

EIC Scaling Club

Market Roadmap Renewable Energies

European
Innovation
Council



**Funded by
the European Union**

Partners:



Summary

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Introduction and group overview



Objectives and targets

This report was made through **multiple interactions** with EIC Scaling Club stakeholder members, including scaleup companies, investors, corporates and public institution representatives.

It provides a **snapshot of the stakeholder members' visions and insights** on the state of the renewable energy market in Europe.

It is designed to help professionals, especially entrepreneurs, grasp meaningful insights to help build their scaling strategies.

The following topics were explored by participants:

1. Technology barriers
2. Market barriers
3. Unexploited potential
4. Geography focus
5. Market risks
6. State of competition
7. Funding priority

The report is designed to...



... **Help companies and entrepreneurs assess current market positioning** to define future roadmaps, by comparing with their peers' positions and considering expert insights

And was achieved thanks to...

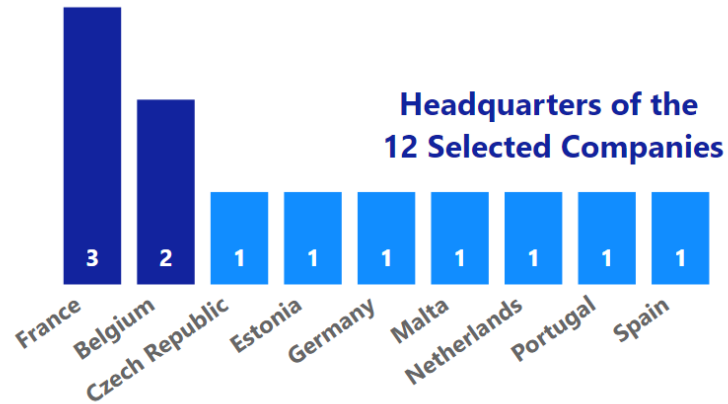


... **A mix of data-driven inputs in conjunction with qualitative insights** obtained from live surveys, online and onsite workshops as well as dedicated interviews with club members

Highlights report – Summary

12

Number of Selected Companies



82

Active Investors



Total Amount Raised

202.64 M



Average Raised per Company

16.9 M



Average Raised per Round

4.9 M

Members of the club who participated in the study

Referred to as **Stakeholders** in this report

Investors



Corporates & Institutions



Companies



Please refer to **page 18 for the detailed methodology of the report.*

Program mentors



Nicoletta Zappatini



Aikaterini Liakopoulou



Bernd Wacker



Cesar Gimeno



Laurent Lelait



Marian Gazdik



Primoz Kunaver



Valerie Anne Lencznar



Yi Jean Chow



Timur Topalgoekçeli





Constantinos Peonides



Julie Drapier

Companies selected in the Renewable Energies group

Following nominations from stakeholder members for the most promising European scaleups, companies have been selected based on their applications to the program. Various criteria were taken into consideration, including technology maturity, management experience, go-to market strategy, competitive positioning and investment potential. Moreover, geography and gender balance were also considered to guarantee a fair representation of European diversity.

 <p>Expanding the frontiers of renewable energy with osmotic power: zero-emission, permanent and cost-effective electricity</p>	 <p>Developing fusion as a clean energy source based on laser technology</p>
 <p>Automated wind-assisted propulsion systems that harness renewable energy as a turnkey solution to all shipowners and operator</p>	 <p>Identify and harness asset's flexibility, then sell it to local energy market for additional revenue streams</p>
 <p>Grid optimisation software and sensors for the visibility, optimization and control of your LV network</p>	 <p>Clean and baseload geothermal energy anywhere</p>
 <p>Asset health monitoring, enabling increased power grid utilization across the globe</p>	 <p>Robotic wind turbine care systems</p>
 <p>Power the planet with clean energy from ocean waves</p>	 <p>Innovative solutions for recycling and revalorization of raw materials in the photovoltaic industry</p>
 <p>Building tall wind turbine towers in laminated wood</p>	 <p>Specialist for holistic rotor blade monitoring through smart sensors</p>

Key results



Renewable energy companies need to overcome funding barriers and technical challenges to enable the scaling up of their solutions in Europe

Scaling up companies which contributed to this report represent the following **sub-markets**:



Wave energy



Wind energy



Geothermal energy



Osmotic energy



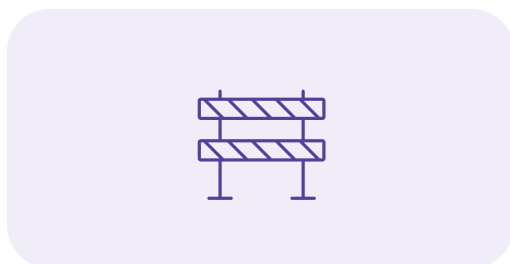
Fusion energy



Grid optimization



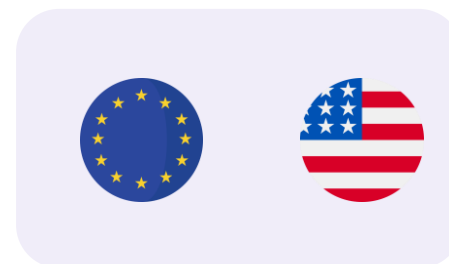
Asset maintenance



Difficult access to funding and talent are expected to become the main market barriers in the next 3 years for renewable energy companies in Europe.



Modernizing the grid and automating operations are the industry's most critical technical challenges.



Companies are focusing their operations on the **European and North American markets** to drive their growth.

“

This cohort highlights that the success of the energy transition requires a **variety of innovations**. To scale up, companies will require a **wide-ranging ecosystem** and **adapted regulations** to pursue their growth in new markets.

“



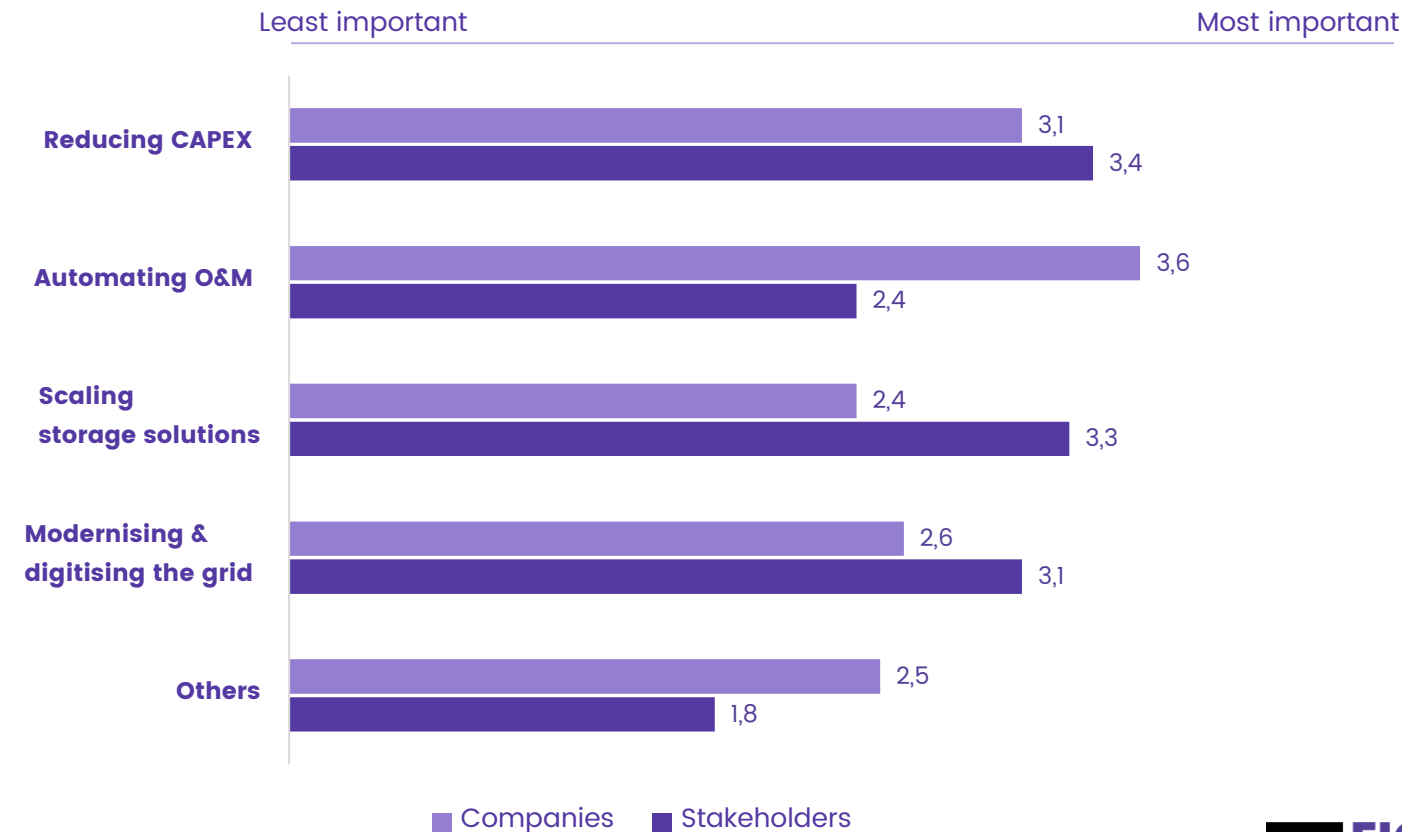
*Sébastien Magand
Head of Open Innovation, IFPEN*

Except for reducing CAPEX, companies and stakeholders prioritize different technological barriers

Companies see the automation of Operations & Maintenance as the most important technological barrier while stakeholders emphasize other parts of the value chain, such as storage and grid modernization.

Main technological barriers in the next 3 years

Average ranking of technological barriers in the market, 1 being the least important and 5 the most important



“

With more and larger turbines, wind energy will be very challenging to scale with the current Operations & Maintenance technologies. There is a **lack of supply in maintenance today.**

”



*Endijs Bernics
Chief of staff, Aeronas*

“

One of the biggest issues on the market is the interoperability of all systems – **having a system that can communicate with different sources should be the priority.**

”



*Yannick Peysson
R&I Program Manager, IFP Energies
Nouvelles*

Access to funding and to talent and unharmonized regulations at the European level are growing concerns in the market

“

We obtained permit for demonstration, the process was quite long, but we managed to get through it. However, we expect that it might be a challenge in the future, when we want to reach other areas, because the **requirements and processes are different in all countries, even across the EU**. Streamlined processes are instrumental for accelerated expansion of ocean energy.

”



*Kevin Rebenius
Commercial Director, CorPower
Ocean*

“

Development of **skills and competencies** in Europe are key to scale up. Companies will need to develop **new forms of incentives** to attract the best talents.

”

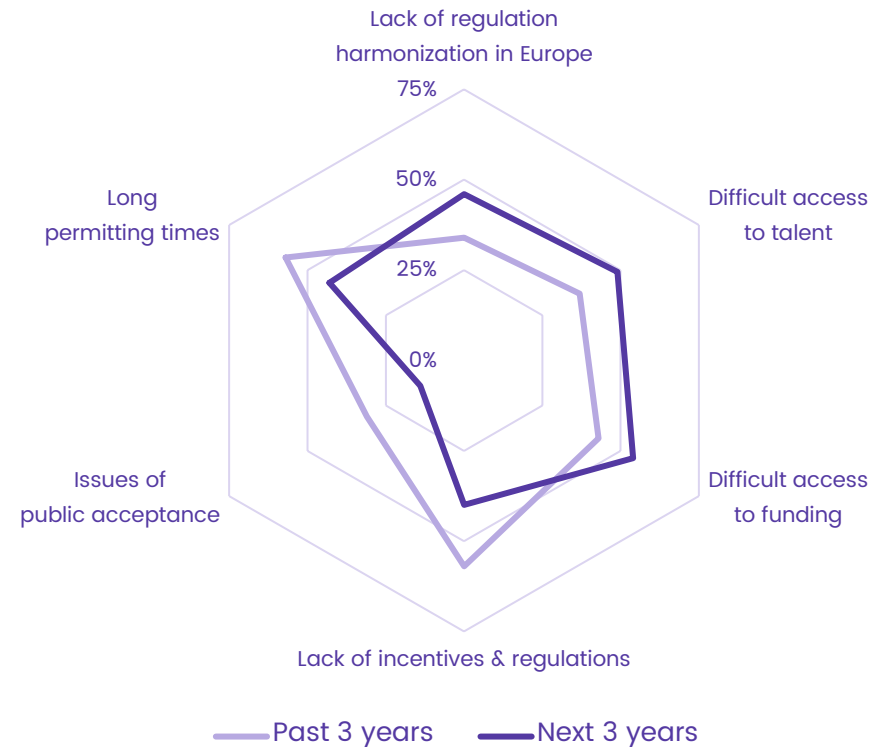


*Valerie Anne Lencznar
Senior Advisor, RTE*

While unharmonized regulations in Europe and access to talent and funding are growing concerns, public acceptance and duration of permitting times seem to be improving.

Main market barriers in the past vs. next 3 years

Percentage of respondents who selected the answer in their top 3 market barriers

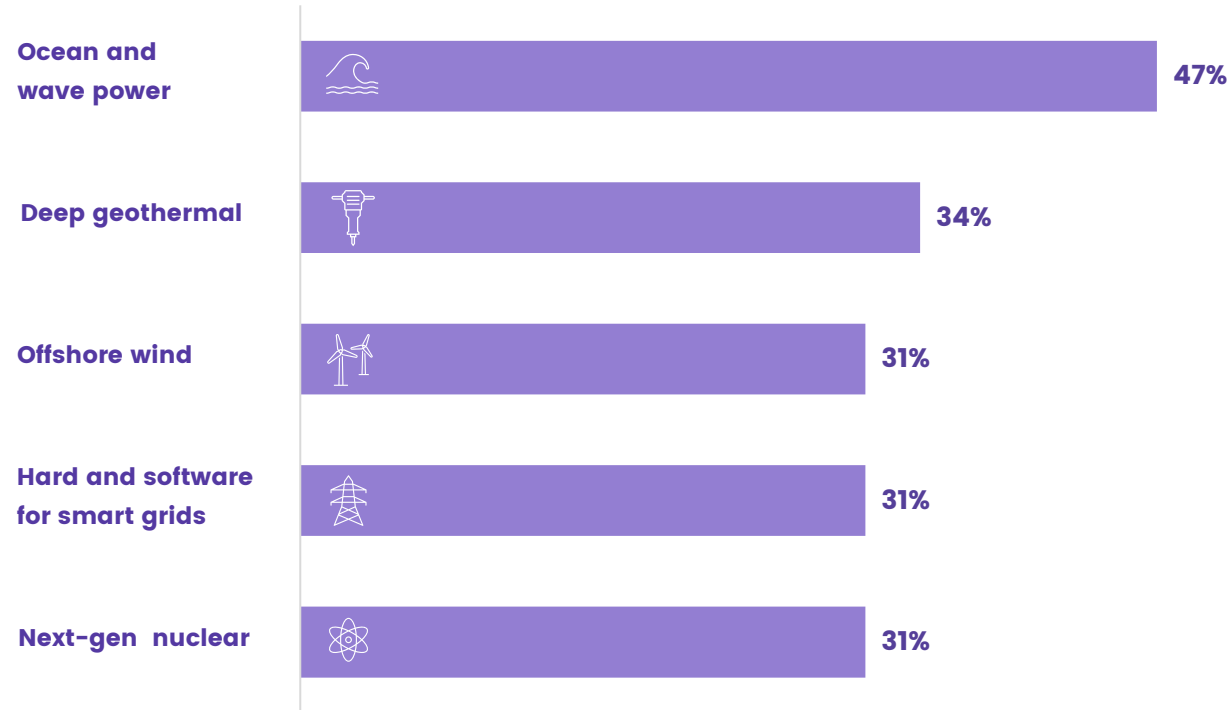


Multiple sources of renewable energy show high growth potential in Europe, ocean and wave power being the most untapped

Ocean and wave power, geothermal energy and offshore wind could significantly influence the European energy mix if certain challenges are addressed.

Low-carbon technologies with the most unexploited potential

Percentage of respondents (companies and stakeholders) who selected their top 2 most unexploited technologies in Europe



“ We need to act to have ocean power become more mainstream. Utilities (US and EU) are currently not seeing wave power as a mainstream investment. We need to get over that line so that we see **more energy companies taking the step to develop projects based on wave power technologies.** ”



Kevin Rebenius
Commercial Director, CorPower Ocean

“ With its continuous production, bringing geothermal energy at scale could have a huge impact. The challenges are **reducing the costs of drilling** and developing **technologies that allow drilling anywhere.** ”



Laurent Lelait
Open Innovation, EDF

Europe and North America are the prioritized target markets for companies scaling up in the renewable energy sector

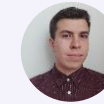
Stakeholder members prioritize their operations within their own country and Europe, whereas scaleups are keenly focusing on the whole of Europe and North America to drive their growth.

Prioritized geographic markets in the next 3 years

Average ranking from respondents, 1 being the least important and 5 the most important



“ Fossil fuel companies are looking for a renewable energy alternative suitable for retrofitting their existing operations, and geothermal is the ideal solution, especially with the **existing infrastructure, grid connection, and easier permitting process**. Europe is our priority target for the first pilot projects because of the **ambitious carbon emission reduction goals, and existing district heating systems** which are in desperate need of green and secure sources. ”



Boris Cvacho
Fundraising specialist, GA Drilling

“ An advice for startups developing smart grid technologies in Europe: **research the compensation mechanisms and corresponding regulations** in each country to understand where your business model would be profitable. ”



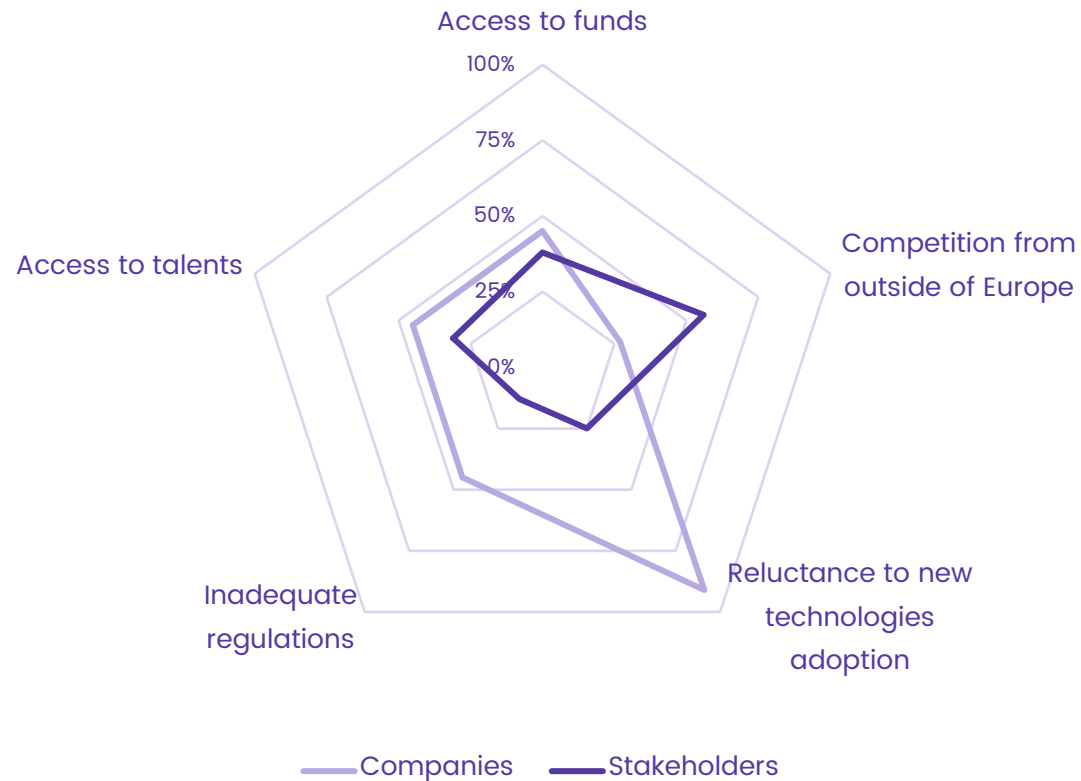
Anonymous
Engineer in Smart Grid solutions

Market risks are perceived differently between companies and stakeholders, while the main global competition is clearly identified as China and the US

While stakeholders focus their attention on the global competition, companies are anticipating technology adoption hurdles.

Main risks perceived by stakeholders and companies in the next 3 years

Percentage of respondents who shared their top 3 predicted market risks



85%

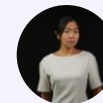
of all members identify **North American scaleups** or **Chinese corporations** as the biggest competitors to European scaleups

“

US companies innovating in flexibility & grid management have **historically been at a disadvantage compared to European companies** due to market dynamics. That is rapidly changing as adoption of EVs and DERs makes grid flexibility a necessity, even for deregulated utilities in the US.

While American and European EV makers will face great competition from Chinese companies, competition may be less relevant in areas that are critical to grid operations/reliability, due to **efforts related to concerns about Chinese influence in critical infrastructure.**

“



*Yi Jean Chow, Investment Principal,
Clean Energy Ventures*

Methodology, authors and EIC Scaling Club contacts



Methodology

The research used a **quantitative methodology** based on the approach advocated by the consortium members.

This study was conducted by a combination of **live surveys and open discussions**. The questions and answers were designed in advance through interviews with industry experts to ensure to the right information was grasped. Open-ended responses for additional comments were also available.

The survey was **voluntary and not anonymous**.



Additional references and reports from the EIC Scaling Club

Go further with these additional reports

1- IEA – Renewables, Analysis and forecast to 2028

2- IEA – Unlocking Smart Grid Opportunities in Emerging Market and Developing Economies

3- IEA – Solar PV Global Supply Chains

4- Wind Europe – Wind Energy in Europe


5- European Council – Fit for 55

6- The Climate Brick – The missing Manual for scaling climate tech

Other Market Roadmaps from the EIC Scaling Club

Market Roadmap – Next-generation Computing 

Market Roadmap – Digital Security & trust 

Market Roadmap – Smart mobility 

Scaling Challenges Roadmap from the EIC Scaling Club

In addition to Market Roadmaps, the EIC Scaling Club consortium produced a series of report dedicated to help companies solve their specific challenges to scale, based on literature review and workshops with experienced professionals, have a look here:

Challenge Roadmap – Go-to-Market Strategy

Authors and acknowledgments

Authors



Alizée Blanchin
Director & Partner Consulting



Lucas Maurice
Senior Deep Tech & Innovation Consultant



Emma Carnus
Deep Tech & Innovation Consultant

Expert interviews



Isabel Rayo
*Senior Investment
Director
Net Zero Ventures*



Marian Gazdik
*Founding partner
G-force*



Laurent Lelait
*Open Innovation
Catalyst
EDF*



Alberto Toril Castro
*Manager
Breakthrough Energy*



Yannick Peysson
*R&I Program Manager
IFP Energies Nouvelles*



Boris Cvacho
*Fundraising Specialist
GA Drilling*

EIC Scaling Club

EICScalingClub.eu

For more information reach out to:
lucas.maurice@hello-tomorrow.org

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