The Madrid Region Startup Ecosystem Platform

**Ecosystem Platforms:**
- Tools, Maps and Databases

**Platform on Dealroom**

**2 Annual reports:**
- Ecosystem Report (sectors, technologies, ...)
- Investment Report

+ Sector Reports

**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

### Technological
- 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.
Some opportunities for startups in generation, transmission & distribution

- **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

<table>
<thead>
<tr>
<th>Ecosystem Energy and Cleantech</th>
<th>Support to Madrid Energy &amp; Cleantech</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Public Incubators, Accelerators &amp; R&amp;D Institutions</em></td>
<td><em>Selected corporate &amp; private Accelerators &amp; Facilitators</em></td>
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</table>

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

>5 startups supported

1 startup supported
## Jobs created by startups in Energy and Cleantech (2022\text{YTD})

**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 (2022 YTD)

**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 2022 YTD)

Source: Startup Radar madri+d data and Dealroom for Europe, Spain and Community of Madrid
Total valuation of Energy and Cleantech startups (2022 YTD)

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

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

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

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

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

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

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

- **eingzingsolar**
  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

### B2B Industries (nr. of startups)

- Clean energy: 31 startups
- Energy efficiency: 30 startups
- Energy providers: 19 startups
- Waste solution: 11 startups
- Oil & gas: 9 startups
- Water: 8 startups
- Energy storage: 7 startups
- Maintenance: 5 startups
- Clean mobility: 3 startups
- Agritech: 2 startups

### B2B Revenue Models (% of startups)

- Manufacturing: 25%
- Marketplace & e-commerce: 6%
- SaaS: 67%
- SaaS; manufacturing: 2%
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

- 30% seed
- 40% early growth
- 20% late growth

REVENUE MODELS OF B2C STARTUPS (% of startups)

- 30% manufacturing
- 40% marketplace & ecommerce
- 30% saas

B2C SUB INDUSTRIES (nr. of startups)

- energ... 3
- ener... 2
- water 2
- clean... 1
- energ... 1
- waste... 1
ENERGY AND CLEANTECH STARTUPS
OF THE COMMUNITY OF MADRID

BY TYPE OF CLIENT (B2B, B2C)

See Landscape on
Startup Radar madri+d
ENERGY AND CLEANTECH STARTUPS OF THE COMMUNITY OF MADRID

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

See Landscape on Startup Radar madri+d
ENERGY AND CLEANTECH STARTUPS
OF THE COMMUNITY OF MADRID
BY TYPE OF BUSINESS MODEL
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...)
ENERGY AND CLEANTECH STARTUPS OF THE COMMUNITY OF MADRID

BY TYPE OF PRODUCT OR SERVICE (cont.)
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
### Energy and CleanTech Startups of the Community of Madrid

#### By Type of Technology

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<tr>
<th>Deep Tech</th>
<th>Artificial Intelligence</th>
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<td>Ionar Space</td>
<td>Detekcia</td>
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<td>Vortex Blades</td>
<td>Datary</td>
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<td>Next-Tip</td>
<td>Altera5</td>
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<td>MICRO ELECTROCH</td>
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<td>autonomous &amp; sensor tech</td>
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<td>Artificial Viz</td>
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See Landscape on Startup Radar madri+d
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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
- Science 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