startup radar madrid

Madrid Region

Energy & Cleantech Startups

Q4 2022

Industry Report

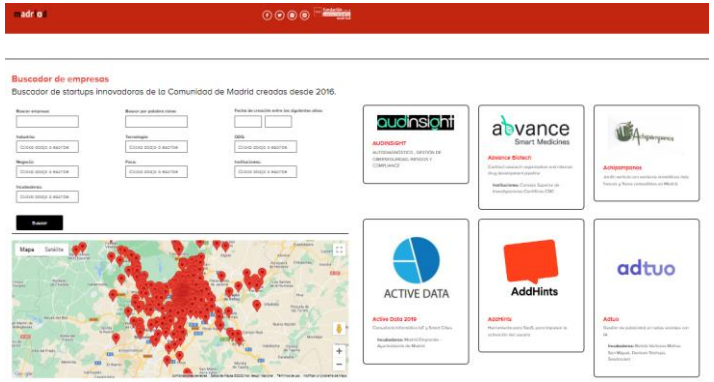
fundación para el conocimiento madrid

In partnership with:

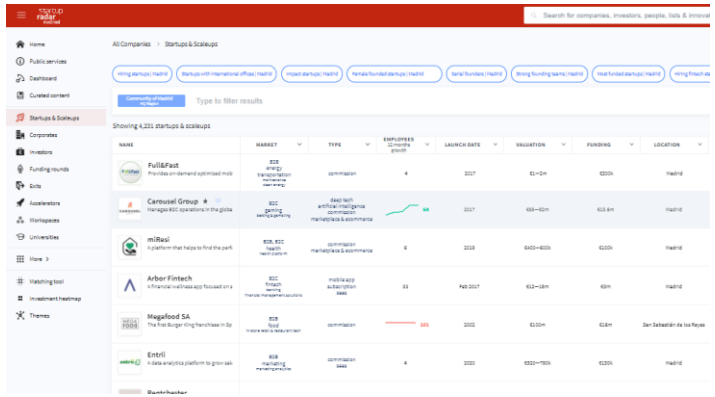
dealroom.co

The Madrid Region Startup Ecosystem Platform

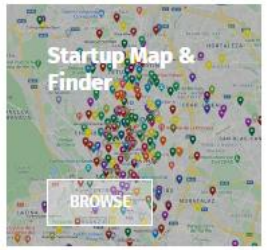
Ecosystem Platforms: Tools, Maps and Databases

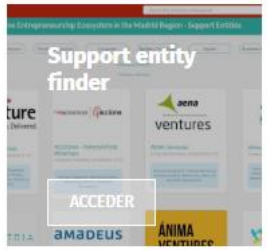


Platform on Dealroom

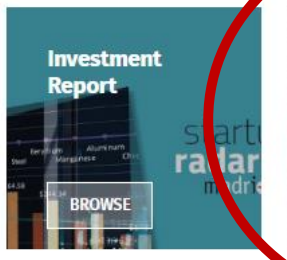


Ecosystem Platforms





Reports



2 Annual reports:

- **Ecosystem Report** (sectors, technologies,...)
- **Investment Report**

+ Sector Reports

Startup Tools

Tools for startups:

- **Job search**
- **Investors**
- **Public Financing**

PESTEL Factors – Energy & Cleantech

Political

- Green Deal for Climate (see)
- PERTE ERHA NextGen Funds (see)
- Affordable and clean energy (see)
- Network decentralization
- Supply regionalization
- International energy instability
- Strategic political moves

Economic

- Supply crisis
- Stagflation
- High inflation
- Rising energy cost
- Benefit regulation
- Aid through tax reduction

Sociocultural

- Sustainable social awareness
- “Low emissions” lifestyle
- Sustainable habits
- Risk of disconnection and poverty
- Ecological social awareness
- Scratch to polluting factories

Tecnological

- Expenditure on R&D for “clean” technological development
- Deployment of IoT in energy companies
- Cybersecurity in Energy Management
- Smart Grids, Smart Industries, Smart Cities

Environmental

- Awareness against climate change
- Recycling culture
- Environmental policies
- Natural ecological risks
- Sustainable and low emission awareness
- NGO pressure

Legal

- Regulation capable of favoring or blocking developments
- Technology susceptible to industrial and intellectual property
- Recycling standards, low emissions, carbon footprint...
- Interventionist regulations

Challenges – Energy & Cleantech

Climate Neutrality

- Reduce greenhouse gas emissions and achieve “climate neutrality”
- Decarbonization
- Ecological transition
- Sustainability
- Circular economies
- Energy efficiency

Energy Autonomy and Clean Energy

- Renewable energy development (leadership in solar and wind)
- Marine renewable energy
- Energy storage for use and connectivity
- Backup clean energy (gas)
- Renewable Hydrogen Production

Development of Renewable Models

- PPA (Power Purchase Agreements)
- Insurance for investment in renewables
- Accessibility and promotion of self-consumption
- Technological developments and digitization
- R&D+innovation

Sources: PERTE ERHA and own elaboration from other sources

Spain has proposed to achieve the decarbonization of its energy model in 2050. This challenge means making progress in alternative energies and an opportunity to generate employment and economic growth.

1st Phase / 2030

Reduce greenhouse gas (GHG) emissions by at least 20% compared to 1990 figures.
Generate at least 74% of electricity with renewable energy.
Ensure 35% of final energy consumption from alternative sources.
Improve energy efficiency by 35%.

2nd Phase/ 2050

Achieve 100% renewable energy.
Reduce the emission of greenhouse gases by 90%, based on the 2030 Agenda and the Paris Agreement against Climate Change.

Framework of opportunities for startups in the sector

- **Generation:** Growing number of small energy producers
- **Market**: Decentralization of networks, regionalization of supply
- **Transmission**: Increase of smart mini-grids with advanced controllers and control techniques, accommodating various energy sources, energy storage.
- **Distribution**: Growing multidirectional flow of energy and information
- **Consumer**: Increasingly active (Prosumer), increasing electrification

Some opportunities for startups in generation, transmission & distribution

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- **New green investments (green bonds) financial attribution:** Mapping, identification, characterization and monitoring of energy assets (for example, geolocation with AI)
- **Monitoring of environmental standards, especially emissions**: need for complete and objective data
- **Modeling including long-term forecasts**: Integrate climate and metrological information, extend data to other regions, islands, developing areas,...
- **Improvement of production systems**: solar, hydroelectric, wind, wave, biomass,..
- **Smart grids, energy management by consumers**:

  Thermal analysis, wireless power transmission, apps, etc.
  de los activos energéticos (por ejemplo, geolocalización con IA)

Energy & Cleantech startup support entities in Madrid Region

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ECOSYSTEM ENERGY AND CLEANTECH

Support to Madrid Energy & Cleantech startups

>5 startups supported

1 startup supported

Public Incubators, Accelerators & R&D Institutions

Fundación Parque Científico de Madrid
Mostoles Tecnologico
uc3m Universidad Carlos III de Madrid
Leganes Tecnológico
E-TECNOALCALÁ HUB
Parque UPM
tecnogetafe
instituto imdea energia
Ciemat Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas
CENER Centro Nacional de Energías Renovables
IDAE
Gobierno de España Ministerio de Ciencia e Innovación
CSIC
¡MADRID! madridEmprende
fundación para el conocimiento madrid
EOI Escuela de organización industrial
uc3m Universidad Carlos III de Madrid
actúaUPM
compluemprende Universidad Complutense de Madrid
UAM Emprende
Universidad de Alcalá
Universidad Rey Juan Carlos
FUNDITEC

Selected corporate & private Accelerators & Facilitators

enagas emprende
FONDO EMPRENDEDORES
LA NAVE MADRID
EDP STARTER
esa business incubation centre Madrid Region
fundación para el conocimiento madrid
enel Innovation Lab
elewit
IMPACT ACCELERATOR
<ISDI>
Desafía
ClimAccelerator CLEAN CITIES
eit InnoEnergy
PERSEO IBERDROLA ventures
ie ENTREPRENEURSHIP
endeavor
Google for Startups
Naturgy innovaHub
cemex ventures
ReV
I'MNOVATION acciona
EMPRESA & SOCIEDAD FUNDACIÓN
Demium.
Lánzate

Incentives and State Aid

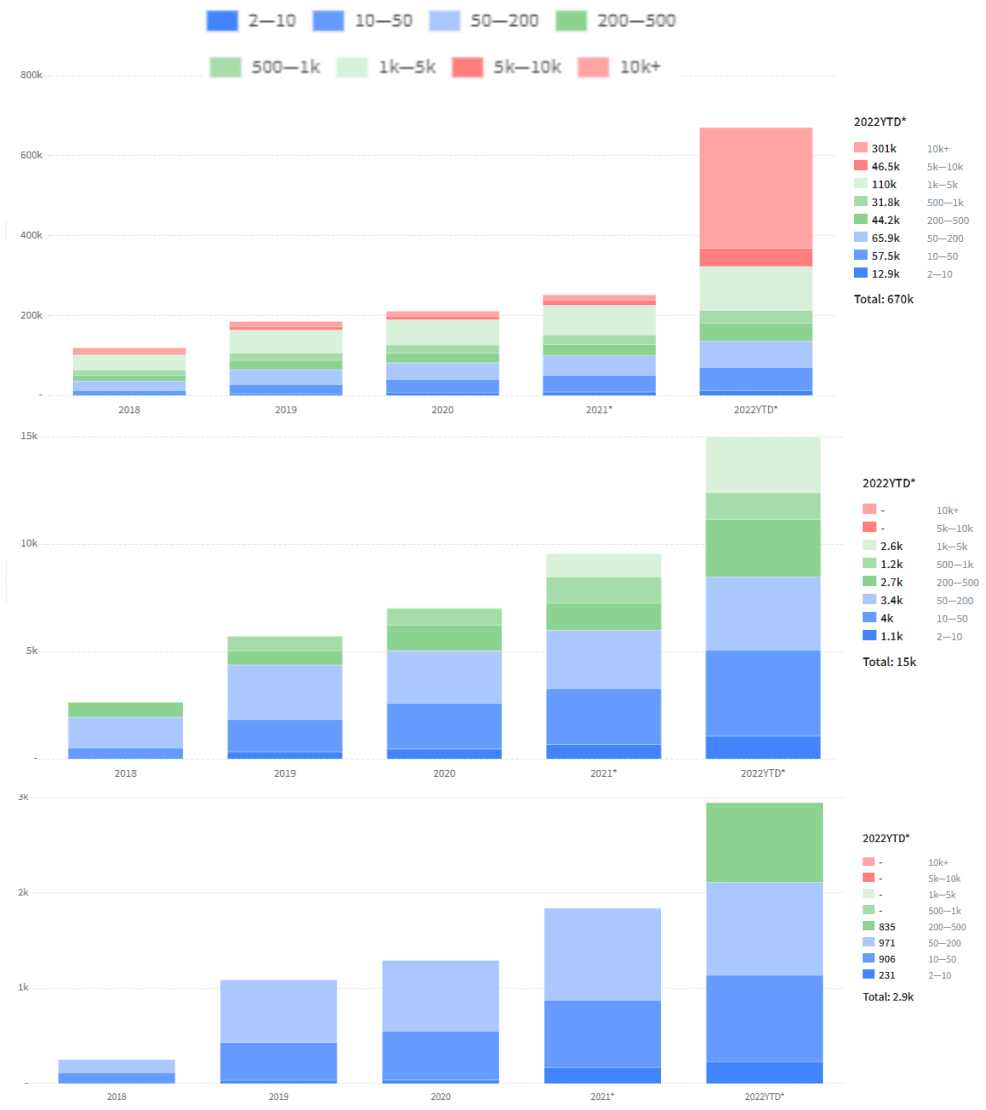
- Financial instruments for Startups públicos para startups
- PERTE of Rrenewable Energy, Storage and Renewable Hydrogen
- Participation in innovative investment projects

NextGenerationEU

Ayudas renovables

PPA Power Purchase Agreement

Jobs created by startups in Energy and Cleantech (2022YTD)



Europe

8.620 startups

Jobs: 670 K

Spain

674 startups (7,8% of Europe)

15k (2,5% of Europe)

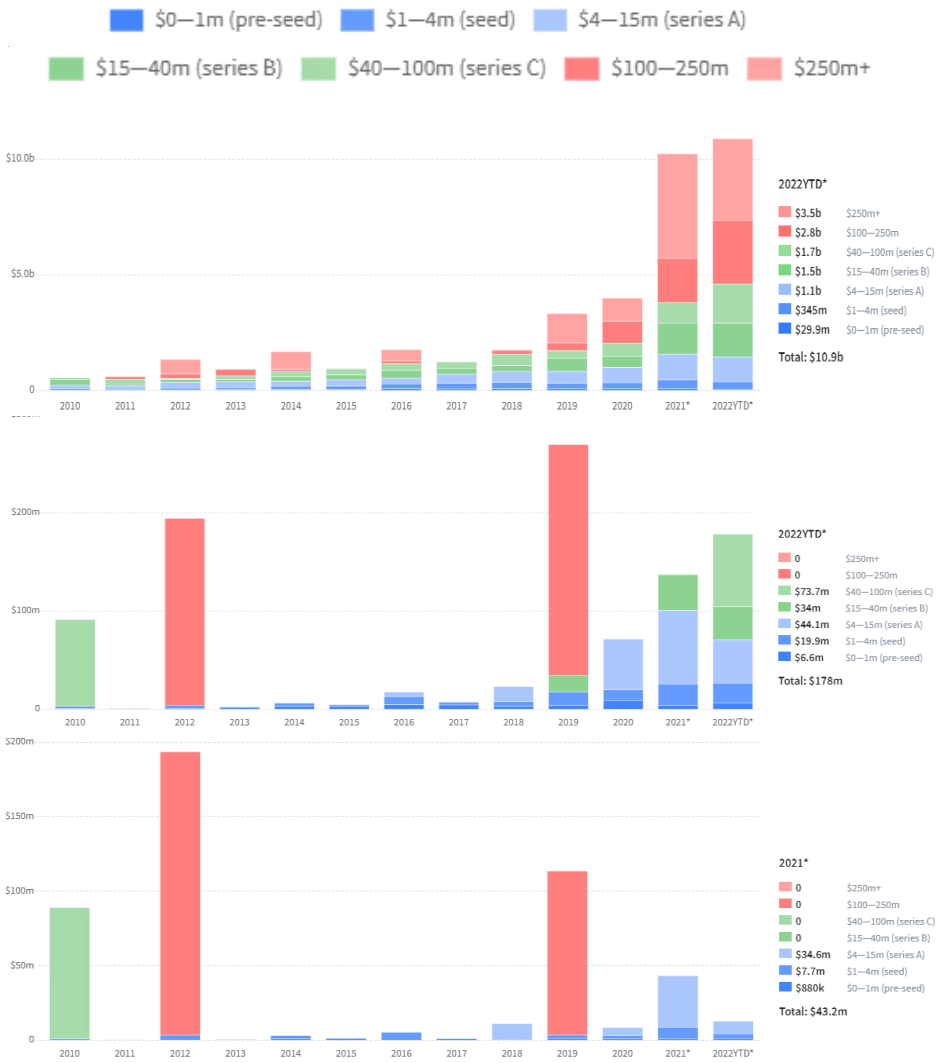
Community of Madrid

153 startups (23% of Spain)

2,9k (20% of Spain)

Source: Startup Radar madri+d data and Dealroom for Europe, Spain and Community of Madrid

Investment obtained by Energy and Cleantech startups (2022YTD)



Europe

$ 10.900 M

Spain

$ 178 M (1,6% of Europe)

Community of Madrid

$ 43,2 M (31% of Spain in 2021)
$ 12,7 M (7,1% of Spain in 2022YTD)

Source: Startup Radar madri+d data and Dealroom for Europe, Spain and Community of Madrid

Some investment data on startups in the sector in Madrid

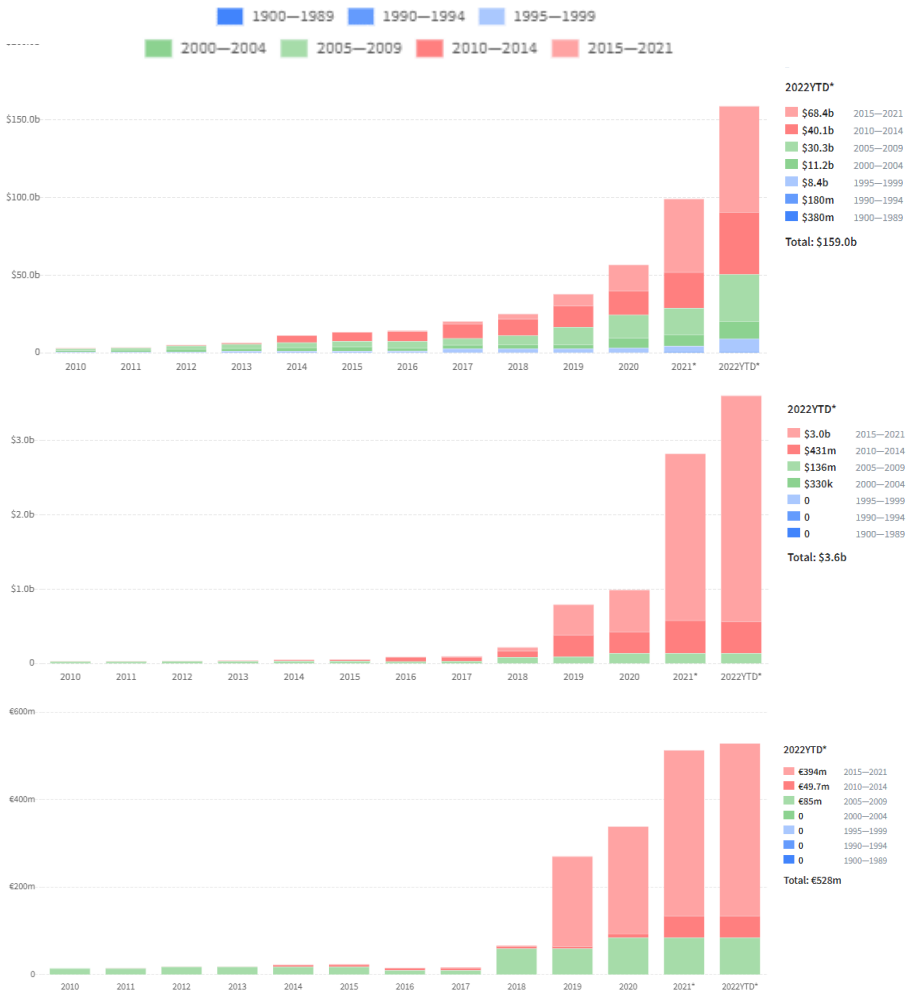
List of **Funding Rounds**

NAME	LAST ROUND	VALUATION	DATE
Soto Solar Develops, finances, and manages l…	€100m EARLY VC	€200m	Sep 2019
WIYO TECHNOLOGIES SLU The identification of tomorrow is …	$14.3m EARLY VC	€52—78m	Apr 2021
Alga Energy A biotech company consolidating …	€10m EARLY VC	€40—60m	Nov 2018
Energy Solar Tech Disrupting the energy industry to …	€8m SERIES A	€30—45m	Jul 2021
Energy Solar Tech Disrupting the energy industry to …	€7.5m SERIES A	€30—45m	Oct 2022
Alga Energy A biotech company consolidating …	$6.6m LATE VC *	€40—60m	Sep 2021
Beridi Maritime Provider of nautical engineering s…	€4.8m EARLY VC	€19—29m	May 2020
EZZINGSOLAR International company specialize…	€4.5m SEED	€18—27m	Oct 2021
Perfecta Energía Facilitates families' access to solar…	€3.5m EARLY VC	€14—21m	Jun 2021
Green Eagle Solutions Provides autonomous operations …	€2.5m SERIES A	€10—15m	May 2021

List of 102 **Investors** in the sector sector

List of **Exits** in startups in the sector

Total valuation of Energy and Cleantech startups (2022YTD)



Europe

159.000 M$

Spain

$ 3.600 M (2,5% of European startups valuation)

Community of Madrid

$ 581 M (16,2% of Spanish startups valuation)

Fuente: Datos de Startup Radar madri+d y Dealroom para Europa, España y Comunidad de Madrid

Some Madrid Region companies with higher valuations

Develops, finances and manages large-scale photovoltaic plants.
200M € Valuation

First IoT-based data platform, based on disruptive battery-free IoT technology using Wi-Fi only.
65M € Valuation

Biotechnology company that consolidates more than 4 decades of cutting-edge knowledge in the field of microalgae.
50M € Valuation

Design & manufacture of most efficient solar panels with a 25-year guarantee. Renewable solar self-consumption for industries.
40M € Valuation

Provider of nautical engineering services for the foundations of offshore wind turbines. Hollow, monolithic and highly resistant concrete platform.
25M € Valuation

Disruptive technology of control systems for the instrumentation and optimization of the control of power plants
25M € Valuation

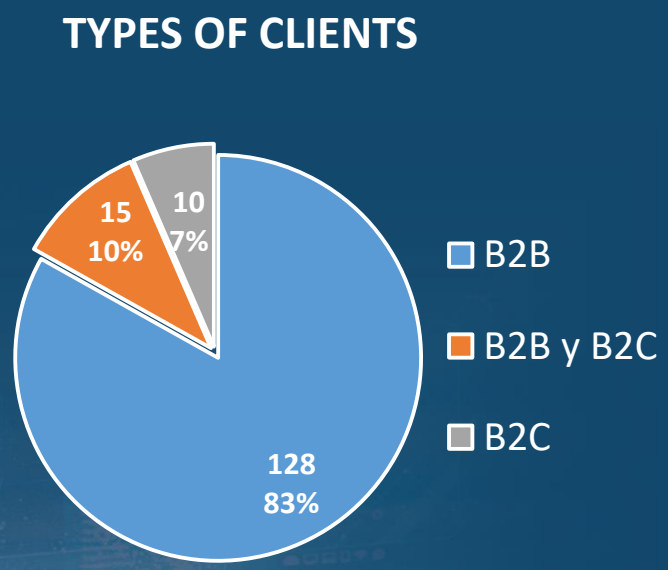
Development of online tools for companies in the photovoltaic (PV) sector.
25M € Valuation

Fuente: Datos de Startup Radar madri+d: startups seleccionadas de energía y cleantech de la CM con datos de valoración

Types of clients: B2B / B2C

Main B2B clients:

- **Companies and industries seeking to improve their energy efficiency**, sustainability, emissions and carbon footprint.
- **Electric companies, producers and marketers of renewable energy** and other major players in the market.
- **Infrastructure and maintenance companies**, and other companies in the sector or from other sectors with implications for clean technologies and sustainability..

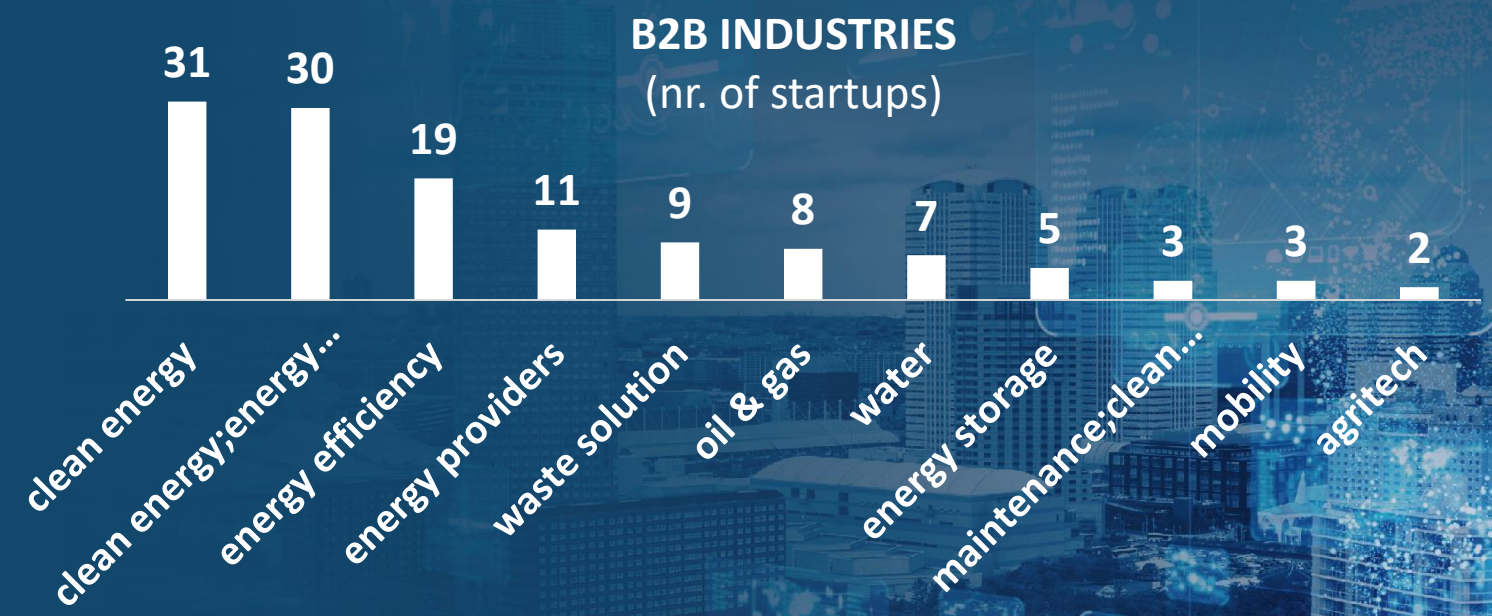


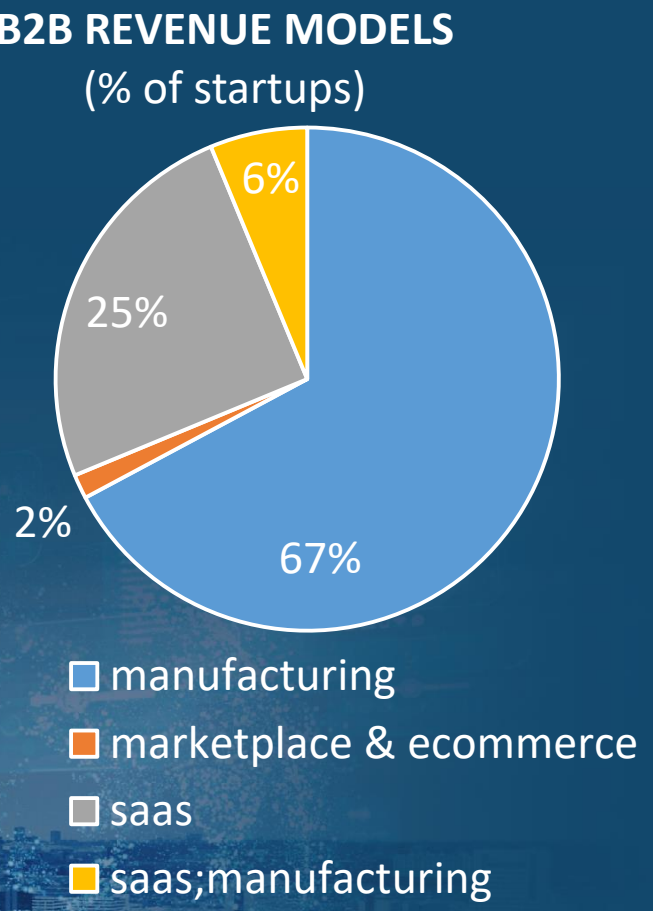
Main B2C clients

- **Individuals** with interests in self-consumption, energy efficiency, sustainability, etc.

B2B: Solutions, Industries and Revenue Models

- Reduce greenhouse gas emissions
- Decarbonization
- Ecological transition
- Sustainability
- Circular economies
- Energy efficiency

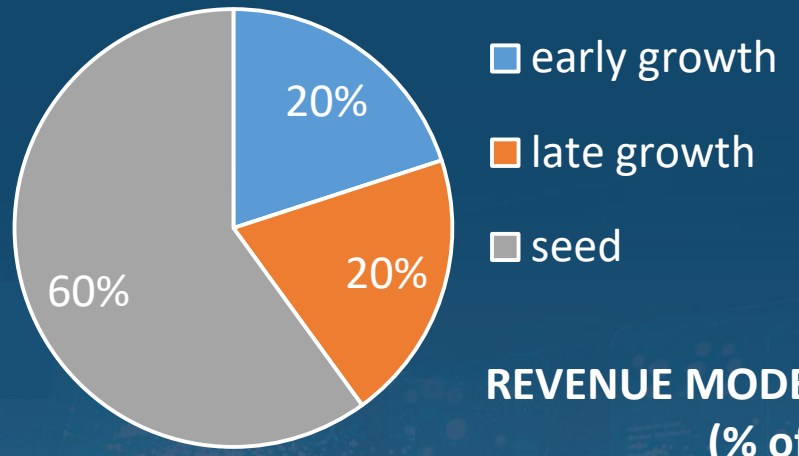




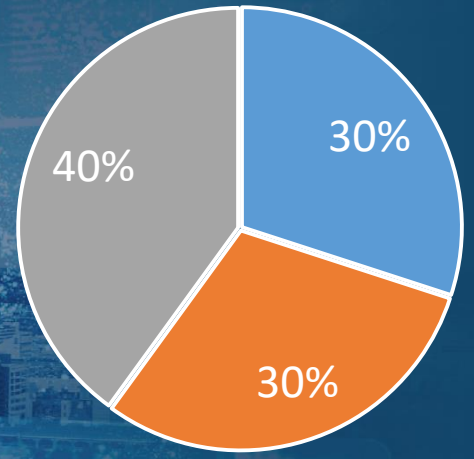
B2C: Solutions, Sub-industries, Revenue Model and Growth phase of the startups

- Mobility solutions
- Renewable self-consumption
- Home automation and energy efficiency
- Sustainable food
- Sustainable textile industry
- Digitization of processes

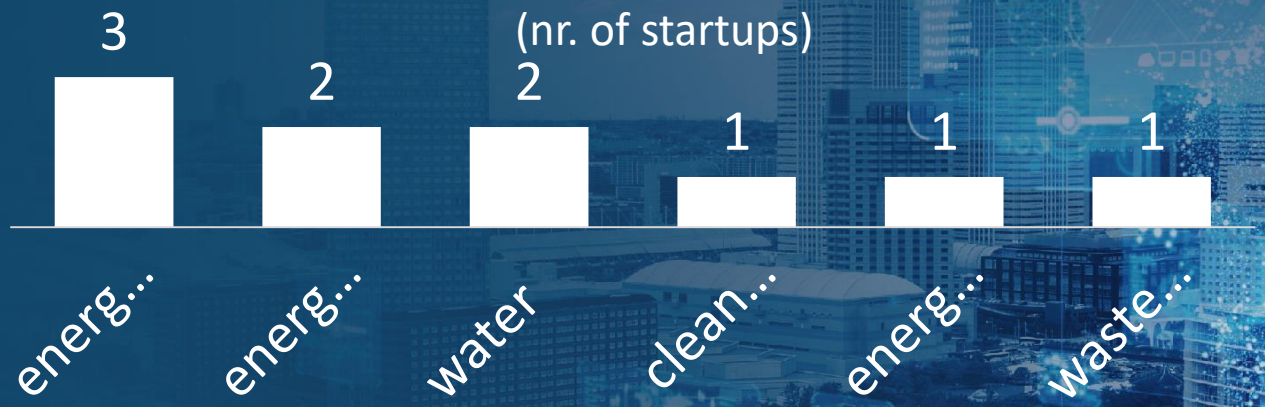
GROWTH PHASE OF B2C STARTUPS



REVENUE MODELS OF B2C STARTUPS (% of startups)



B2C SUB INDUSTRIES
(nr. of startups)



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ENERGY AND CLEANTECH STARTUPS OF THE COMMUNITY OF MADRID

BY TYPE OF CLIENT (B2B, B2C)

See *Landscape* on Startup Radar madri+d

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ENERGY AND CLEANTECH STARTUPS OF THE COMMUNITY OF MADRID

BY TYPE OF CLIENT (B2B, B2C) (cont.)

[See *Landscape* on Startup Radar madri+d]

B2B
Combined funding € 352M

Fisterra Energy, Next-Tip, Centrales Energ, Multidomo Netwo, Pernia
REACCION UPTHEW, Qualifying Phot, Allatherm, Tecnitest Ingen
Elaborarium, DASEL, Bioseguridad In, AMAYUELAS, S.L.
Advance Composi, Alten Renewable, Green Eagle Sol, Vortex Bladeles
Lpi, Factorverde, Bsq solar, Exploded view, Solutex
Sendekia, Tewer, Gnanomat, Sensia, Tsr
Eco-cars, Xerolutions, ADEX, Alga Energy, Datary
EZZINGSOLAR, Spanglator, GAMMA SOLUTIONS, Anemoi Renovabl
FRV, Enefgy, CEDRION, Nanostine, Jaguar Path Ven

B2C
Combined funding € 5.8M

VASSOFILTERGLAS, iEnergy, TECSOL SOLUTION, Aldea Sophia
Samara, Perfecta Energí, Bat2go, LINCLAB, Kwiil
Smart House

B2B / B2C
Combined funding € 2.2M

Wenea, Stemy Energy, Alma Mobility, Captoplastic, IGNIS Energía
Sylvestris, Mirubee, ECOLAND ENERGÍA, FITTRAIN, Ecometro
Bewego, Alterna Online

manufacturing

Stemy Energy
Quixotic 360
CEDRION
Alga Energy
WIYO TECHNOLOGI
Vertex Bioenerg
Ienai SPACE
full&fast
Vortex Bladeles
Wenea
Next-Tip
Captoplastic
Porous Inks Tec
Nanostine
Eolion Energía
MICRO ELECTROCH
Esasolar
HEION TECHNOLOG
Soto Solar
Tewer
Heatconv
Xerolutions
PURON
Land Water and
Qualifying Phot

saas

Clevergy
EZZINGSOLAR
Green Eagle Sol
DETEKTIA
ADEX
Boscalia Techno
Elaborarium
Datary
Exploded view
Bewego
Eris Innovation
Jaguar Path Ven
OPERIT
Solutz
Watiofy
iEnergy
TECSOL SOLUTION
Artificial Visi
SEA: Smart Ener
Multidomo Netwo

marketplace & ecommerce

Samara
Perfecta Energí
Alma Mobility
Bioseguridad In
Alter5
Smart House

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ENERGY AND CLEANTECH STARTUPS OF THE COMMUNITY OF MADRID

BY TYPE OF BUSINESS MODEL

See *Landscape* on Startup Radar madri+d

Types of products and services

RENEWABLE ENERGY GENERATION

- Solar photovoltaic
- Solar thermal
- Wind
- Biomass
- Aerothermal, Geothermal and Hydrothermal
- Marine renewable energy
- Network Integration
- Renewable Hydrogen Production

ENERGY STORAGE

- Thermal storage batteries and others
- Systems connectivity
- Reuse and circular economy
- New materials and Biomass

ENERGY EFFICIENCY AND SUSTAINABILITY

- Digitization – Enterprise software
- Carbon Footprint and Decarbonization
- Use of resources / circular economy
- Sustainability
- Smart networks for energy management by consumers
- New materials for different industries
- Mobility and transport
- Smart Cities
- Smart Industries
- Smart Grids

OTHER RELEVANT PRODUCTS

- Semiconductors
- Robots
- Sensors and automation
- Waste solutions
- New substitute products (food, textiles, other industries...)

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ENERGY AND CLEANTECH STARTUPS OF THE COMMUNITY OF MADRID

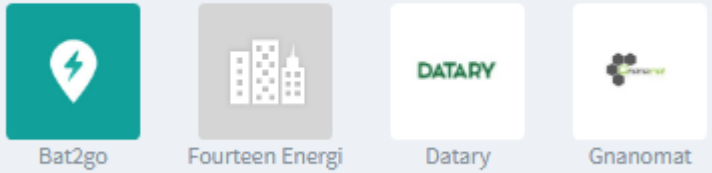
BY TYPE OF PRODUCT OR SERVICE

[See *Landscape* on Startup Radar madri+d]

clean energy

energy efficiency

energy storage



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ENERGY AND CLEANTECH STARTUPS OF THE COMMUNITY OF MADRID

BY TYPE OF PRODUCT OR SERVICE (cont.)

[See *Landscape* on Startup Radar madri+d]

oil & gas

DETEKTIA · Ariema Energía · Araner Tecnolog · Bioseguridad In

Gas and Go Glob · Grupo St-In · SEA: Smart Ener · Scale Gas Solut

Vira gas Imagin · Soluciones Cata

water

Porous Inks Tec · PURON · Land Water and · DEEP-INSIGHT

VASSOFILTERGLAS · Innowater S.L.

mobility

HEION TECHNOLOG · Alma Mobility · Ozone Drive SL

energy providers

Quixotic 360 · Vertex Bioenerg · Wenea · Centrales Energ

Smart House · Sunkofa Energy · Ortronic Global · XIZAN

Advantia Plus S · Suncosystems · Tradivel Servic

waste solution

Bioento Farm · Pernia · Sylvestris · RecircUP

BLUE SKY SOLUTI · Avanz@ · GreenYng · SOUJI

Valoriza Ecosol · Sustainable Ref

Tecnologies – Energy and Cleantech

BY ITS FIELD OF APPLICATION

- **STORAGE**: Microelectronics, sensors, semiconductors and new materials
- **SUSTAINABILITY, CIRCULAR ECONOMY**: Software, Aerospace Positioning, AI, Learning Machine, IoT
- **TRANSVERSAL CLEAN TECHNOLOGIES**: those that, when applied, do not produce any secondary effect or any transformation to the environmental balance or to the natural systems that it integrates.
- **MOBILITY AND TRANSPORTATION**: Microelectronics, IoT, AI, Machine Learning, Deeptech, sensors and automation, robotics
- **AGRICULTURE AND FOOD CHAIN**: Software, IoT, AI, Machine Learning, Robots, Sensors and automation

BY TYPE OF RENEWABLE ENERGY

- **SOLAR PHOTOVOLTAIC**: Microelectronics, Sensors, Semiconductors, IoT, storage systems
- **SOLAR THERMAL**: Microelectronics, Sensors, Semiconductors, IoT, storage systems
- **WIND**: Wind turbines, new materials, semiconductors, sensors, IoT, storage systems, offshore
- **BIOMASS**: Biochemistry and biotechnology, new materials, semiconductors
- **AEROTHERMAL, GEOTHERMAL AND HYDROTHERMAL**: Semiconductors, Microelectronics, nanotechnology, new materials
- **RENEWABLE MARINE ENERGIES**: Wave (waves), Tidal (tides), Tidal (thermal temperature difference between the surface heated by the sun and the cold depths)
- **NETWORK INTEGRATION**: Storage, management software with machine learning, AI, robotics,
- **RENEWABLE HYDROGEN PRODUCTION**: Electrolysis, through solar energy, from biomethane

deep tech

Ienai SPACE

Vortex Bladeles

Next-Tip

Captoplastic

Nanostine

MICRO ELECTROCH

ADEX

Xerolutions

PURON

Sensia

Gnanomat

Lpi

Mirubee

Jalvasub

Eris Innovation

OPERIT

DIFFERENTIAL PO

Artificial Visi

SEA: Smart Ener

Multidomo Netwo

artificial intelligence

DETEKTIA

Datary

Alter5

Bewego

Watiofy

PiperLab S.L.

Nimbeo Estrateg

iCatalist

iot internetofthings

WIYO TECHNOLOGI

Ortronic Global

Advantic Sistem

autonomous & sensor tech

Ecometro

Grand Smart Box

Suncosystems

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ENERGY AND CLEANTECH STARTUPS OF THE COMMUNITY OF MADRID

BY TYPE OF TECHNOLOGY

[See *Landscape* on Startup Radar madri+d]

hardware

Stemy Energy

Samara

Wenea

Polar Developme

LINCLAB

Elytt

DASEL

Grupo Cybentia

Grupo St-In

W'wave

mobile app

EZZINGSOLAR

Bat2go

Alma Mobility

ECOLAND ENERGÍA

FITTRAIN

TECSOL SOLUTION

nanotech

Counterfog

NANO4ENERGY SL

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ENERGY AND CLEANTECH STARTUPS OF THE COMMUNITY OF MADRID

BY TYPE OF TECHNOLOGY

(cont.)

[See *Landscape* on Startup Radar madri+d]

The most complete and detailed picture of Madrid Region´s tech ecosystem

https://www.madrimasd.org/emprendedores/startup-radar-madrid

Knowledge partners

Startup Radar database is kept up-to-date with the support of a growing number of Knowledge Partners:

SPIN OFF DATA

- Madrid Region Universities
- R&D Institutions
- Sience Parks & hospitals (ITEMAS Network)

INDUSTRIES & TECHNOLOGIES

Knowledge Partners to date are:

- AI & Cybersecurity: EIT Digital
- Proptech: Sacyr iChallenges
- Deep Tech: Cyclomed Technologies
- Education: Sek Lab
- Energy & Cleantech: EIT Innoenergy
- Fashion: Atelier
- Food & Agritech: Bloomium
- Health: EIT Health
- Scaleups: Empresa y Sociedad
- Las Rozas Innova