Cleantech for Italy

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Cleantech for Italy

2025 Annual Briefing

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Authors and Methodology

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Federico is the Director of Cleantech for Italy, a new initiative launched to boost the country's cleantech industrial leadership. Before that, he worked as a deep tech venture capital investor focusing on space technologies and gained experience in R&D funding. He holds an MBA from the Collège des Ingénieurs and has a background in economics and policy.

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Leonardo is the Investment Director at MITO Technology, a venture capital fund specialising in early-stage investments in climate tech and science-equity startups. MITO Technology identifies and supports high-impact, planet-healing innovations. He holds an MBA from the Collège des Ingénieurs and has expertise in nanotechnology and material engineering.

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Michele is a Director at the Italian Ministry of Economics, where he deals with climate change mitigation and industrial policy. He served as Director of the Prime Minister's Task Force for Hydrogeological Risks and Special Advisor for decarbonization for the Minister for Sustainable Infrastructure and Mobility. He is a 2024 Columbia University MPA graduate.

Methodology

The main source for this analysis is the data we periodically collect from public sources. Unless otherwise specified, cleantech funding includes equity (VC and other forms), debt, and grant financing.

Starting from this release, we have updated our sector classification using Cleantech Group's taxonomy, which includes the following cleantech verticals:

- **Agriculture & Food:** precision agriculture, indoor farming, food waste, food supply chain, crop inputs, alternative proteins, biomass, animals
- **Energy & Power:** renewables, nuclear, hydrogen, energy storage, energy networks, energy services, buildings, biomass and waste-to-energy, energy efficiency
- **Materials & Chemicals:** advanced materials, advanced manufacturing, biotechnology, building materials, CCUS, fuels and chemicals, industrial materials, process technology, specialty chemicals
- **Resources & Environmental Management:** environmental monitoring, climate risk, carbon removal, natural resources, water, remediation
- **Transportation & Logistics:** aircraft, EV charging, fleet management, micromobility, maritime, on-road vehicles and components, rail, infrastructure
- **Waste & Recycling:** waste management, wastewater, construction, fashion

Foreword

The global cleantech landscape has shifted dramatically. The US retreat from climate commitments under the One Big Beautiful Bill might suggest a slowdown, but the opposite is true. Geopolitical fragmentation has made clean technologies more strategically relevant than ever. The question is no longer just "how do we decarbonize" but "can we access the technologies we need without becoming dependent on critical bottlenecks?" Energy security, industrial competitiveness, and supply chain resilience are now the primary drivers of the cleantech agenda, and they are even more compelling in a fragmented world.

Europe has responded with something genuinely new. The Clean Industrial Deal, along with its Industrial Accelerator Act and Made in Europe ambitions, represent an epistemological break from a generation of policymakers trained to distrust industrial policy. And this goes beyond norms and subsidies: it requires rebuilding institutional and intellectual capacity to think strategically about which industries to grow, which technologies to master, and how to create the market conditions for both.

For Italy, this moment demands concrete answers to concrete questions. First, Italy needs industry-specific technology tracks: mapping what decarbonization and resource efficiency actually require sector by sector, from steel to ceramics to food processing. Tech-neutral incentive mechanisms sound fair but in practice reward incumbents over innovators. Strategic allocation requires knowing what you are trying to achieve in each industry before deciding how to support it. Second, Italy must define its Made in Europe manufacturing ambitions with accuracy and prioritization. For mature technologies, the debate on local content is legitimate. For emerging ones, protecting infant industries is not protectionism: it is the same logic every successful industrializer has applied, and the current moment makes it a strategic necessity. Third, public guarantee instruments must be scaled and targeted to two complementary goals: crowding in private capital for industrialization projects and supporting successful innovators as they bring products to market.

The window is open. But not indefinitely.

Federico Cuppoloni

Director, Cleantech for Italy

Foreword

The global cleantech funding story in 2025 was an energy story, shaped by a power-demand supercycle. Climate tech venture and growth investment reached ~€35.8bn, but the market tightened: more concentration and a clear shift toward system resilience (storage, grid software, flexibility, and power). The message from investors was blunt: the transition is now constrained by electrons, not emissions. Surging power demand (AI/data centers and electrification) is pulling capital toward grid tech, storage, and dispatchable capacity.

Regionally, the gap is structural. Europe attracted ~€8.9bn, while the US captured ~€18.4bn, more than double this amount, highlighting deeper late-stage capital pools and faster translation of demand signals into bankable deployment.

Against that softer European backdrop, Italy posted an encouraging 2025. Cleantech VC reached €243.3m across 54 deals, representing 16.4% of Italy's €1.488bn venture market, roughly one euro in six. More importantly, the shape of the market improved: Q4 alone delivered €106.3m across 17 deals (around 44% of annual volume), signaling a pipeline moving from seed density to mid-stage gravity. Round sizes stepped up (average €4.50m, median €2.0m) and the ecosystem produced five €10m+ rounds (including three above €20m). Yet the ceiling remains clear: there were no true industrial-scale mega-rounds (e.g., €50m+ manufacturing build-outs), meaning Italy is closer to scale, but still missing the capital-stack bridge that turns venture-backed innovation into bankable infrastructure and industrial assets. Sector composition supports a "Made-in-Italy" thesis: Materials & Chemicals drew €114.5m , while Energy & Power reached €43.7m, anchoring the pipeline in industrial applications, not just generation.

Crucially, Italy's momentum is now reinforced by market signals investors can underwrite. storage bankability materialized with the first MACSE auction (10 GWh at €12,959/MWh-year), and EU approval of €1.5bn under CISAF to expand cleantech manufacturing. Italy has the early ingredients of a 2026 story: convert record 2025 VC into scale financings by standardizing de-risking (offtake, guarantees, permitting certainty) and letting the power-demand pull do the heavy lifting.

Leonardo Massa

Investment Director, MITO Technology

Executive Summary

Momentum builds for EU and Italian cleantech policy

- **Europe set the strategic architecture, but implementation gaps remain.** The Clean Industrial Deal, CISAF, and the EIB's new de-risking instruments collectively represent the most ambitious EU cleantech policy package in years. Yet structural gaps persist: the absence of production-based incentives, the weakness of late-stage capital markets, and China's expanding export controls on critical raw materials all point to an agenda that is still more framework than delivery. The Industrial Accelerator Act, expected in early 2026, will be the first real test of whether European industrial policy can translate ambition into binding market signals.
- **Italy made meaningful progress, but the regulatory picture remains uneven.** The MACSE auction marked a coming-of-age moment for Italy's storage market. The FER-X resilience clauses made Italy the first country in Europe to operationalise local content criteria in renewable tenders. Yet DL 175/2025 introduced a narrower definition of suitable areas that risks constraining deployment, and the exhaustion of *Transizione 5.0* resources left a key question unanswered heading into 2026.
- **A year of active engagement at both European and Italian level.** At the European level, Cleantech for Italy co-signed an open letter on CISAF calling for production-based incentives, expanded guarantees, and simplified access to funding. At the Italian level, we convened two landmark events at the Chamber of Deputies and engaged in strategic conversations with political forces on industrial strategies and the role of cleantech in boosting competitiveness and security.

Cleantech VC investments at an all-time high

- **2025 marked a new all-time high for cleantech venture capital in Italy.** Cleantech VC investments reached a record €243.3m in 2025, marking a 37.4% increase compared to 2024 and a 48.6% CAGR since 2019. Including debt and grants, total funding raised since 2019 now approaches €1.3bn.
- **Cleantech is capturing an increasingly structural share of Italy's VC market.** In 2025, cleantech accounted for 16.4% of total venture capital funding nationwide. This growing relevance is partly driven by the launch of several vertically focused cleantech VC funds during the year, signalling a stronger institutionalisation of the sector.
- **Cleantech financing is gradually shifting from early-stage experimentation to industrial scale-up.** The strong presence of mid-sized rounds highlights growing momentum in scaling domestic technologies. Both the average round (€4.5m vs €2.5m in 2024) and the median (€2.0m vs €0.6m) increased significantly. However, no industrial-scale large rounds took place in 2025, indicating that the ecosystem has yet to unlock full-scale capital mobilisation for manufacturing and deployment phases.
- **Materials & Chemicals are emerging as Italy's strategic cleantech vertical.** With 47.1% of total cleantech investments in 2025 (1.8x 2024 levels), the sector leads all verticals, driven by growing traction in advanced materials and circular solutions. This concentration reflects not only investor appetite but also an increasing recognition as a strategic pillar for the country's industrial competitiveness.

01

POLICY

A year of frameworks and new beginnings: Europe's cleantech industrial policy in 2025

Cleantech for Italy

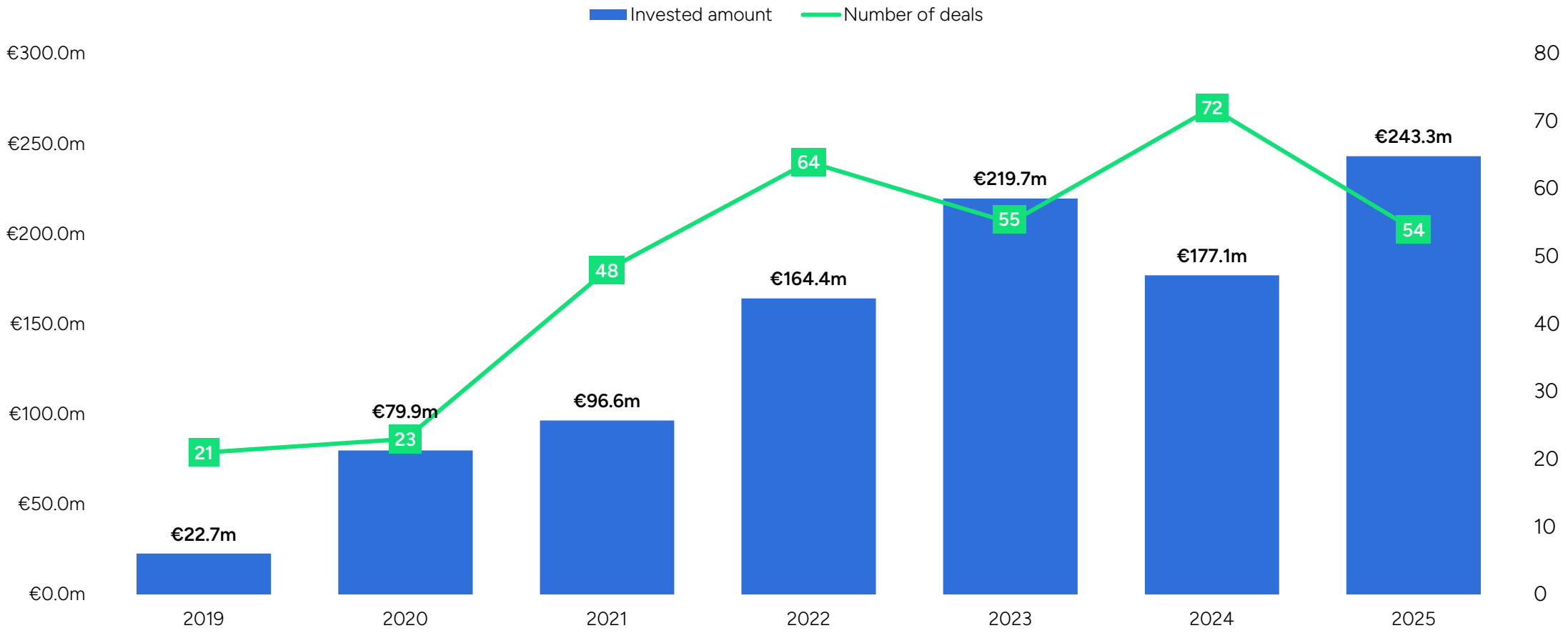
- **The Clean Industrial Deal set the strategic architecture for the entire year.** Published in February, it reframed decarbonisation as a competitiveness imperative: lowering energy costs, supporting energy-intensive industries, and anchoring cleantech manufacturing as a pillar of European industrial sovereignty. Every major policy development that followed operated within the logic it established.
- **CISAF translated the Clean Industrial Deal's ambitions into a state aid toolkit for Member States.** Adopted in June, it expanded flexibility for loans and guarantees to cleantech manufacturing, fast-tracked renewable energy schemes, and introduced new instruments for industrial decarbonisation. A structural gap remained, however: the absence of production-based incentives (the mechanism that made the US Inflation Reduction Act so effective at crowding in private capital) left Europe's approach more cautious than the moment demands.
- **The EIB launched a suite of de-risking instruments that the cleantech community had long called for.** The CleantechEU Guarantee Scheme, a €500m PPA counter-guarantee pilot, and a €3bn package for grid and wind manufacturing sent meaningful signals, though volumes remain modest relative to the scale of the investment gap, particularly at the Series B and growth equity stages where European funding has been weakest.
- **The Industrial Accelerator Act emerged as the single most consequential policy on the horizon.** Expected in March 2026, it will define "Made in Europe" criteria for public procurement and EU funding, determining whether European public spending creates genuine industrial anchors or continues to flow to the lowest-cost global supplier. Over 115 cleantech companies, including members of our coalition, co-signed an open letter calling for strong local content preferences.
- **Europe's long-term budget proposal set the fiscal architecture for the next industrial decade.** The Commission's MFF 2028–2034 proposed a €2 trillion budget with a 35% climate spending target and a new European Competitiveness Fund designed to consolidate fragmented instruments into a coherent deployment vehicle.

Italy's cleantech policy agenda: a year of progress, tensions, and open questions

- **Italy's storage market came of age in October.** Terna held the country's inaugural MACSE auction awarding 10 GWh at €12,959/MWh-year, far below the €37,000 reserve price. The result confirmed falling costs and growing investor confidence, while also surfacing a structural question: how to design future auctions that work for independent developers and technologies beyond lithium-ion.
- **On supply chain resilience, Italy moved faster than any other EU Member State.** The second FER-X solar auction introduced a ban on Chinese PV components, cells, and inverters for large-scale projects, a direct implementation of the Net-Zero Industry Act's resilience criteria and an early real-world test of whether local content ambitions can hold.
- **The regulatory picture was more mixed.** The revised Renewables Code streamlined permitting and clarified rules for agrivoltaics and storage. Yet DL 175/2025, which bundled *Transizione 5.0* fixes with a new definition of "suitable areas" for renewables, drew criticism for narrowing the spatial framework at precisely the moment when PNIEC targets demand acceleration. The exhaustion of *Transizione 5.0* resources in November added urgency to an open question that carried into 2026: what comes next for Italy's flagship industrial incentive instrument?
- **Energy Release 2.0 introduced a more coherent demand signal for industrial decarbonisation.** By linking discounted electricity for energy-intensive companies to commitments to fund new renewable capacity, it offered a model worth watching as hard-to-abate sectors move up the policy agenda. Unlike pure subsidy schemes, the built-in payback mechanism ties public support directly to new capacity creation, aligning incentives across the value chain.
- **At the European level, Italy's cleantech manufacturing ambitions received formal backing by year-end.** In December, the Commission approved a €1.5bn state aid scheme for Italian cleantech manufacturing under CISAF, covering solar, wind, storage, heat pumps, and hydrogen: the first major deployment of the new framework in Italy, and a concrete signal that the industrial policy debate of 2025 is beginning to translate into capital.

Cleantech VC investments hit a record high in 2025 (+37% vs 2024), growing at a CAGR of 68.5% since 2019

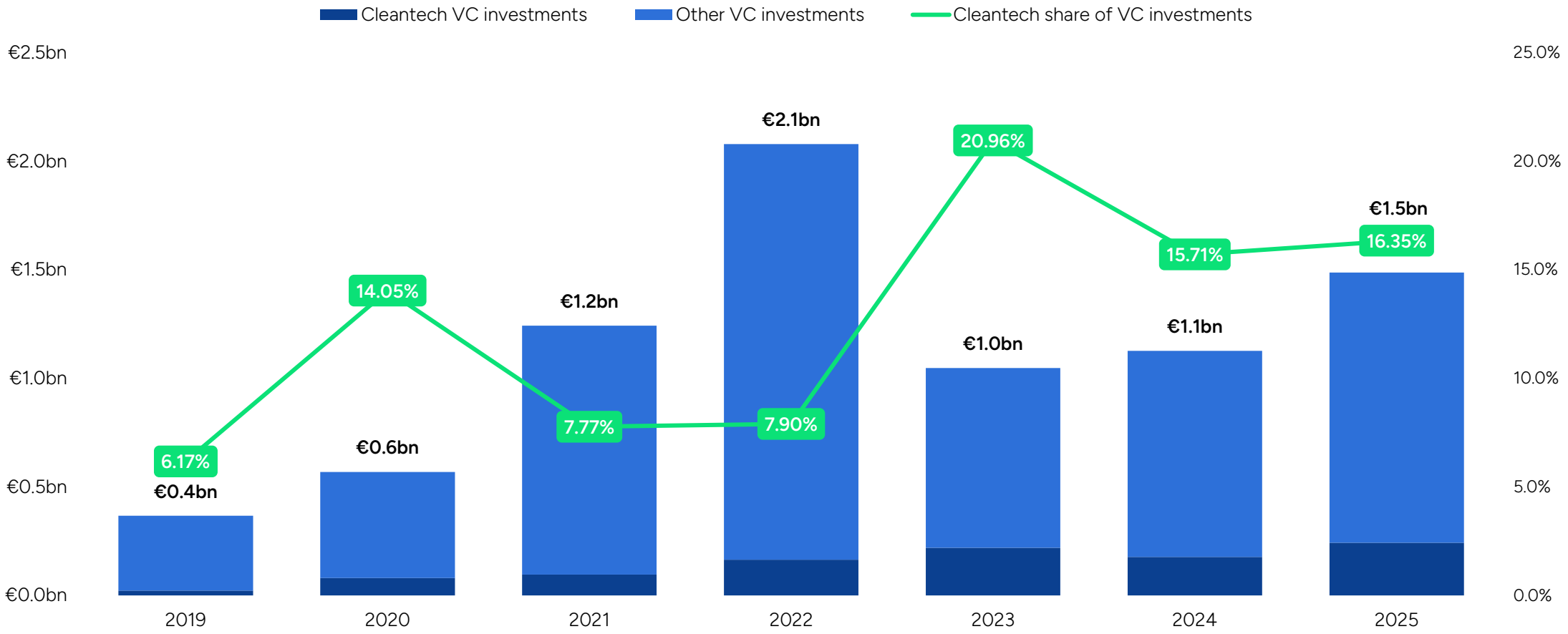
Cleantech VC investments by deal size and deal count, 2019-2025



Sources: Cleantech for Italy, MITO Technology

Cleantech maintained a meaningful share of Italy's total VC investment, even without any large rounds in 2025

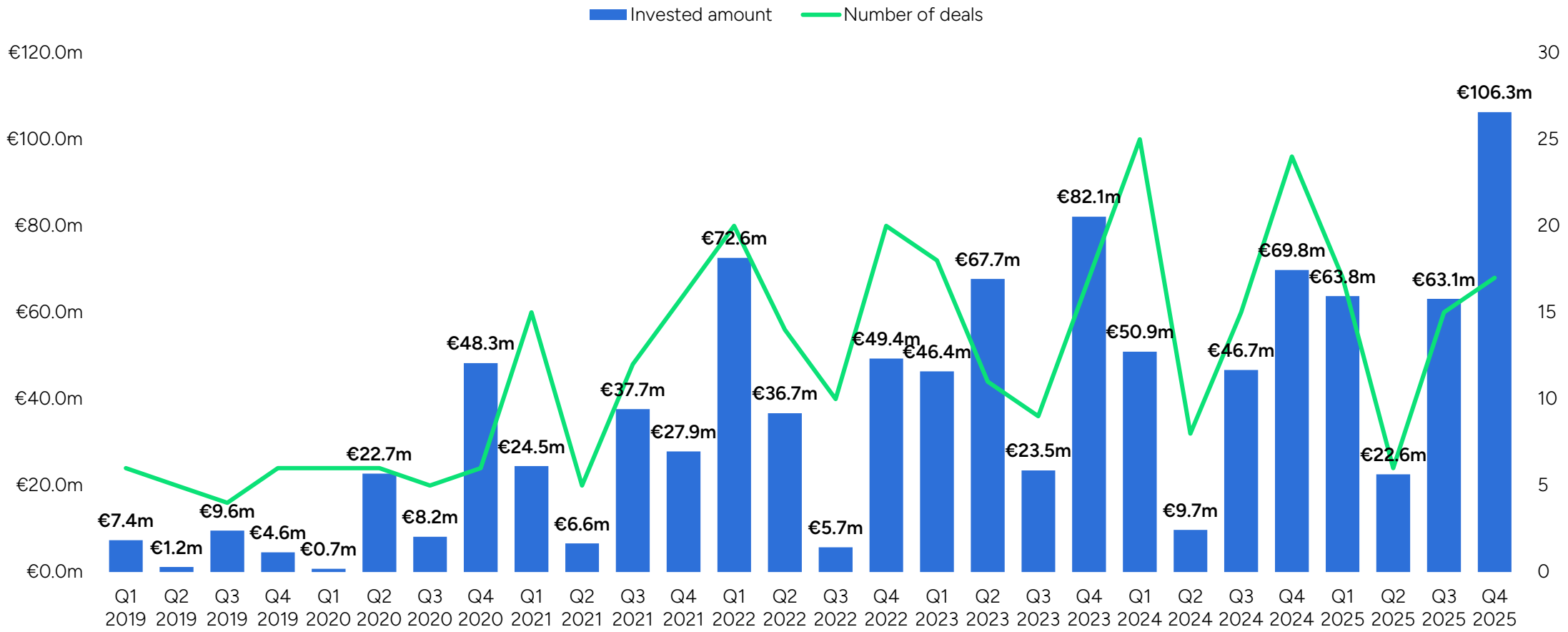
Cleantech share of total VC investments, 2019-2025



Sources: EY Venture Capital Barometer 2026, Cleantech for Italy, MITO Technology

Q4 delivered the highest investment level on record, supported by a growing pipeline of mid-stage ventures

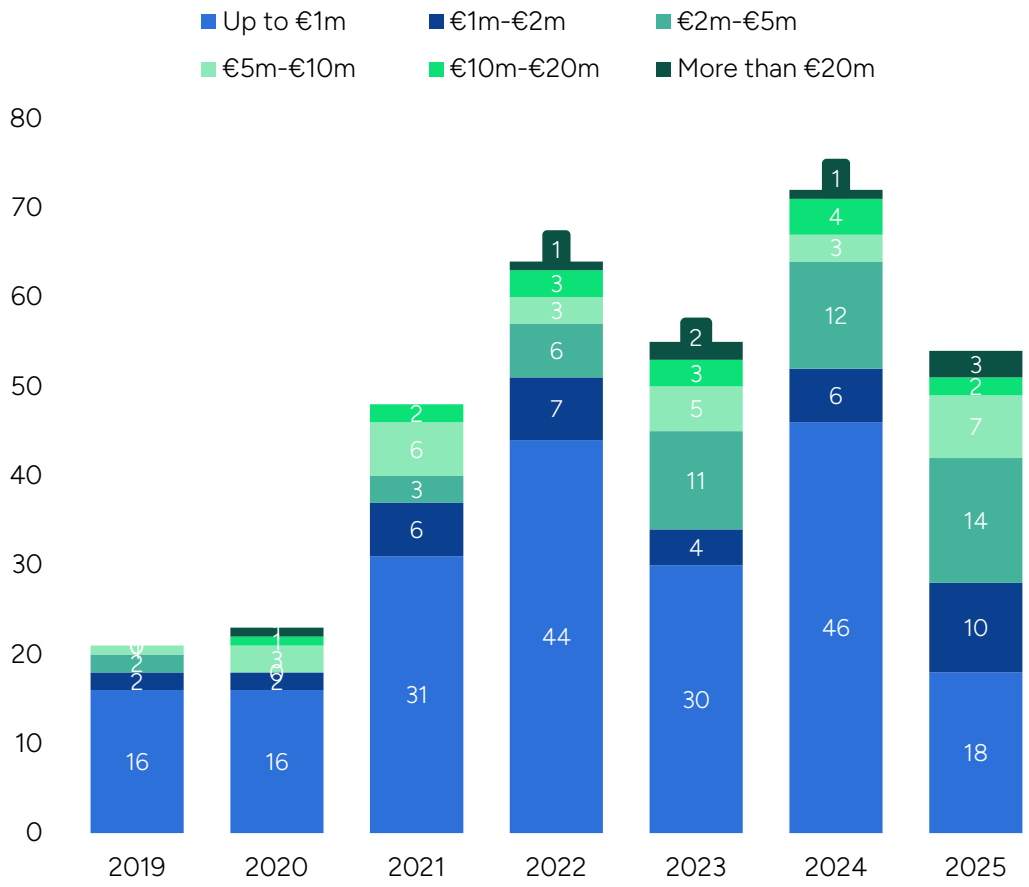
Cleantech VC investments by deal size and deal count, 2019-2025



Sources: Cleantech for Italy, MITO Technology

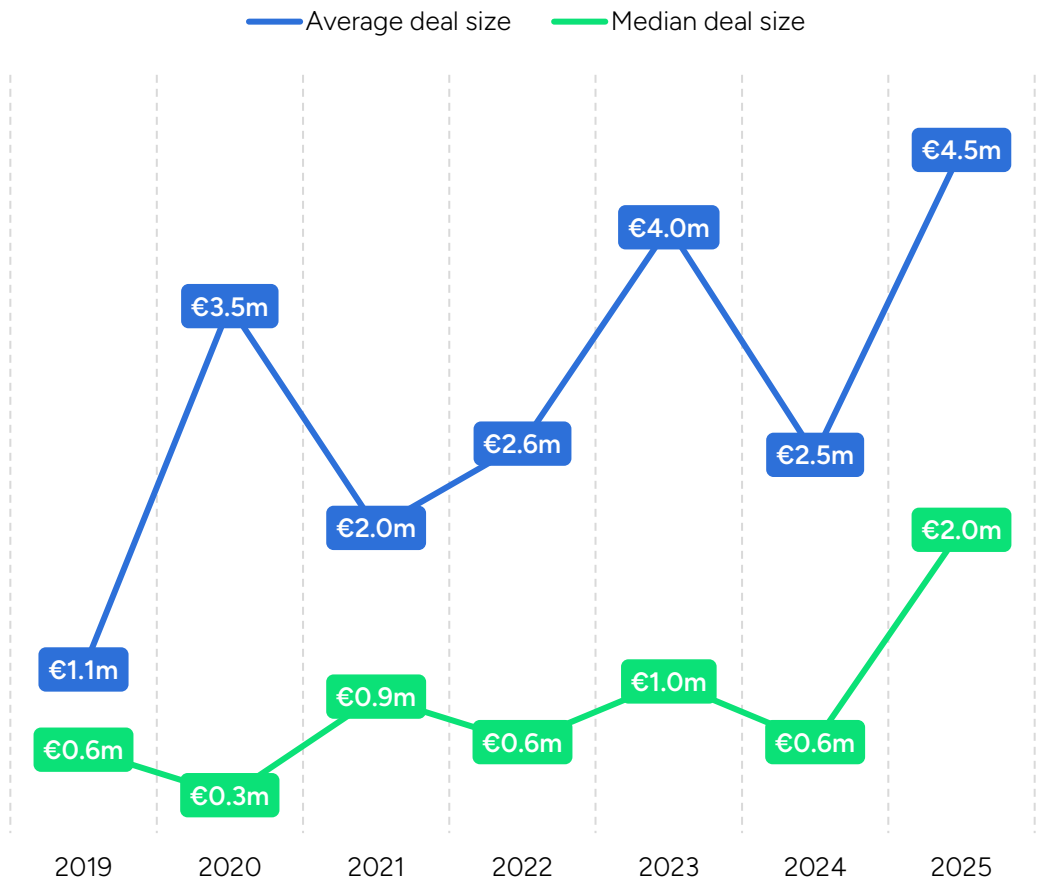
2025 marked a clear shift towards larger deal sizes, reflecting the growing maturity of the cleantech ecosystem

Cleantech VC investments by deal size



Sources: Cleantech for Italy, MITO Technology

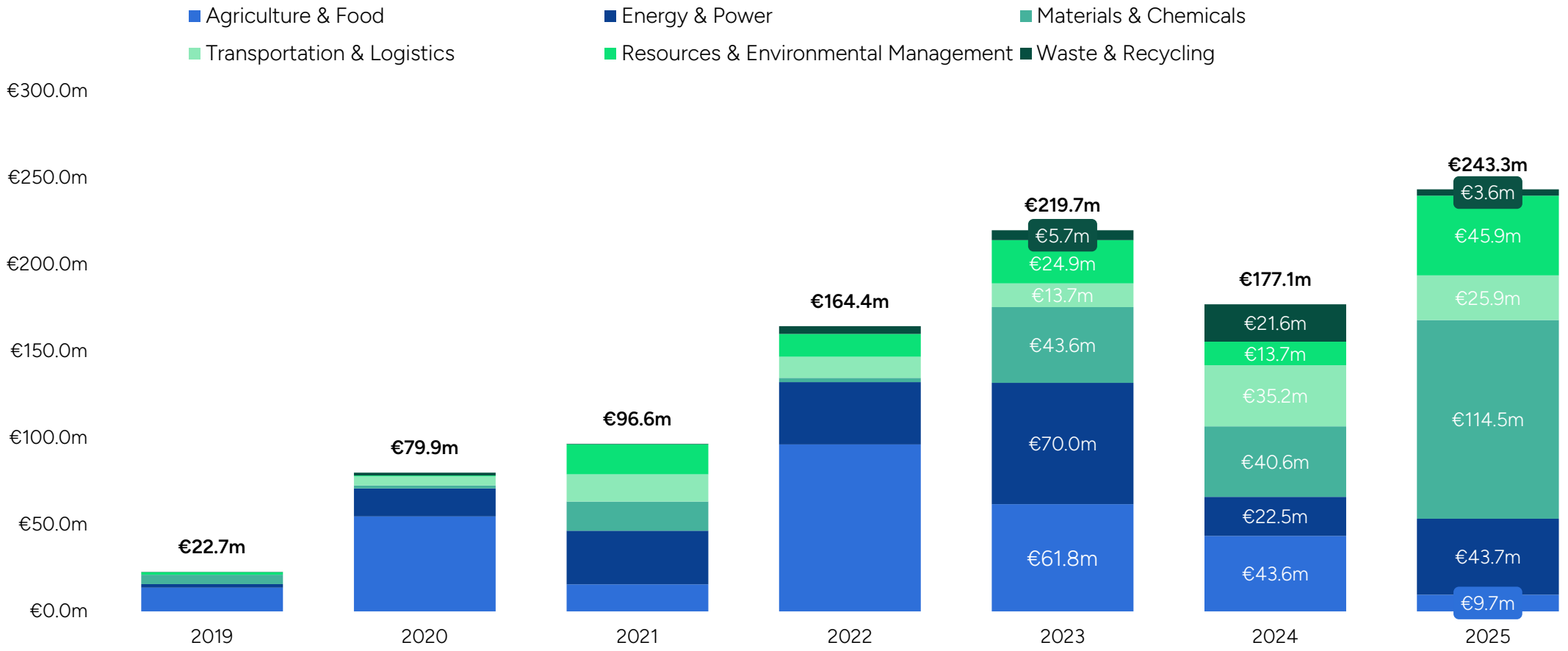
Average and median cleantech VC deal sizes



Sources: Cleantech for Italy, MITO Technology

Materials & Chemicals continued to grow, outpacing other verticals, driven by investment in advanced materials

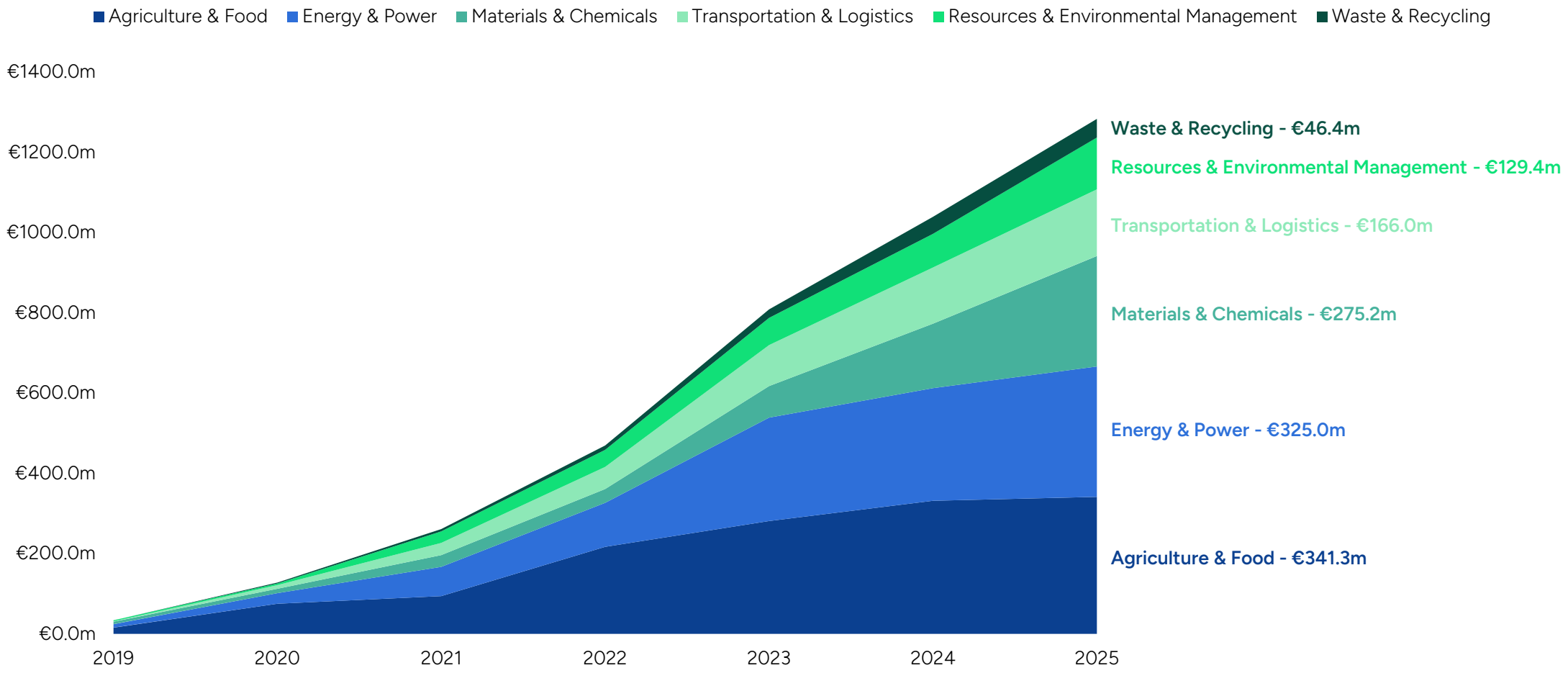
VC cleantech funding per sector, 2019-2025



Sources: Cleantech for Italy, MITO Technology

Cleantech funding since 2019 has reached €1.3bn, of which 78% is sourced from VC

Cumulative total cleantech funding per sector, 2019-2025



Sources: Cleantech for Italy, MITO Technology

A growing concentration of mid-stage rounds is strengthening the pipeline toward industrial scale

Company	Description	Funding
TulumEnergy	Innovative methane pyrolysis process for clean hydrogen production	€24.3 million
tretau	High-performance magnet wire for automotive, energy, and general applications	€20.0 million
W•SENSE	Underwater wireless communication enabling data transfer and monitoring	€17.2 million
blubrake	Anti-lock braking systems for e-bikes and light electric vehicles	€14.5 million
ARSENALE BIOYARDS	Biomanufacturing platform focused on bio-based alternative products	€10.0 million
finapp	Water measurement in soil and snow through cosmic rays sensors	€8.6 million
Limenet	Carbon-free lime with permanent CO2 removal via ocean storage	€7.0 million

Company	Description	Funding
SIZABLE ENERGY	Offshore pumped hydro technology for long-duration energy storage	€6.9 million
KRILL DESIGN	Transformation of organic by-products into sustainable biomaterials	€6.0 million
Resilco	Treatment of industrial waste, converting it into secondary raw materials	€5.0 million
ELIANN	Climate risk assessment platform for insurances and infrastructures	€4.3 million
DMAT	Self-healing green concrete technology for enhanced durability	€3.9 million
ogyre	Marine waste recovery through fishers, focusing on plastics	€3.8 million
novac	Supercapacitors for maritime, automotive, aerospace, and grid applications	€3.5 million

Our coalition was unveiled and engaged Parliament, industry, and European institutions

Cleantech for Italy

- **Cleantech Friendship Group.** In February, we joined the inauguration of the new Cleantech Friendship Group at the European Parliament in Brussels, an event opened by President Von der Leyen that marked a new chapter in the relationship between the cleantech community and EU institutions.
- **Coalition launch.** In April, Cleantech for Italy unveiled its coalition of universities, research centres, innovators, and investors in the presence of MPs from across the political spectrum. The Manifesto was presented, outlining five pillars for cleantech industrialisation.
- **General Assembly.** The first *Stati Generali del Cleantech* brought together innovators, investors, institutions, and industrial leaders. The day opened with a breakfast roundtable between our coalition and the EIB, ahead of a plenary centred on technology transfer, innovation finance, and industrial demand.

Cleantech Friendship Group, February 2025


Press release, April 2025


Breakfast with the EIB, June 2025

Stati Generali del Cleantech, June 2025

Cleantech for Italy

Forging the path to cleantech leadership in Italy

Find out more about Cleantech for Italy on **our website** and follow us on LinkedIn to stay updated on our latest initiatives and events.

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