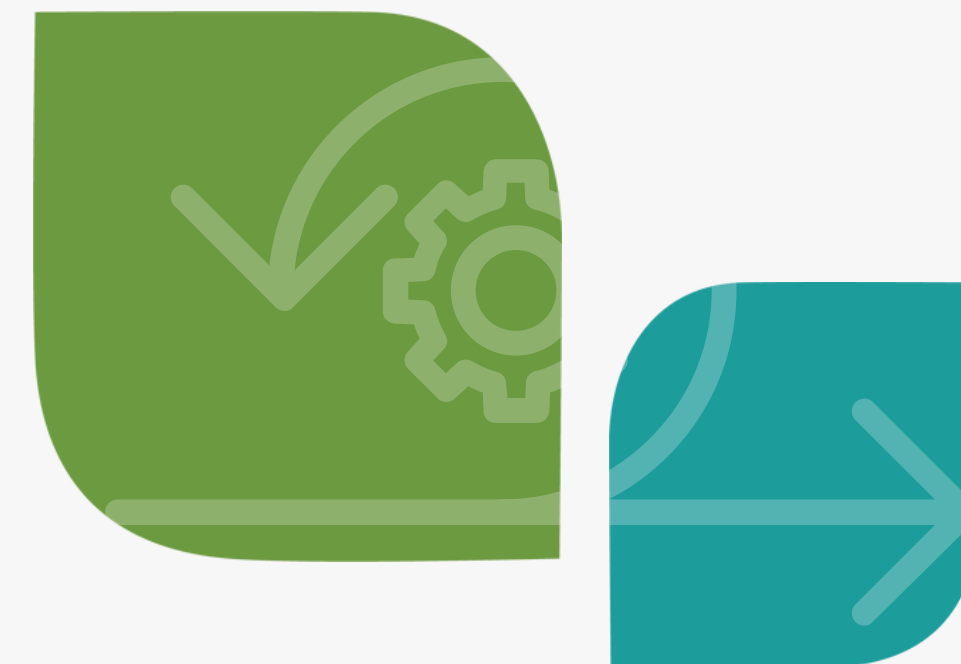
26

Venture investors

≈ 60%

Source: Net Zero Insights

METHODOLOGY



This report includes data extracted from the Net0 Platform, focusing on capital raised from July 2024 to December 2024, with some analysis extending to capital raised since January 2021. For the 2024 key takeaways, data spanning from January 1st to December 31st, 2024 are included, by circular and circular packaging startups with headquarters in the European continent, including the EU27, Albania, Andorra, Belarus, Bosnia and Herzegovina, Faroe Islands, Gibraltar, Iceland, Liechtenstein, Macedonia, Moldova, Monaco, Norway, Russia, San Marino, Serbia, Switzerland, Turkey, Ukraine, and United Kingdom.

The data referenced in the present report is accurate as of 31/12/2024. It is essential to acknowledge that typical reporting delays may lead to potentially incomplete information. Nevertheless, this analysis offers valuable insights into the funding landscape of the climate technology sector.

The analysis covers equity, debt, grants, and other forms of investments for funding and deals, while exits include acquisitions, mergers, IPOs, and SPACs. Financing rounds after an exit are not included.

When simultaneously comparing funding amounts and deal counts, the deal count refers to the total number of deals with disclosed round amounts. This distinction is crucial for maintaining clarity and precision in our analysis.

The report includes an analysis by Key Product Value Chains, aligned with the definition presented by the Europeans Commission in the document titled “A new Circular Economy Action Plan”. The document is accessible at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1583933814386&uri=COM:2020:98:FIN>

DEFINITIONS

Circular economy

The circular economy is an economic system that aims for the minimal loss of the value of products, components and materials. The circular economy is a model of production and consumption that involves sharing, leasing, reusing, repairing, refurbishing and recycling existing materials and products. Solutions to mitigate climate change and to adapt to its effects in this challenge include: second-hand marketplaces, plastic recycling, e-waste management, refurbishment of electronics, circular construction materials, bioplastics, food surplus management, re-commerce and others.

Circular packaging

In circular packaging, packaging materials are selected and designed with the intent of being easily recyclable, reusable, or compostable at the end of their life cycle. Innovative solutions in circular packaging include the use of biodegradable materials. Another approach involves designing packaging that can be easily disassembled or separated into its components for efficient recycling. Additionally, companies are exploring reusable packaging models where containers are returned, cleaned, and refilled, reducing the need for single-use packaging. Advancements in technology also support the tracking and tracing of packaging materials throughout their life cycle, ensuring they are properly managed and recycled.

Investor types

To compare investor types and better understand their investment activity in Climate Tech, we have created seven groups that cluster investors based on their profile and funding activity.

Venture investors: include venture capital firms, angels, angel groups and family offices.

Growth equity investors: include private equity firms, asset managers and investment companies.

Banks: include investment banks, commercial banks and merchant banks.

Corporations: include corporations, corporate venture capital, insurance companies and holding companies.

Governments: include governments and sovereign wealth funds.

Startup support and programs: accelerators/ incubators, competition/challenges, academic / research institutions and university

Others: all other types not included in other investor groups.

