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Executive Summary

This deliverable presents the results of WP6 of the MARIBE Project. It describes the result of the dedicated work package that aimed to analyse how investors think about the Blue Growth sectors. Investors prove to be hard to reach, despite significant efforts by the researchers. As their participation in workshops is foreseen, an important second objective was to determine how to best involve stakeholders in the project.

This deliverable presents results collected through (1) compiling a database of investors and subsequent analysis, (2) literature review, (3) a survey set out among identified investors and (4) in-depth interviews with a selected number of stakeholders.

The interviews provide insights in the fundamental decisional process that investors have when they decide to invest in the Blue Growth sector. Identification of the respondents was done based on the database. After a thorough search we had 70 addresses with names and emails. We both called and mailed these 70 names. Only 5 responded positively to join us for an interview.

The efforts put into the identification of investors, the actions to contact them, the database and literature review teach us two important lessons:

- (1) There is not one stereotype for a “Blue Growth investor”.
- (2) Investments in Blue Growth do take place but there is no easily accessible investment scene where entrepreneurs can have access to capital required for commercial expansion.

Public investors – whether this is the European Investment Bank, a nation-state or provinces – play a key role in funding many Blue Growth investments. Private investors are not willing to provide full financial support and public support is required. Investors were specifically asked about multi-use platforms and multi-use of space. The answers to these questions reflect the reluctance of investors to make offshore operations more complicated and more risky.

The researchers of MARIBE experienced significant challenges when identifying and contacting these investors. This can stem from the different background of researchers and of investors but it also shows that the investment community is not easily involved in research projects. The sector is relatively closed and non-transparent. Researchers need a clear proposition to engage investors in their projects.



Contents

Contents

WP 6: Investment community consultation and commitment	1
Investment community consultation and commitment.....	1
Document Information	2
Revision History	2
Acknowledgement	2
Legal Disclaimer	2
Executive Summary.....	4
Contents.....	5
Chapter 1: Introduction	7
Chapter 2: Methodology.....	8
Methodology for literature review	8
Methodology for populating database	8
Methodology for survey	8
Methodology for in-depth interviews.....	9
Chapter 3: Barriers and opportunities for investors.....	10
Marine Renewable Energy	10
Aquaculture.....	12
Marine Biotechnology.....	13
Offshore Mining	14
Multi-use platforms	16
Analysis	17
Chapter 4: Analysis of the database	19
Headquarters	19
Activity in basins	19
Blue Growth sectors.....	20
Blue Economy sectors	20
Type of investor	20
Type of funding	21
Turnover of investors.....	21
Number of employees	22
Chapter 5: Analysis of the survey	23
Characterisation of respondents	23



Type of investors.....	23
Basins active.....	23
Past and predicted investment	24
Importance of Blue Growth sectors.....	24
Conditions for and barriers to investment	25
What makes a sector interesting?	25
Barriers.....	25
Government support schemes	26
Multi-purpose and multi-use	26
Involvement of investment community	27
Chapter 6: Results from the in-depth interviews	Error! Bookmark not defined.
Mike Velings, Founder of Aqua-Spark.....	Error! Bookmark not defined.
Anonymous investor.....	Error! Bookmark not defined.
Michael Eales, Early investor Atlantis Resources Ltd., Private Investor	Error! Bookmark not defined.
Investor 4	Error! Bookmark not defined.
Investor 5	Error! Bookmark not defined.
Investor 6	Error! Bookmark not defined.
Chapter 7: Conclusions	37
Current state of affairs regarding the Blue Growth investments and investors?.....	37
Conditions and criteria for investors when investing in Blue Growth sectors	37
How to engage investors in the MARIBE project.....	39
References	41
Annex 11: Questionnaire for survey	43
Annex 22: Interview guide	43
Part I: Success Story	43
Part II: Barriers and Challenges for future investments	45
Part III: Involvement in MARIBEMARIBE.....	46



Chapter 1: Introduction

Investors play a key role in the development of Blue Growth sectors. For that reason it is important to give them a proper place in the MARIBE project. This deliverable describes the result of the dedicated work package that aimed to analyse how investors think about the Blue Growth sectors. As their participation in workshops is foreseen, an important second objective was to determine how best to involve stakeholders in the project

The following objectives formulated in this report are:

1. To build relations and establish a forum for ongoing communication between the MARIBE project and the investment community.
2. To map the relevant investment community for the selected maritime basins and the sectors relevant for future BG (offshore energy, aquaculture, blue biotech, deep sea mining) and comprehensively record the past, planned and expected investments in these sectors.
3. To identify best practices, barriers to investment in BG.
4. To secure involvement of investors in the MARIBE project



Chapter 2: Methodology

Four different methods were used in the identification and getting acquainted with the investment community:

1. A literature reviews;
2. Compilation of a database of investors;
3. A survey;
4. In-depth interviews.

This cascade of methods was selected to – respectively – get acquainted with the discussion of investments in Blue Growth, identify investors, collect limited information from a larger group of respondents and lastly engage with selected investors.

Methodology for literature review

The literature review was aimed at the identification of barriers and opportunities for investments from the literature. It can be characterised as a narrative review. The narrative review does not attempt to test formulated hypotheses but starts with an “open” point attitude and searches for interesting input. We expected the grey literature to be of great interest next to scientific literature. Much of the grey literature comes from sources as the Ocean Energy Forum, World Economic Forum, European Aquaculture Society, OECD and others, often reports from stakeholder meetings or research on the state of the art within the field in question. An initial list of documents to be included was distributed among the project partners to complement it with relevant documents.

Methodology for populating database

The investor database was designed in interaction with project partners, after discussing what metadata is important given the purpose of the database. This resulted in a database, allowing to record the following characterising of respondents:

- types of investors
- Characteristics of investors (size of portfolio, number of employees).
- locations where investors are active
- the Blue Growth and Blue Economy sectors in which they are involved,
- contact details

The investor database has been set up in a spreadsheet of Google Docs. Data for the database has been provided on the basis of expert judgement, i.e. by the project partners of MARIBE

Methodology for survey

A survey was designed to be sent out to the investors identified in the database (see above). The objective of the survey was threefold:

1. to improve understanding of the state of affairs regarding BG investments
2. to understand the conditions and criteria relevant for investors
to increase understanding of how to engage investors in the MARIBE project

The survey was an online survey, programmed in EU Survey. It consists of a limited number of closed questions as completion of the survey should take limited time. Respondents were given the possibility to remain anonymous and the survey did not ask for particular investments, focussing on the investors' concerns 'in general'. The questionnaire can be found in Annex 1.



Methodology for in-depth interviews

The objective of the interviews is to identify how investors think about investment in the Blue Growth sectors, and to secure involvement in the MARIBE workshops. The interviews were also seen as a starting point for building relationship with investors for the duration of the project and beyond. The initial aim was to interview 30 investors, talk to them about their investments in Blue Growth sectors and their thoughts for current and future/planned investments. This should provide an understanding of their decision making process.

To this end, semi-structured interviews were designed, with 3-5 central questions so that investors can share their story (see Annex 2). The scheduled time for an interview was 90 minutes. All interviews were thoroughly prepared by getting acquainted with the investor and his/her company (LinkedIn, website, Annual Report, news coverage) and the investments he already has done in Blue Growth. The agenda and questions of the interview were send to the investor beforehand. We preferred to use the investor's name, company, and quotes and therefore gave them the option to see the report of the interview before publication, invited them to edit the content and agree with the final version.

Identification of the respondents was done based on the database. However, this database showed many blank spots as the contacts were not updated or not complete. After a thorough search we had 70 addresses with names and emails. We both called and mailed these 70 names. 5 responded positively to join us for an interview. These interviews were performed in September. The transcript was send to the respondents for permission. Of these 5 interviews, 2 respondents withdrew later on from their interview.

In October, we searched for investor brokers, this mean contact persons that can serve as an intermediary with investors. We found after in internet search, a total of 20 investor brokers, but from these 20 names, we only could find 10 contact mails of telephone numbers. We called and emailed these 10 and did not get a positive response.

Also, personal networks were activated to reach out to investors, since it might be easier to connect to investors through business people or specific networks for investors. As such, Kaufman Fellows, a Silicon Valley-based leadership program for venture capitalists and innovators of all kinds, was contacted as well as individual VCs and investors. Unfortunately, none of them showed an interest in participating in our interviews and the Blue Economy was not relevant for their portfolio.



Chapter 3: Barriers and opportunities for investors

The following paragraph describe the barriers and opportunities for investment, based on the literature review per sector

Marine Renewable Energy

An important driver for investment in marine renewable energy is the present political call to address climate change. Decarbonisation is a political and policy target (OECD, 2015; Jeffrey et al. 2013). However, when it comes to market potentials for the short term, or the next decade, marine renewable energy is not expected to make more than a minor contribution to an energy system change (Jeffrey et al., 2013).

Mobilization of private finance is needed

Marine renewable energy could make a much more significant contribution (Jeffrey et al., 2013) but for this to happen, mobilization of private finance is fundamental (Leete et al. 2013). Investors also do see this as an exciting and potentially profitable sector but many are reluctant to invest at this stage. This is not about a lack of capital available but a failure of the public policy to give investors sufficient confidence in the future.

Masini and Menichetti (2012) recognize this reluctance to invest in renewable energy. It is regarded to be of a high potential, but it is also a field that requires huge investments. Dedicated policies often fail to trigger such investments because they do not leverage some of the true drivers of the investment decision making process. Policy makers need to get a better understanding of how investors behave.

Confidence in policies needed

Investors' decisions are not solely made by evaluation judging the amount of capital to be invested in relation to the technological maturity, it is also important that there is confidence in the long term stability of the support mechanisms to obtain a return on investment. If investors consider the regulatory risk to be high, for instance the fear of changing policies, they are less inclined to invest. If they invest, it is in a proven and mature technology. Whitehead (2014) stated that the duration of government support schemes is a barrier for investors. Public policy need to be stable, long term and predictable.

Protection of intellectual property is key

Leete et al (2013:868) observe that investors are interested in early stage involvement and development if they sense they will be rewarded with the ownership of the intellectual property and a dominant position in the future market. These kinds of rewards can't be guaranteed. This is problematic if the early investments are high and design decisions are hard to reverse. Companies already active in the energy market may even have a disincentive to propagate a new technology.

Reduction of financial risk is key

Attempts to explain the success of feed-in tariffs in effectively increasing the share of renewables have highlighted the fact that it provides lower risk to investors compared to other support mechanisms. (Bürer & Wüstenhagen, 2009). Certain policies, such as feed-in tariffs, are considered especially effective by a wide range of fund manager types with a variety of characteristics, at stimulating investor interest to funding new renewable energy technologies. (Bürer & Wüstenhagen, 2009).



Public acceptance

Wüstenhagen et.al. (2007) points out a fundamental issue: investment decisions affect a multitude of stakeholders. An investor might face some resistance. Wüstenhagen et.al. (2007) found that a continuous and active participation throughout the process is most effective in eliciting social acceptance. Opportunities might be found in new types of participative behaviour. Financial participation of residents/locals might enhance the acceptance.

Demands for sustainability

A potential barrier for investment is related to findings of Vaissière et.al (2014) and their warning that the present Environmental Impact Assessment (EIA) practice does not meet the requirements needed for sustainability. The review of Vaissière et.al (2014), of EIA reports from seven European countries show that measures have been taken for avoiding and reducing impacts, so there should be no significant negative residual impacts and hence no need of offsets. But the mitigation hierarchy for ecological impacts seems to have been “incompletely implemented, because it is unlikely that there are no significant residual impacts”. Researches on the environmental effects are lagging behind. In particular, research on the accumulated and long term effects, especially the undersea biodiversity effects, are still at an early stage. In the future this might not be accepted.

Policies “under construction” create uncertainty

There are various funds for support. In general, there is a high level of policy commitment and support, but the sheer number of initiatives and the number of revisions to existing policy mechanisms suggest a process of experimentation.

When it comes to the regulatory environment, Leete et al (2013:870) found that “the clarity, consistency and predictability of the regulatory support environment are all critical factors for investors.” In the UK, they found scepticism about the UK Government's commitment to MRE and future policy direction. Interviews by Leete et al (2013:870) showed that “it was not so much the change in policy, as the way in which the change was prosecuted and communicated that raised the majority of comments. Leete et al (2013:870) stated that “early announcements” were also identified as creating uncertainty for investors.

Wrapping up

The present sense of urgency for decarbonisation creates strong interests in seeking to accelerate the pace of development (Jeffrey et al., 2013). But it is still an emerging technology, with a strong need for further research. Development and demonstration efforts are needed to allow learning, for encouraging diffusion and cost reduction before it can make major contributions (Jeffrey et al., 2013).

One of the essential issues is the mobilization of the finance for the early and long term stage.. The early stages are very expensive and investors do not sufficiently trust the long term stability of support mechanisms. For investors, public policy needs to be stable and predictable but are not. Doubts about rewards concerning intellectual property rights and dominance in the market also hamper investments.

Another critical issue concerns the politics of voiced opinions. An investment might be rather limited in scale and amounts, but it might still trigger a multitude of stakeholders. It might lead to a complicated process with much uncertainty. Local acceptance is thus an important part of this mechanism. At present, the quality of the environmental impact assessments is playing a vital role.



Integrating stakeholders into the design, siting, construction and operational phases is an opportunity to create a critical mass for acceptance.

Aquaculture

A major driver of investments for aquaculture is the flourishing and dynamic marketplace (Manta Consulting, 2013). This covers an expected growth of the sector, but also the many thriving new niche markets, and new emerging clean technologies.

Appealing to investors

Manta Consulting (2013) identified five characteristics of aquaculture that are appealing to investors:

- The industry is currently highly fragmented, creating opportunities for vertical integration;
- It is a good fit for patient investors, as the biomass in the production facilities takes time to build, but can produce steady returns over time when operations are at scale;
- The high potential for social impact due to job creation;
- Early stage emerging technology companies benefit from networks and experiences of impact investors (social and environmental concerned investors);
- High potential for positive or even restorative environmental impacts through clean technology, which also may solve the problem of inefficient feed ratio and contamination.

Barriers become opportunities

Manta Consulting (2013) sees barriers as opportunities as well. It is an optimistic tone, one that perhaps reflects the attitude of quite some investors. They, for instance, state that the barrier of *high entry costs* into the sector, due to high capital costs, is an opportunity to capture strong market positions. *Unstable global prices* are an opportunity to develop new markets and products increasing feed costs are an opportunity to optimize diets by season and generally reduce costs. *High mortality* of fish is an opportunity to improve cage technology and density problems etc. *Environmental concerns* are opportunities to make better use of fish (as in sourcing oil from by-products rather than from the whole fish, and also to refine diets and use supplements to improve health and minimize the use of antibiotics). One of the technology mentioned by Manta Consulting (2013) is the Recirculation Aquaculture Systems RAS, which might serve to mitigate business risks by increasing biosecurity (fewer escapes, minimal interaction with the external environment, all year production etc).

New opportunities for investing in the value-chain

One of the interesting future potential concerns the attitude of investors, which traditionally limit their scope to just one part of the value chain. New opportunities could raise with a broader approach (vertical and horizontal integration in the chain, which might provide for better disease management, feed control, cost reductions, less environmental impacts, better waste and water usage).

Technological development provides new opportunities

The development of new cage technology has allowed them to be moved off-shore with deeper water, stronger currents and more suitable seabed topography and more dynamic water exchange between the cages and the environment (Edwards, 2015). This provides new opportunities. Seaweed farming has also a great potential for expansion. It is usually extensive and environmental friendly, depending on naturally occurring nutrients. It is often carried out by small-scale fisher families. This



is a long tradition in Asia and is also expanding now in Asia and Africa, although the rising temperature reduces the production (Edwards, 2015).

New funds for investors

Manta Consulting (2013:4) reports that there are new funds emerging for investors. The Oceanic Partners, founded in 2010, is a global equity firm dedicated exclusively to seafood and aquatic resources, which offers access to knowledge about the whole value chain and networks. A-Spark Good Ventures is a Dutch investment company for entrepreneurs worldwide, and together with WorldFish Center, it has established Aqua-Spark, a new investment facility with a social and environmental profile. The Watershed Capital Group advises companies and fund managers and also has social and environmental issues at the forefront. It works with clients on clean technologies, sustainable business models and social impact enterprises. Fish 2.0 brings seafood business and investors together for sustainable investments and fulfils a network role, for instance by investigating opportunities for Recirculation Aquaculture Systems.

Wrapping up

The expected growth of emerging new technologies and markets form together an attraction for aquaculture investments. But the industry is highly fragmented. A critical issue is the huge spread of responsibilities, jurisdictions, authorities and the many different legislative and regulatory instruments involved. This complexity leads to uncertainty about the future, and the uncertainty is increasing as new regulation are expected. New platforms as the Oceanic Partners offers access to knowledge throughout the whole value chain and networks.

The trends of intensification and use of formulated pelleted feed will continue. Environmental barriers will also be important to investors. But investors cannot rely on any easy solutions to the existing problems, as simple and universal solutions are not at hand yet. Progress in R&D is being made, as modern polyculture systems, cage-in pond and raceway-in-pond systems with zero-waste discharge, are likely to become more important.

Marine Biotechnology

Marine biotechnology carries an enormous potential underlined by the sheer numbers of predicted ocean species, which is about 10 times higher than the number of catalogued species (200,000), with over 1600 new marine species discovered every year. The promise is driven by scientific and technological advances but the promise can only be realised through sound policy and investment. As pointed out by Allan et al. (2012), new sources of innovation and economic growth are needed in many countries.

Great potential

Trincon (2014) sees signs of the growing importance of marine biotechnological developments. It indicates a bright future despite the recent global crisis and the marine biotechnology global market is forecasted to undergo substantial growth in the years to come. Advancing knowledge on marine biotechnology demands strong investments in research.

Barriers

Turk et al. (2015) state that there are barriers to this bright future. At the moment, blue biotechnology is not on the radar of national research policies and there is a lack of market-input in much of the research. The prospect of small seafood enterprises being able to exploit opportunities for e.g. nutraceutical products is low. Lack of public funding to bridge the gap between academia and industry, and insufficient cooperation between academia and industry are the most important



reason identified as a problem for successful technology transfer. The cofounding rates for small and middle size enterprises are too high and a lot of warranties are needed to receive pre-financing. Overall, it is estimated that modern infrastructures and tools are essential for the successful development of marine biotechnology, but good equipment is very expensive and difficult to get funding for (Turk et al. 2015).

Critical mass is needed

Karlsen et al. (2011) found in a study of Tromsø (Norway) an interesting case where a lot was invested in good conditions but with poor results. Tromsø has a well-developed knowledge infrastructure and an active policy support system with many policy tools. But the weak point is that it does not have a critical mass of entrepreneurial companies and biotech employment. The peripheral location and distance to markets are put forward as a part of the reason why marine biotechnology investments did not thrive. Also the lack of related variety in the region's industry is part of that explanation.

A strategic research approach is needed

De Raedemaeker et al. (2015) conclude that the adoption of a more strategic approach should support a "market driven approach" which would bring a greater research focus to marine biotechnology and the applications within food, health, materials and biomass production. He emphasized that upscaling from lab to industrial scale should be given much consideration for successful commercialization to be obtained. Any strategy to respond to the rapidly changing conditions is however a great challenge. It requires a constant monitoring of the various markets in order to develop an understanding of where organisations fit in and a constant assessment of future opportunities. Many successful commercial development have been achieved, covering bioprospecting; functional food and cosmetics; novel enzymes; algal technologies; upgrading of fisheries and aquaculture by-products. But, as Turk et.al. (2015) put forward, venture capital does not fund early stage research and it is not easily accessible to academia either. This leads to a high dependence of public funding.

Wrapping up

This field of ocean investment carries a huge potential, but an appropriate infrastructure combined with new technology is needed. For now, national research policies are not very involved in marine biotechnology and there is a lack of market-input in much of the research. A market-driven approach could trigger more upscaling from lab to industry applications. In this sector, we see that venture capital is not keen to finance early stage research. Also the relationship between business and academia is weak, and most of the research depends on public finance. Important conditions for success with regard to region's planning to enhance their marine biotechnology investments are the level of centrality (not being on a peripheral location), the distance to the market and the presence of a critical mass of entrepreneurial companies and expertise.

Offshore Mining

This is a great excitement about the potential of offshore mining. As pointed out by Simpson (2014), the potential of offshore mining is much higher than onshore mining. The simple reason for this, is that it is not yet sufficiently developed to actually produce results. But there are many exciting changes taking place, and investors are watching this development closely, as the expected turnover is huge.



Rising prices as a driver

UNEP (2014) state that the intense demand for valuable metals has pushed up global prices. The result is that the manufacturing industries are now seeking access to previously unattainable mineral deposits. The annual price of non-energy raw material has increased about 15% in the period 2000-2010. Drivers of more investments are a raising consumer demand, also advances in technology and concerns about security of supply. The expected turnover is huge: from virtually nothing to 10 billion by 2030. But there are environmental concerns, and by that we are talking about the matter of governance.

Potential environmental impact as a drawback

The rising commercial interest in offshore mining has been accompanied by an upsurge in fears about environmental damage, the potential destruction of marine life and real concerns about the impact on biodiversity (Lodge, 2014). Greenpeace warns about a mining that exposes sea life to metallic and acidic substances, introduce toxic particles to underwater food chains. The dangers of destructing the oceanic topography are present challenges for the governance, also because it could have serious consequences for the livelihoods and well-being of coastal communities.

Lack of clear regulatory framework

The governance of offshore mining is a long term game, and two prominent issues at stake are who is monitoring and what is acceptable. Monitoring is needed to provide sufficient evidence of fair or foul play. But if that is the case, who is monitoring? Pauley (2015) also state that although there are some rules and regulations in place, it remains unclear how International Seabed Authority will monitor activity to ensure that they are observed thousands of metres beneath the oceans' surface.

Expected positive impact

It is also stated that offshore mining do carry some positive sides. Many argue that technological advancement, also for renewable energy technologies, will demand sub-sea sources of minerals. Thus, if executed responsibly, seabed mining could have less of an impact than its terrestrial counterpart (Pauley, 2015). The complexity of the machinery required, Pauley (2015) states, would likely ensure that it is a smaller-scale process, which would probably involve remotely operated vehicles and robots. And unlike mining on land, no roads or other infrastructure would need to be built in order to gain access.

A lawsuit against deep-sea mining permit

On the matter of what is acceptable, the CBD US (2015) reposts on an interesting law-suit in the US. The case is that the Center for Biological Diversity sued the U.S. government in May 2015 over its first-ever approval for large-scale deep-sea mining, a project between Hawaii and Mexico that is seen to be destructive to important habitat for whales, sharks and sea turtles and wipe out seafloor ecosystems. The lawsuit "targets the National Oceanic and Atmospheric Administration for issuing and renewing exploratory permits for the work before completing environmental impact studies required by federal law. This is the first major legal challenge to an emerging global industry that is seeking to extract gold, nickel, copper and other increasingly valuable metals and minerals from the seabed beneath international waters."

Wrapping up

Offshore mining carries a great potential but with no corresponding track record to back up the promise. The technology is simply not yet advanced enough to actually produce results. But stories about fully autonomous and remotely operated new vehicles being able to do more in ever deeper waters are fuelling hope. There are controversies and uncertainties particularly about the environmental impacts and societal resistance.



The governance of the deep ocean is fragmented. But countries or companies do need an exploration contract from the International Seabed Authority. For the future, critical issues are who is monitoring and what is acceptable. This is essential for future investments. Better regulations and more focus on best practices could foster a process of creating better principles and rules for investments.

Multi-use platforms

As multi-use platforms are very much in the stage of being developed, emphasize must be put on the technology rather than the market. Here, we will look closely at the results of the viability study of Tropos (2014), without engage too much in the technical details of the separate concepts and locations.

Uncertainty about the benefits

One of the challenges involved is the uncertainty involved for the investors. It is largely based on promising ideas and technologies. As far as it concerns existing technologies, they are standalone applications that can be manufactured, installed operated and maintained using already existing solutions. The novelty will then be how this work in combination. For investors, this is a source of uncertainty.

Uncertainty about the acceptance of multi-use by business sectors

Wever, Krause and Buck (2015) present lessons from a German funded project called Open Ocean Multi-Use. Wever, Krause and Buck (2015) report from the stakeholder dialogues on marine aquaculture in offshore wind farms, focusing on the perceived potentials, the constraint and the research gaps. The ambition is to gain insights into the biological, socio-economic and technical aspects, and develop practical insights. The project also aims for the detection of hidden agendas, conflicts and allies, all of which are directly or indirectly affect the reasoning involved. The argument is that successful and applicable solutions can only be found if actors and natural processes at the local, regional, national and global level are conflated (Wever, Krause and Buck, 2015:252).

Economic risks involved

In addition they found the economic risks involved too great. Due to uncertainties concerning price developments and the high investment costs, it would not be attractive to individual fishermen. They also questioned the know-how on aquaculture in Germany, and how to deal with the stability and robustness of technical solutions, which might increase the costs. Also, the limit imposed by the biological requirements causes concern. Besides, there are safety concerns for workers, and the smoothness of operations might be impaired, Wever, Krause and Buck (2015:254).

Lack of appropriate regulation for multi-use

The fact that there are many required certification programs and also much practical experience in safety, environmental and safety regulations make it probably easier to extend these to the multi-use purposes of the future. But Tropos (2014) also state that when we combine some of these aspects, as in the dealings with solid and liquid waste of leisure facilities and aquaculture, the accumulated effect might be a problem. Some of these effects could be mitigated, but this might not always be the case. As a consequence, Tropos (2014:42) conclude that it is recommended to apply appropriate legislation for monitoring activities and effective management plans. Appropriate legislation is also needed for the training of personnel, as the availability of highly specialized personnel is needed today as well, like for instance in the wind energy sector and aquaculture. In the future, multi-disciplinary offshore wind and aquaculture personnel will operating in a multi-use platform environment.



Government support schemes

As this concerns a development where the market maturity is low, the emerging technology depends on financial support mechanisms. The question is then how far public funding will reach? Besides, there is a major difference in motivation from the public/political position and the private/market based perspective. The main argument for public support for new technology is usually environmental, as climate change or pollution, Tropos (2014:44). Market considerations in terms of economic advantages are seen as indirect benefits and counts as well, but from a private investor viewpoint, the question is when to get involved. Early involvement might be risky, as one might be stuck with a technology that is not mature enough and a public support mechanism that could ends early. Initial involvement demands high investments, and a correspondingly high return on the money to cover the high uncertainty. From this angle, public funding of the early development of technology might be preferable. R&D support of such technology development is by Tropos (2014:45) viewed necessary. But Tropos (2014) also conclude that more sectors should be involved in the research of multi-use platforms, as there are enough potential synergy effects.

Wrapping up

Multi-use is an attractive idea but it also involves rather complex and uncertain processes. One of the most critical issues concerns the provisions of a long term stable engagement from public authorities. Another critical issue is how to ensure the development of competent personnel, to get the people involved in a social learning process over a longer term, and to get different economic sectors to work together.

It's also Important the corresponding legal requirements for multi-use platforms. To what extent can investors rely on the existing legislation and regulation? For an investor, the question will be when to enter the scene, at which costs and risks. One of the risks would be that accumulated effects are not well assessed. Operators must be able to demonstrate the safety of the installation for the whole lifecycle. The combined effects during the whole lifecycle might however be rather uncertain

There is also a critical market issue at play here. The power market, for instance, must be able to sell the power made from the offshore platform. There must be a demand, and the platform must be linked to sufficient grid connections. But at present, the market maturity is low, and also in this sector one might become dependent on a technology that is not able to prosper in a market situation. Investors will probably be reluctant to invest at an early stage development.

Analysis

Overlooking the five sectors discussed in the literature review, the following observations are made.

The five sectors differ more in terms of their 'investment readiness level. Aquaculture and offshore wind are sectors with identifiable investors with a commercial interest. A sector such as marine biotechnology is more oriented towards research and development.

Further technological development is key to all sectors. Whether it is to show proof of principle, reduce environmental impact or mitigate environmental impact, continued development of new technologies is foreseen in all sectors. From an investor perspective, this raises an important question: 'when to step in?' Early stage investment is interesting to some, but most large investors wait until sectors are more mature.



Government support is needed for all sectors but the type of support differs. A stable regulatory framework is deemed important in all cases. Offshore energy requires financial support schemes whereas offshore mining requires the development of regulatory framework.

Lastly, it is noticeable that public support is discussed in relation to all sectors. Development of new sectors cannot be seen apart from the societal context. Society is often seen as a hindrance, reluctant to new technologies or disturbance of the status-quo. Resistance to new development can cause long procedures and delays. These are risks to investors as well.



Chapter 4: Analysis of the database

Data for the database has been provided on the basis of expert judgement, i.e. by the project partners of MARIBE. This resulted in 227 investors as of 3 November 2015. This sample does not constitute a representative sample of the investment community. Note therefore that this analysis is indicative and should be interpreted with care.

Headquarters

Most of the investors in the database have their headquarters in the UK (30%). Note that these percentages may be influenced by the origins of the project partners. The Netherlands and the United States are also home to quite some investors (both 11%).

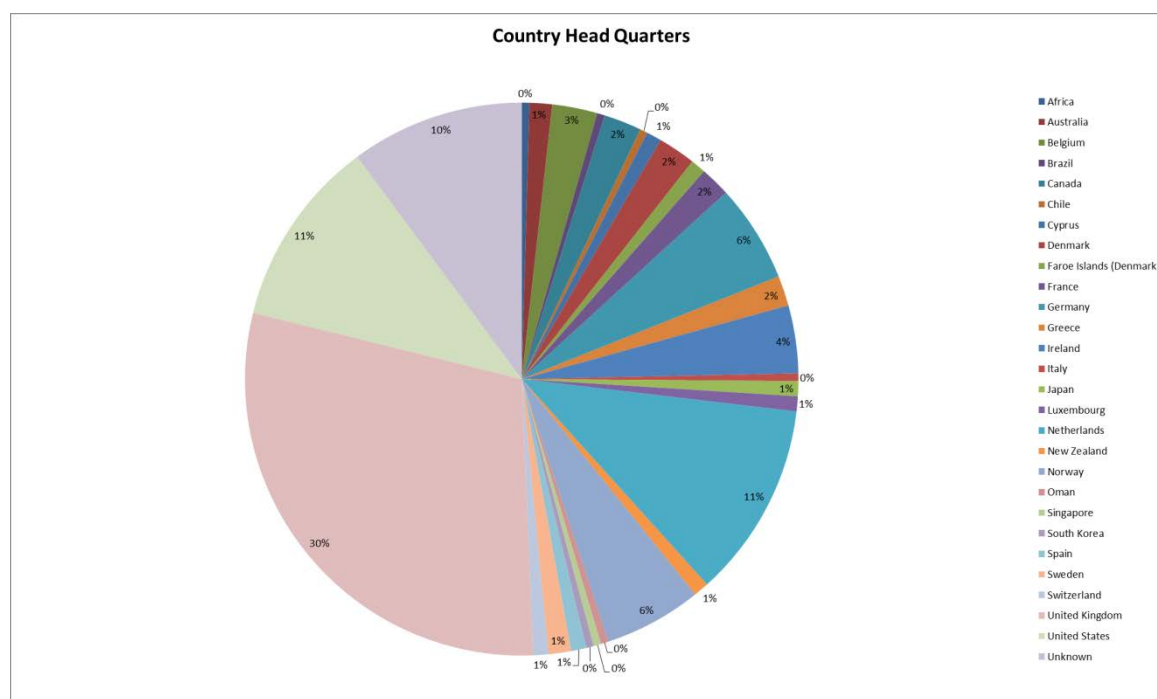


Figure 1: origin of the headquarters of investors

Activity in basins

Most of the investors in the database are active in more than one basin (37%). The most important basin for their operations is in the Atlantic Ocean. The Baltic, Mediterranean and Pacific seem to be less important for these investors (figure 2).



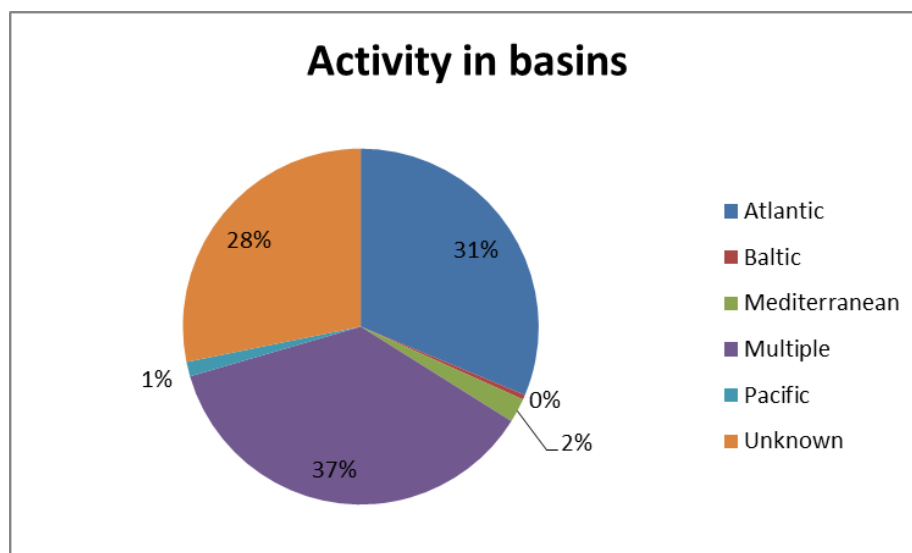


Figure 2: activities of investors in different basins

Blue Growth sectors

Out of 227 investors, 45 are active in aquaculture, 32 in seabed mining, 121 in ocean energy, 21 in biotechnology. None of the investors seems to be active in Multi Use Platforms. Note that investors can be active in multiple Blue Growth sectors at the same time. For most investors, it is not known in which sector they are active due to the lacking data in the database.

Blue Economy sectors

The database also includes investors in the Blue Economy. Of these, 31 investors are active in oil and gas, 25 in shipping, 18 in fisheries, 18 in shipbuilding and repair and 11 in tourism. Note that investors can be active in multiple Blue Economy sectors at the same time. For most investors, it is not known in which sector they are active due to the lacking data in the database.

Type of investor

Most investors can be characterised as an internal investor (26%), investing their own resources in the development of their business in Blue Growth and/or the Blue Economy. Private equity (7%) and banks (8%) are also important types of investors. Note that data is missing for almost half of all investors.



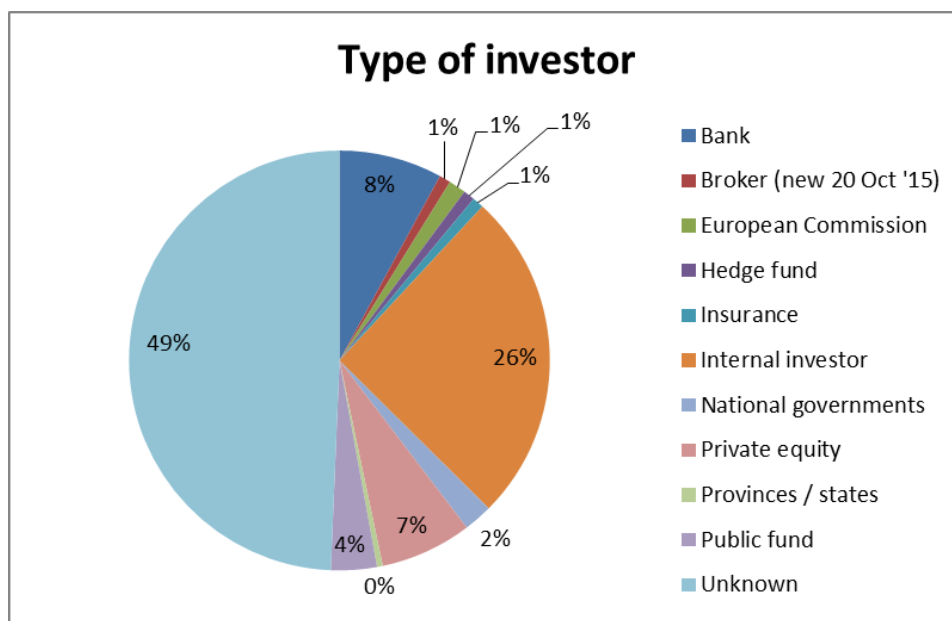


Figure 3: types of investors in Blue Growth and/or the Blue Economy

Type of funding

For most investors (68%) it is not known what type of funding they provide. 19% of the investors provide private funds to activities and 6% both public and private funds. 3% of the investors uses company internal funds to invest in Blue Growth and/or the Blue Economy.

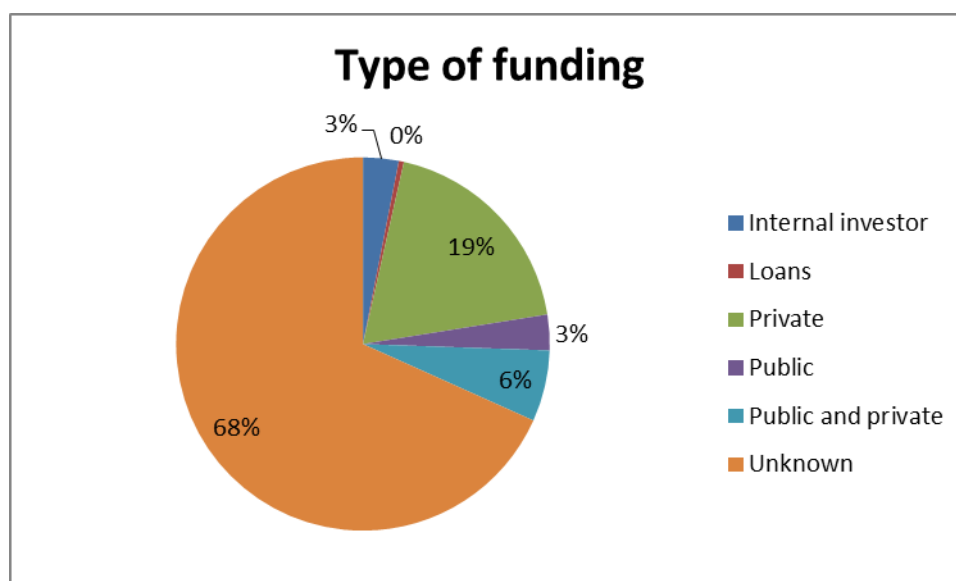


Figure 4: type of funding

Turnover of investors

The turnover of investors varies considerably. The largest multinational has a turnover of 81.1 billion EUR while the smallest has a turnover of 1 million. Note that information on turnover is lacking for 160 investors.



Number of employees

The number of employees also varies considerably. The largest multinational has 200,000 employees while the smallest investor has only 3 employees. Note that information of employment on 153 investors is missing.



Chapter 5: Analysis of the survey

Characterisation of respondents

After sending out the survey to the investors in the MARIBE database, a total of 19 responses were received. Attempts to further distribute the survey resulted in an additional 10 replies but these replies were not from investors.

Type of investors

The survey respondents come from many different organisations. It is noticeable that the differences between the categories are not always clear, with respondents combining different options. Also, a high number of respondents selected "other". Apparently, it is not easy to pinpoint what kind of investor one deals with. This could be due to different interpretations of terms used.

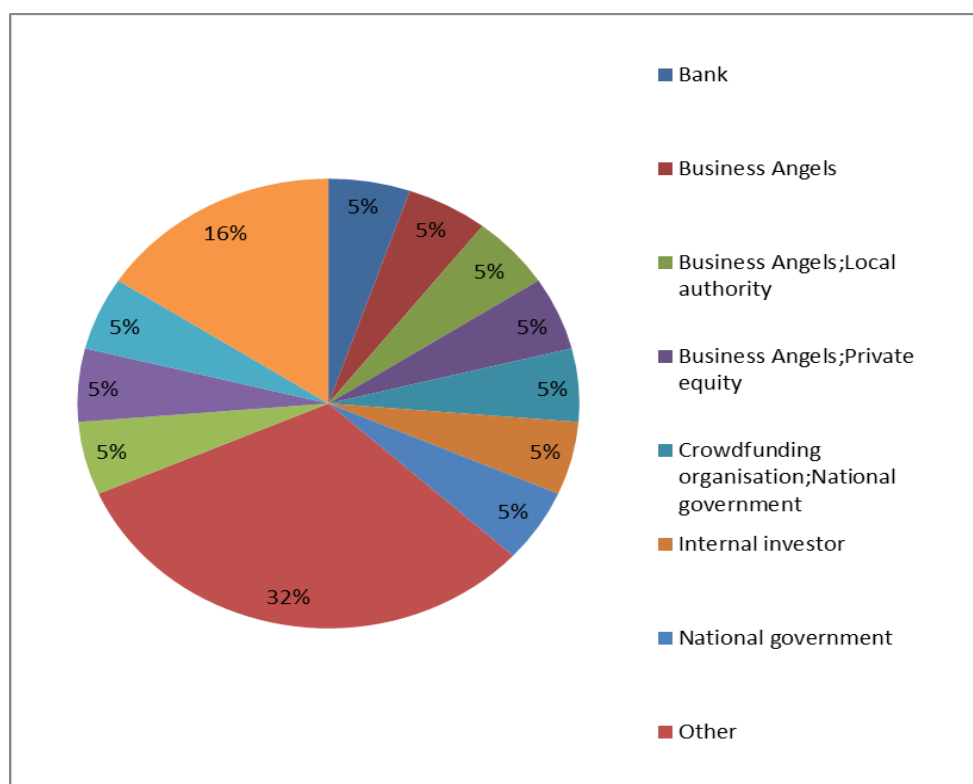


Figure 5: type of investor

Basins active

Many investors are active in multiple regions. This is why the sum adds up to more than 19 investors. Overlooking all response, it is noteworthy that 15 out of 19 investors are active in Atlantic and only one respondent is active in the Caribbean basin.



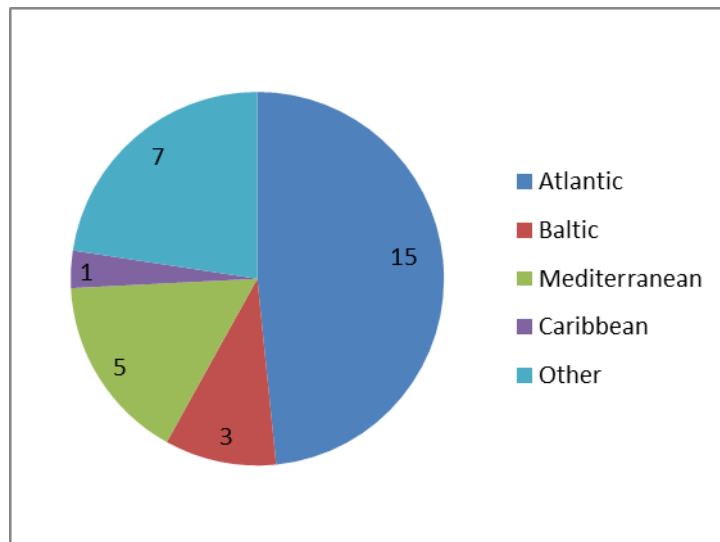


Figure 6: basins active

Past and predicted investment

We asked respondents to provide information on past and predicted investments. A total of five did not answer any questions in this section of the survey. When it comes to past and predicted investments in particular in Blue Growth areas, non-response goes up to almost 100%. For this reason, no further description of these results will be given.

Importance of Blue Growth sectors

When asked how important the Blue Growth sectors are to the investor, highest scores are given to ocean energy and aquaculture. Offshore mining (named Sea bed mining in the questionnaire) get the lowest score.

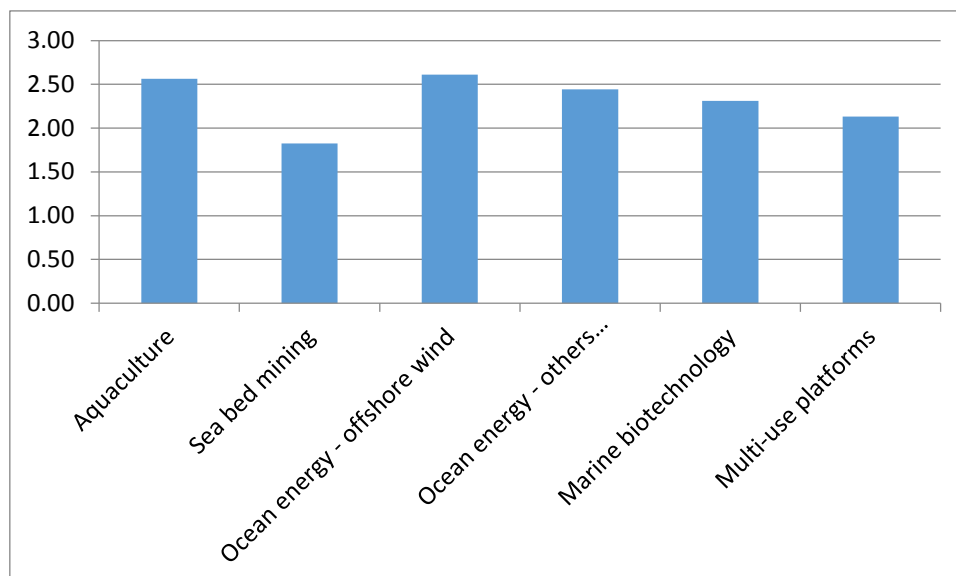


Figure 7: importance of Blue Growth sectors for investor on 1 (low)-4 (high) scale



Conditions for investment and barriers to investment

What makes a sector interesting?

Figure 8 below illustrates why a certain sector can be of interest to an investor. Among the highest ranking 'reasons' are innovative character of a sector and expected attractive return on investment. Less important are contribution to the diversification of investment portfolio.

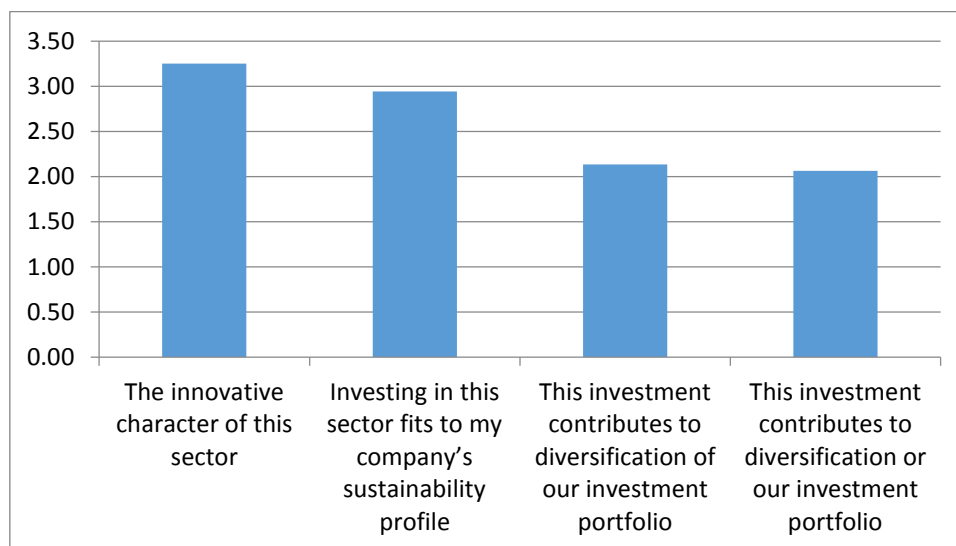


Figure 8: what makes a sector interesting on 1 (low)-4 (high) scale

Barriers

The most important barriers to investment – according to the respondents – relate to the lack of confidence in technology and difficulties to access to finance.

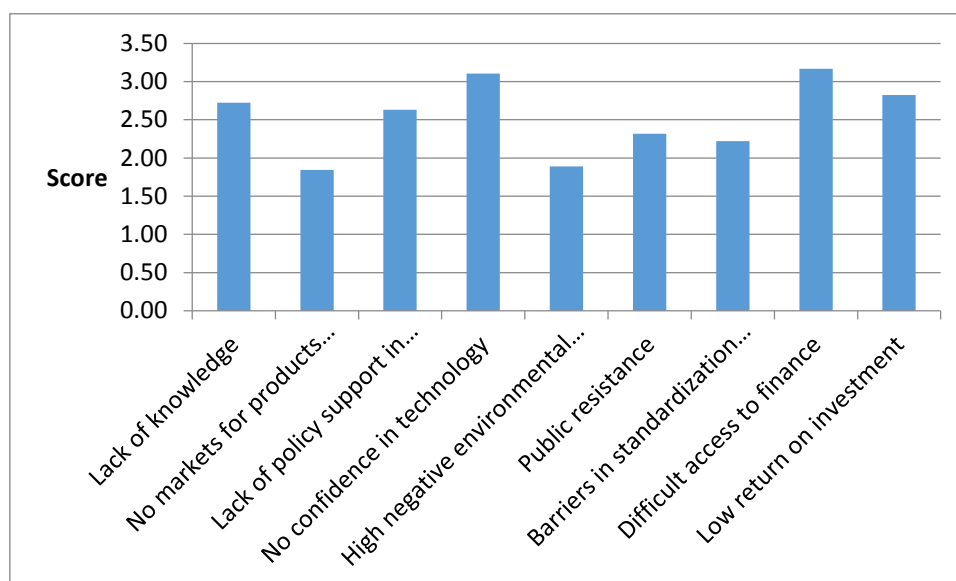


Figure 9: barriers to investment on 1 (low)-4 (high) scale



Government support schemes

Among the respondents, the most preferred governmental support schemes are tax breaks, loans and guarantees. All three relate to financial aspects. Government support for research, education receive lower scores.

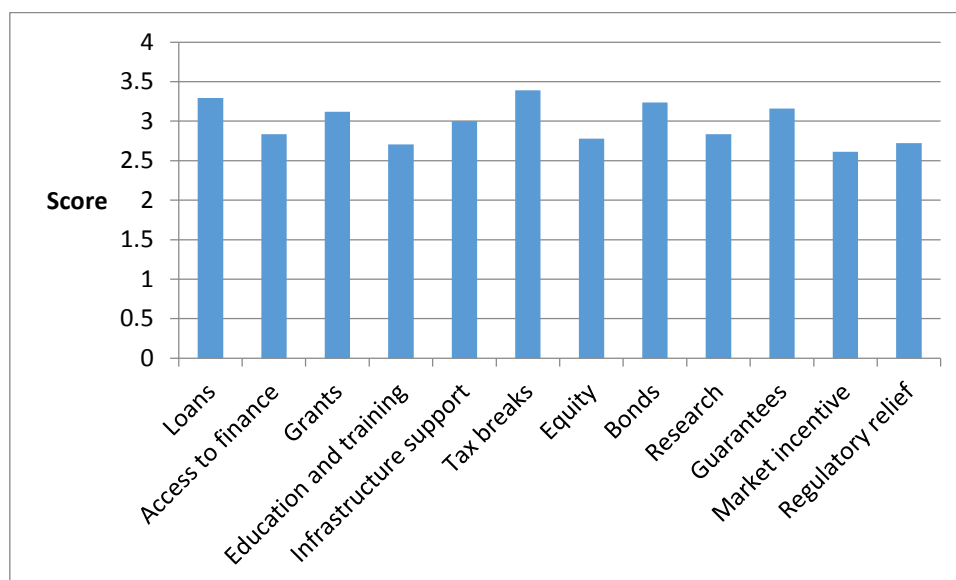


Figure 10: preference for government support schemes on 1 (low)-4 (high) scale

Multi-purpose and multi-use

Respondent see various pros and cons of multi-use. The answers do not clearly pinpoint towards a most important pro or con.

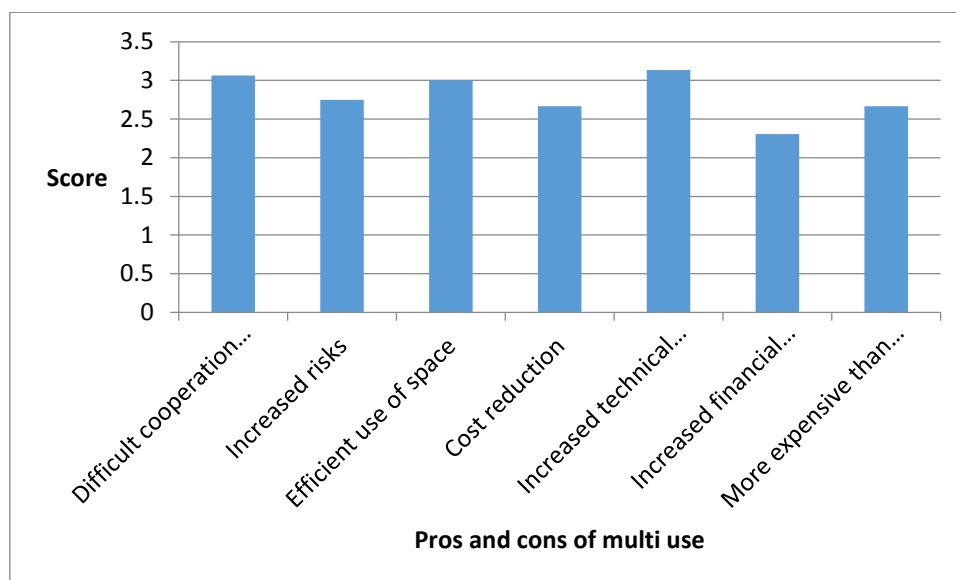


Figure 11: relevance of pros and cons of multi-use on 1 (low)-4 (high) scale



Involvement of investment community

Lastly, we asked respondents what could be of interest to them, why would they want to participate in the MARIBE project. Results show that building a network is the most important aspect of participation, followed by new insights into possibilities for investment.

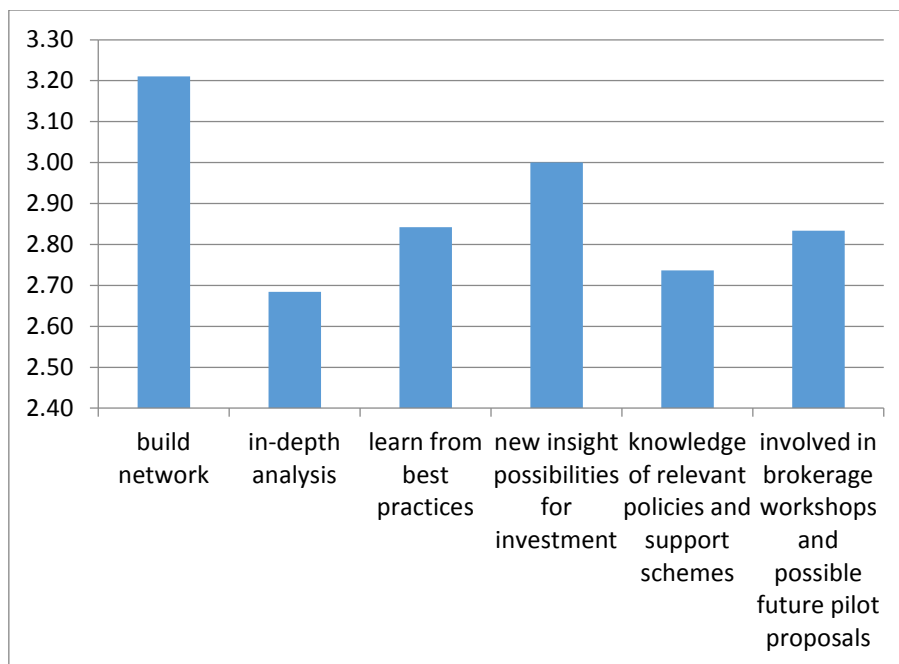


Figure 12: reasons to be involved for investment community on 1 (low)-4 (high) scale



Chapter 6: Results from the in-depth interviews

Introduction

We present 6 stories of investors that have invested in the Blue Growth sector in the past.¹ The interviews provide insights in

1. the thought processes on visions and strategies that investors have when they decide to invest in the Blue Growth sector.
2. considerations concerning future investments and their challenges
3. considerations concerning participation in brokerage sessions
4. best practices of the investor

We realise ourselves that we should be careful to draw conclusions on the basis of six interviews . Therefore we present the stories to inspire others and encourage debate. In the final section of this chapter we do some general statements as careful conclusions.

Mike Velings, Founder Aqua-Spark

Introduction

Aqua-Spark invests in SMEs around the globe. SMEs are chosen because that is where, in the opinion of Aqua-Spark, innovation is coming from. These SMEs are active in fish, plants, and shellfish throughout the entire value chain, from feed to supermarket. The ultimate goal is healthy, sustainable, and affordable food. The financial result should equal those of traditional companies, but preferably better.

Strategy and vision

Aquaculture is young and there is still a lot to explore. “There are 500 species that are grown, yet we only deeply know about only a few of them. True change only comes when you take into account all the parts of the chain, from feed to competitive prices.”

The decision making process to invest is clearly described on Aqua Spark’s website. Concerning investments they state the following: To have the best chance of selecting winning opportunities we will invest 90% of capital in companies that have proof of concept and are ready to scale and are existing businesses that want to expand. 10% of capital will be invested in riskier, earlier stage investments. For example, in disruptive new technologies; disruptive new uses for existing products; the World Fish Incubator program (<http://www.aqua-spark.nl/the-approach/our-strategy/>)

The investment in Calysta (<http://calystanutrition.com/>) is the first example of a fish feed business that has the potential to fundamentally change the aquaculture business. According to the respondent, they proved themselves and their products and they are scalable. A few years ago the time was not right, because fishmeal was relatively cheap. That is now different.

¹ See chapter 7: on the efforts done to contact and interview investors. Of the eight investors that finally participated, two investors withdrew their permission to use the results from the interview in the report. Four investors want to stay anonymous.



Future investments and their challenges

In the opinion of the respondent, EU regulations are changing too slowly and that is not something they are pursuing to change. They look around the world, roughly a thousand companies. These are for example also companies that use insects as an alternative ingredient for fish feed, which is not yet authorized in the EU. They focus on companies in countries where market development is possible.

Aqua-Spark has a clear vision of what it is not supposed to be included in fish feed. All land-animal ingredients should look be excluded, as well as soy because it is not digestible for fish. They believe that new types of fish feed can be produced on a sufficiently large scale changing the industry significantly within ten years.

The technology is already there, it is about investing in the right companies to develop the market further and thereby change the aquaculture sector in a positive way. For example, if a biotech company can contribute with a proven technology that creates value, it is interesting for them and "investable". It is also about connecting and tying together the right parties.

It would be good to have financial support from the European Investment Bank (EIB). "Everyone within policy circles is talking about the importance of sustainable aquaculture but everywhere we fall by the wayside".

Participation in brokerage sessions

Meeting new people i.e. co-investors and companies is always interesting for them. The coming six months, however, they do not enter into any new commitments because there is enough on their plate. Sitting at the table with other sectors is only useful when it comes to collaboration that directly leads to further market development. Sitting at table with a biotechnology company that is still in its infancy with their technology is not interesting to investors.

Best practices

- A Venture Capitalist (VC) should invest in the development of the market, not solely the technology
- There can be synergy between sectors, yet Venture Capitalists are only interested if both companies have market and growth potential already.
- Changing the Aquaculture sector significantly takes 10 years and requires a long-term view.
- Investments should be in sustainable change, with potential of better financial returns than traditional businesses.
- VCs are not going to invest in markets where regulation is yet to be developed or lagging behind.
- Investments are needed across the entire chain.

Anonymous investor

Introduction

The interview did not dive into specifics for any given investment. Investing in wind was discussed in more general terms.

Future investments and their challenges



Wind energy investments (particularly in offshore wind) have had their fair share of difficulties. The respondent says: “You could say that we’re fairly successful today, yet there are still issues”. For example, there are regulatory issues that have to be dealt with at the European and national levels. There have been oversized or poorly designed subsidy schemes, leading to often ill-timed repudiation. These things are slowly improving according to the respondent. There are improved tariff and incentives structures now and also auctioning processes help. However, in his eyes: at the EU level improvement is still needed and the knowledge that is there should be used. “It is really important that the right incentive is in place for the right project”.

The government in the Netherlands wants projects with reasonable scale, i.e. big projects. Regulatory and permitting processes are smooth. The UK is in a similar position, making things simpler while maintaining competitive tension, which helps the investment climate.

Problems arise when parties pull back from previous commitments. Investors don’t like this because there is already enough risk related to power price, wind, technology, and other constraints. A proper auctioning prices helps to avoid that subsidy supports are not too ambitious. Compensation for losses is also needed. Other problems are delays in delivery because of suppliers.

The economic viability is still not there. Offshore technologies are still very expensive: new technology is not getting obviously cheaper. In some cases, prices are actually increasing. So LCOE is not going down. The risk does decrease. Although companies like Siemens and other big suppliers claim to be working on industrialization of wind energy, this is still a stretch. Technology is not yet stabilizing. New 6, 7 and 8MW turbines are completely different designs to those previously employed. With new technology we might encounter problems we haven’t seen yet. Rectifications are done, yet warranty is quite limited. What if they don’t fix them anymore?

Equity return is not great. There is just a lot of money available and the returns are reasonable. On the debt side, the returns are quite compressed given the risks in a typical project but given the tremendous amount of liquidity in the banking market, projects are finding funding.

The greater vessel availability because of the fact that oil and gas are using less is an improvement. This was a big issue before with year-long waits.

Financing is not a problem to get off the ground. Banks fund construction. They have teams that understand the business. Once the park becomes an operating asset debt is distributed to institutional investors and banks renew, i.e. they finance a new project. Long-term technology is not comfortable for investors since they prefer stabilized cash flows, easy permits, minimization of pre-development costs, reliable regulatory framework, etc. The banks do full tech appraisal and calculate the cash profile to see if they’re comfortable with it. In addition, there is economic and environmental assessment, including permitting. Projects are individually not economically viable without extensive subsidies, but the sector will be in the long run. That is why we invest in the future of energy.

Best practices

- Smoothen the regulatory framework and permitting
- Ask for a proper auctioning process
- Understand that wind parks are risky investments, yet under control
- Investors are not keen on anything that adds more risk to an already risky projects



Michael Eales, Early investor Atlantis Resources Ltd., Private Investor

Introduction

Michael and other private investors invested A\$ 2m in Atlantis because they believed in this future of energy. Atlantis is striving to become the world's leading developer of commercial scale tidal power projects and the technologies required to economically deliver tidal current power to the grid for sale and dispatch. For more than a decade, Atlantis has pioneered the development of tidal current power as a predictable source of reliable, economic and secure renewable energy (<http://atlantisresourcesltd.com/about-atlantis/our-vision.html>). The first round investment from Michael and his consortia was about \$250k. In total over time it would be in excess of A\$1m.

Strategy and vision

They've conducted all the due diligence with help of Atlantis and other experts in their network. Some analyses were useful, others not. He has seen Atlantis and the way they've grown from the beginning and up close. The current CEO and Inventor (who has left the company) have always been very transparent about what they were doing. There is no return on investment. This investment was done from an intrinsic motivation to contribute to a better world.

Best practices

- Early stage investments are purpose driven which means you need to have enough like-minded investors to bring together a couple of million as an early investment
- Early investors are in it for changing the world, not the return on investment
- Early investors are interested in digging into their investment and the company's future and business model. Their eagerness is helpful to better understand the potential for growth. Their networks can bring new insights and knowledge about the market, technology to the discussion.
- Work closely with the management team of the company and/or the inventors of the concept the company is drawing upon.

Anonymous investor

Introduction

They invested in March 2014 in an innovative offshore wind turbine concept as shareholder . This company will go to the market with a new technology for off shore wind. They developed a new wind turbine and a new idea how this wind turbine can stand on the seabed. Within one month they will build a demo. The design of the wind turbine is appropriate for marine circumstances. If it is successful the next phase will be production and sales.

Strategy and vision

The investor invested about 5 – 10% of the total amount. At the moment the company is in the phase of development and demonstration. They built a demo turbine for about 25-30 million in 6-7 years. But there is more money needed to produce those turbines. Before the investor can earn money with this project they have to invest more money.

It is difficult to say something about the expectations of return of investment. There are 3 scenarios:

1. The project fails;



2. The project succeeds but the first shareholders should not get a lot of money;
3. The project is very successful and everyone wants to be the owner. In that case the first shareholders will get a nice return on their investment.

“At the moment we do not know which scenario will come true. The road to success is still long. A lot of failures can happen.”

“The relevance of this investment for our portfolio is that we want to know what is going on in offshore wind or biogas or hydrogen. They invested in new initiatives that go beyond the usual industry. “When you are engaged with money in this sector you can learn about the suppliers of this initiatives, how they get money, the interests of buyers etc. This knowledge is much more important than the success of company XX.”

Future investments and challenges

Do you think there is an economic case for combining Blue growth sectors together or with other Blue economy sectors in multi-use offshore platforms?

I have heard about that, but I do not think this is the right moment. It is too early. Now each technology is in itself difficult enough e.g. the technology to get energy from waves or wind. So I think it is better to develop those things apart. Moreover the location is sometimes difficult to combine things for example when there are a lot of currents you do not want to drill or drive piles. But it is possible in the future if these technologies become more efficient en cheap. But at the moment it is too early.

Participation in brokerage session

At the moment they would not develop multi-use with others. However, the combination of an energy function at sea with a non- energy function is interesting . The respondent adds that he considers the challenge of commercial regulations and risk assessments of more importance then technological developments

Best practices

- Do not get involved for a quick or big return. Get involved to explore the future of energy and gain knowledge about what might work.
- The investors who invested for the first time in tidal, wave or offshore wind might also be the investors who will invest in multi-use. However, these long-term investors do have to believe in the value potential for multi-use.
- Investors are not particularly excited about the technology itself. They understand that technology development is needed and takes a long time. Yet, their interest lies in the technology being a game-changer, i.e. technology that changes an industry.
- Invest in more than one company (technology) because it is very uncertain what is going to work in the end.

Anonymous investor

Introduction



The investment that this investor made is in the company ORF. The aim is to cultivate seaweed and process the biomass. They cultivate *Saccharina*, *Laminaria Escalypta*, *Laminaria Digitata*, all brown seaweeds. Cultivation means that we do crop farming with very different crops or species for various purposes. We prefer to have different piece in commercial values in different seasons that you can plan logistic bio-refinery process throughout the year.”

The investment is about knowledge and hardware. About 60% is spent on gaining knowledge. The knowledge is about working with cultivation offshore. It is generated through studies, by doing the work and doing mistakes and correcting them. About 40% is hardware: robes, anchors, vessels, seeding material.

So far is 800.000 euros invested. It has been fairly successful so far compared to the plan they had with the investment and development. But it is too early to say if it is a success in terms of return of investment. The expectation is that within 5 years they can see that this is a profitable investment.

Future investments and challenges.

There are two types of investors. There are grants they are funding the activity and there are real investors: angel and seed capital investors. The angel investors are private individuals that started the company 7 years ago. So their investments are not large today but in total they have about 100.000 euros and then you have angel and seed capital investors for about 300.000 euros. The rest 400.000 euros are various types of investors.

Concerning the combination of seaweed with wind farming, the respondent thinks that in some cases there might be benefits.

However, as a general rule he is of the opinion that the idea of all these things mixed together looks very nice on the PowerPoint slide, but he has so far heard nobody that actually works on windfarms or fish farms who thinks that it is a great idea. Because there are different criteria for both access, criteria to work there and the requirement criteria (e.g. fish farmers need special boats). At the same time it is very important to realize that there are synergies between these different activities, especially fish farming and mussel farming or seaweed farming because their emissions can be absorb by mussel and seaweed ponds.

“When we talk about spatial planning we have to think in regions: we can have these kinds of blue activities in a certain region, but they are different and they all require their space.”

Blue growth will be driven by the public grants and seed dimensional capital. That will be the case until the innovations have reached the maturity stages. In his opinion we will not reach these stages before 5 years. “My task is to make sure to be funded by grants and “crazy” investors until then”.

Participation in brokerage sessions

The respondent is positive in going to brokerage sessions with others in the network. Networks are very crucial in his eyes. Exploring business models is needed. There are a lot of scientists involved in the blue growth area, but there are not many business people around.

Best practices

- The best indicator you have is your feeling and common sense. “This is an innovative project. When I do an investment like this it is also driven by the fact that it is challenging and almost impossible.”



- The best type of investment fund appropriate for multi-use are basically seed angel investments and public investments.

Anonymous investor

Introduction

The investor is a fisheries finance program that supports sustainable commercial fishing through loans for vessels, permits, equipment and working capital. Since their launching they provided 25 loans totalling more than \$2.8 million. They closed a loan with is a fishing quota bank. A fishing quota bank manages fishing quota collectively as group for a community and they anchor the quota in that community in order to have sufficient access to fishing in one particular port.

Strategy and Vision

The idea behind their investment was:

- 1) prevent large corporate buyers from acquiring all the fishing quota
- 2) preserve access to fishing and fishing quota for smaller boats
- 3) preserve the necessary infrastructure and have an active fishing industry

In the case of this investments, is a community in a port that is been well-known for a long time. They want to preserve access to fishing there. They do not have a plan to sell the quota again; they intend to hold on to it.

They have to pay back with interest over ten years. It is like a start-up loan for them to acquire quota so that they can lend these out to their fishermen.

It is highly relevant, because it is about how the fund was formed. They are a non-profit fund, formed in order to make money and to serve meet and need which the fishery industry has on the West coast. They lack basic access to borrowing capital. They are an environmental defence fund. An environmental defence fund is 500% non-profit environmental sea organisation. They have worked on fishing issues for a long time trying to combat overfishing. Even fishermen are going through a shift to do more responsible and sustainable fishing they need access to borrowing money. So they start the fund identifying that need. The quota banks are part of the solution addressing overfishing. People are really concerned that the wealthier ports and the wealthier fishermen would buy all the fishing quota. The quota banks are a response to that. They help preserve fishing access and affordable access in critical fishing ports.

Future investments and their challenges

The EU developing Blue Growth might be a possible threat when these other activities disturb the fishing of the fishing communities.

Participation in brokerage sessions

The investor is not interested to participate in brokerage sessions about the European seas.

Best practices

- Analyse the character of the borrower (just somebody's attitude about the borrowing process, their willingness, their relationships with other people



- Every loan that they consider they first look at it from a mission perspective and judge as an environmentally mission focused organisation. “We look at a triple bottom line with a matrix with 13 indicators that reflect social, economic and environmental sustainability”.

Conclusions

Several conclusions can be drawn from these interviews

1. Vision and strategy

- Investors have a combination of idealism and realism when they invest in new Blue Growth or Blue Economy sectors.
- These investors are involved because they believe in a different future and want to help realize that future.
- It is all about having a long-term view.
- Investors do not bet on one company/technology. They seem to prefer to invest smaller amounts in a broader portfolio of companies. SME's seem to be most innovative and flexible in the begin stage of new concepts.

2. Future investments and their challenges

- Investors want to contribute to knowledge development within a sector as well as gain a better first-hand understanding of what goes on in a sector for themselves. ‘When you are engaged with money in this sector you can learn about the suppliers of this initiatives, how they get money, the interests of buyers etc. This knowledge is much more important than the first Return on Investment.’
- Investors do not like additional complexity from the regulatory or planning side.
- Investors want to know what exactly they invest. This has to be something that is real, not just a concept that looks nice on paper.
- Investors are not necessarily tied to Europa. If it is easier to invest somewhere else in the world, they go there. They have a global orientation.
- Investors are not going to invest in markets where regulation is yet to be developed or lagging behind. It is relevant to smoothen the regulatory framework and permitting procedures

3. Participation in brokerage sessions

- There is among these investors not too much enthusiasm, but when they are enthusiastic it is about network and knowledge development on multi-use
- The low lack of response to the in-depth interview could be an indication that investors are not so interested at the moment in multi-use projects
- They can become more interested when they have specific networks where they can learn from
- Investors that invest in high risk innovations and are very keen on knowledge development are the best partners for multi-use projects

4. Best practices

Sustainable Investment across the whole chain



This project has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No 652629

- Investments are needed across the entire chain.
- Changing the sector significantly takes 10 years and requires a long-term view.
- Investments should be in sustainable change, with potential of better financial returns than traditional businesses.
- The investors who invested for the first time in tidal, wave or offshore wind might also be the investors who will invest in multi-use. However, these long-term investors do have to believe in the value potential for multi-use.
- The best type of investment fund appropriate for multi-use are basically seed angel investments and public investments.
- Invest in more than one company (technology) because it is very uncertain what is going to work in the end.

Investor rationalities and lessons

- Investors are not particularly excited about the technology itself. They understand that technology development is needed and takes a long time. Yet, their interest lies in the technology being a game-changer, i.e. technology that changes an industry.
- Investors are not keen on anything that adds more risk to an already risky projects
- Early stage investments are purpose driven which means you need to have enough like-minded investors to bring together a couple of million as an early investment
- Early investors are interested in digging into their investment and the company's future and business model. Their eagerness is helpful to better understand the potential for growth. Their networks can bring new insights and knowledge about the market, technology to the discussion.
- Work closely with the management team of the company and/or the inventors of the concept the company is drawing upon.
- Do not get involved for a quick or big return. Get involved to explore the future and gain knowledge about what might work.
- Analyse the character of the company you invest in, somebody's attitude about the process, their willingness, their relationships with other people



Chapter 7: Conclusions

This chapter answers the three research questions:

- What is the current state of affairs regarding Blue Growth investments and investors?
- What are conditions and criteria relevant for investors when investing in Blue Growth sectors?
- What can be learned to engage investors in the MARIBE project?

This is not the only deliverable of Work Package 6. as it comes with a database of investors identified. Based on this database, the researchers have suggested investors to contact for the interviews. In the coming months, the database will be a basis for selection of investors to invite them to the MARIBE workshops.

Current state of affairs regarding the Blue Growth investments and investors?

Based on the efforts put into the identification of investors, the actions to contact them, the database and literature review, it becomes clear there is not one stereotype for a “Blue Growth investor”. Stereotypical images of private equity banker, serial entrepreneurs or wealthy individuals do not do justice to the diversity of Blue Growth investors. There is a large variation in types of investors; large and small, private or public, low- or high-risk taking, ideological or conservative. Also hybrids between types of investors were encountered.

The result from the database should be interpreted with caution. It illustrates that London – as a crucial financial capital – is an important location for investors focussing on the Atlantic basin. It is remarkable that very few of the identified investors are active in the Baltic and the Mediterranean basins.

Investments in Blue Growth do take place but there is no vibrant investment scene where entrepreneurs can have access to capital required for commercial expansion. The only sector where such a ‘scene’ emerges is the offshore wind sector, a sector where large banks, pension funds and the like of them are active. These projects come with large financial demands. To mitigate risks such projects are therefore backed-up by a group of investors. Investment brokers – bringing together different investor to bring a project to financial closure – play a key role in these sectors.

It is noteworthy that there are only a few “green investors” active in the Blue Growth sectors who invest money in those sector that they believed provide responsible solutions to the world’s future problems. They invest in revolutionary technologies that have the potential for major change. Whereas such investors might be eager to stand in the spotlights, most of the investors remain on the ‘backstage’, up to a point where it is very difficult to identify let alone contact them.

Clearly, public investors – whether that is the European Investment Bank, a nation-state or provinces – play a key role in funding of many Blue Growth investments. Access to finance is a recognized critical issue in the development of the Blue Growth sectors. Private investors are not there to provide full financial support so public support is also required.

Conditions and criteria for investors when investing in Blue Growth sectors

Given the diversity of investors, it is no surprising that the current status quo and barriers can only be described at a general level. Based on the empirical data collected, we cannot make generalizing statements. For some investors, the return on investment is the most important criteria, for other it is not. In short, it is not all about the money. Concerns of investors have been identified at an



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abstract level, two issues arise: (1) concern about maturity of the technology and (2) concerns about the market risk (see Figure 13 i.e. risk about commercial attractiveness of the sector).

Most Blue Growth investments are not operating in the top-left box of Figure 13. Again with the notable exception of offshore wind, the Blue Growth sectors face uncertainty and risk in the commercialization of the products (including lack of demand and regulatory problems) and frequently use technologies still under development. For those into Blue Growth sectors, the question then becomes “how to move towards a low-risk, mature technology sector and become more attractive for investors?”

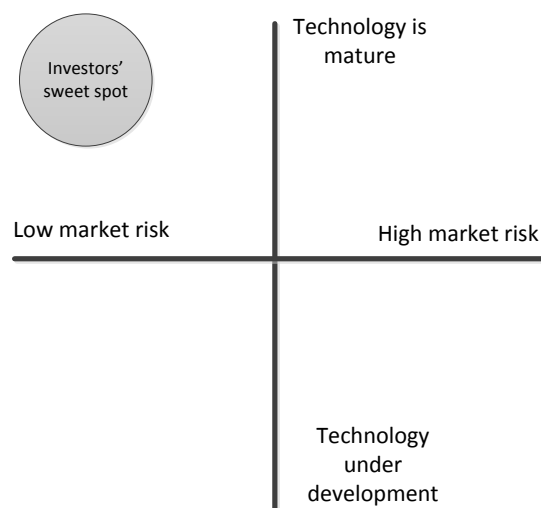


Figure 13: Favourable position of investors in relation to sector maturity and risk

Policy makers have a role to play here, even though the attitude of investors towards regulatory measures is mixed. Clearly a paradox can be signalled here. On the one hand, regulations and frameworks are seen as a burden (“it is complicated to get a permit”) whereas on the other hand investors argue that regulatory frameworks should be more supportive of investing in Blue Growth and provide subsidies or other, means of support such as experimental zones for e.g. multi-use projects. Without legal allocation of experimental zones by policy makers, such zones will not function and investments will not occur. What binds these two opposing arguments is the desire for a regulatory framework and support-scheme that is predictable, has a long time-span and will not erratically change.

Investors do not see a role for themselves in technological development. As such, investors do not have a direct influence over the vertical axis in Figure 13. Exceptions are those companies that invest their own resources in the development of new technologies, with an eye of future markets (e.g. dredging companies involved in deep sea mining).

In this context of regulatory uncertainty, a noteworthy development is the emergence of private governance schemes where industries, investors and other stakeholders come together to actively move forward ocean governance, with the World Ocean Council as prime example.

Investors were specifically asked about multi-use platforms and multi-use of space. The answers reflect the reluctance of investors to make offshore operations more complicated and more risky. Particularly regarding offshore wind, it is argued that the sector is maturing and is not in need of more complexity.



How to engage investors in the MARIBE project

The researchers of MARIBE experienced significant challenges with respect to identifying, contacting, interviewing and analysing investors and their networks. Populating the database was a first challenge as very few MARIBE researchers appeared to have warm contacts with the investor community relevant to the Blue Growth sector. Most of the data in the database therefore finally originated from online searches. This data was often not up to date and it needed a lot of effort and time to update the database.

At the start of our search we had the hypothesis that a wide range of investors and investor brokers could be a key partner for the MARIBE project. However, despite all the efforts, the response rate to survey and interviews was low. The survey was sent out to the investor community, resulting in a response rate of app. 9% (20 out of 227). The response rate of the interviews was 0,05% (6 out of 120)

The interview contacts were initially gathered from the database. First, it appeared that many contact details were lacking or incorrect and it took a lot of time to restore the information. Second, investors proved to be reluctant to give some of their time for an interview. It took much effort – 120 investors were contacted by email and telephone - to finally organise 8 interviews. During the analysis of these interviews, 2 respondents withdrew their cooperation. So in the end, only 6 interviews could be used. Although it is not possible to scientifically underpin why the contacts with the investor community were a challenge, some suggestions are made to explain this.

- Investors do not want to be transparent about their motives and ideas on investments as this weakens their position towards competitors
- Investors prefer to stay anonymous towards the public as they want to prevent being approached by others all the time
- The issue of Blue Growth and more specifically multi-use platforms is an unclear concept for them. Investing in complex projects off-shore is not in their priority list. Investing offshore is already a risk for them, when it is single use only. Investing in complex projects is not relevant to them in terms of return on investment
- Investors do not see the use of being involved in EU projects and meetings. For them EU stands for bureaucracy and rules. They do not see the added value in attending meetings, as they have their own recruiters that travel to interesting investment options.
- Investors do not see the need to have connections with scientists, as they have their own experts who investigate interesting options. Furthermore there is a language barrier between scientists and the investment community
- Investors and companies that have investors behind them are reluctant to give contacts from within their own network as they protect their network due to competitive advantage
- Finding public investors that deal with Blue Growth via snowball methods takes a lot of time. This time was not available.

There are several lessons to learn in terms of the engagement of investors in a project such as MARIBE. These include the following:

- Investors are interested in the possibilities to build their network. This should be a focal point in the communication about investor engagement.



- So-called 'warm contacts' work better; ask companies that are interested to invite their investors and let them come together
- Approach public funds and authorities that deal with Blue Growth to invite their contacts



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Annex 1: Questionnaire for survey

See separate PDF file

Annex 2: Interview guide

Introduction to MARIBEMARIBE

Introduction to the interview

- We request a specific investment to be talked about in detail. We investigate the information available on the internet and ask the investor if they can send us any other relevant information beforehand
- MARIBE sets out to gain a thorough understanding of the barriers and challenges that need to be overcome for unlocking the Blue Growth potential. MARIBE believes collaboration among all stakeholders is needed to overcome these barriers and challenges.
- The interviews are about understanding the investor's view on the barriers and challenges and their needs for collaboration. We want to get feedback on what they would like to get out of their participation in the MARIBE project. The interviews are for getting clarity on that, so that WP9 and WP10 can design the "right" workshops and pilots.
- We ask the investor what needs to be on the Workshop Invitation so that they wouldn't want to miss out on it

The questions for each of the three parts of the interview are listed here. Also a checklist is provided to make sure we are able to capture everything we need to know for each main question.

Details on the respondent

- First name & last name
- Name of your organisation
- Email
- Telephone number
- Position in the organisation

Part I: Success Story

As discussed on the phone, we've looked at your past/current investment in company X from sector [OE, MR, BT, AC]. We want to know more about this successful investment. Please share the story behind this investment! Let's first briefly review *What* the investment is about.

Question 1: What is the investment about?

During the preparation, we've already looked at this, but we quickly review the details together.

- Company description and overview
- Overview on the investment: location, hardware, software?
- Money invested in the specific investment??
- Stage of the company?? (using standard life-cycle terminology)
- Expectations about Return on Investment
- Relevance of the investment to your portfolio



The next questions are to better understand your rational thought- and decision-making process before making the investment, as well as while managing the investment.

Question 2: What fundamental thought process did you apply for this investment?

(The following questions are a checklist for the interviewer in order to get relevant answers and dig deeper if needed)

- Investment theory?
- Investment principles?
- Set of rules?
- Firm's strategy?

Question 3: What were the basic steps you took in the decision-making process leading up to the choice to invest in this company?

(The following questions are a checklist for the interviewer in order to get relevant answers and dig deeper if needed).

- Market potential (customer (unmet) need)?
- Management team and their ambition level?
- Current and future revenue streams?
- Due diligence analysis?
- Procedures?
- Co-investors?
- Peers?
- Influencers? Other investors, analysts, (financial) journalists, media, etc.

Question 4: What criteria did you use in your assessment of this investment?

(The following questions are a checklist for the interviewer in order to get relevant answers and dig deeper if needed).

- Financial criteria?
- Non-financial criteria?
- How did you prioritize criteria?
- What were must-have criteria?
- What were nice-to-have criteria?
- How do you measure criteria?

Question 5: What tools did you use for assessing this investment?

The following questions are a checklist for the interviewer in order to get relevant answers and dig deeper if needed.

- Quantitative tools?
- Qualitative tools?
- How did the results produced by your tools influence your thought- and decisionmaking process?



Question 6a: What barriers and/or challenges did you have to address related to this investment?

(The following questions are a checklist for the interviewer in order to get relevant answers and dig deeper if needed)

- Informational barriers (lack of knowledge)?
- Scale barriers?
- Market barriers?
- Regulatory barriers (lack of support)?
- Technological barriers (lack of confidence in technology)?
- Social barriers, e.g. public resistance (not relating to environmental issues)?
- Environmental barriers (sensitive ecosystems)?
- Barriers in standardization and certification?
- Financial barriers (lack of access to finance)?
- Business (model)?
- Team?
- Other [please specify]?

Question 6b: How did you overcome these barriers?

Question 6 C: Did you use any policy incentives/instruments at the EU/national/local level to address them? If yes: which ones?

Question 7: How did/do you manage this investment?

(The following questions are a checklist for the interviewer in order to get relevant answers and dig deeper if needed)

- Interaction with the company? How and how much interaction (frequency)?
- Seat on the Board?
- Provide advice?
- Bring in expertise?
- Provide knowledge?
- Connect to your network?

Part II: Barriers and Challenges for future investments

Question 1: Are you considering a specific investment at the moment or near future?

- Which (BG) sector?
- What is it about? Company, etc.
- Why this company?
- Are you the only investor?
- Money to be invested?

Question 2: What barriers do you see related to future investments?

Refer back to Part I if needed.

(The following questions are a checklist for the interviewer in order to get relevant answers and dig deeper if needed).

- Context: socio-economic, rules and regulations, and political?
- Specific examples of barriers?



- How do you discover them?
- In what way do these barriers affect your investment decision?
- Is there an active role for you to overcome them?
- How will you or the company overcome them?
- Are you considering policy incentives/instruments at the EU/national/local level to overcome them?
- What new policy incentives/instruments should be developed at the EU/national/local level?

Question 3: What challenges do you see related to future investments?

Refer back to Part I if needed.

(The following questions are a checklist for the interviewer in order to get relevant answers and dig deeper if needed).

- Market? Business (model)? Team?
- Specific examples of challenges?
- How do you address them?
- In what way do these challenges affect your investment decision?
- Is there an active role for you in tackling them?
- How will you or the company tackle them?
- Are you thinking of any policy incentives/instruments at the EU/national/local level to tackle them?
- What new policy incentives/instruments should be developed at the EU/national/local level?

Part III: Involvement in MARIBEMARIBE

Question 1: Are you interested in participating in the MARIBE project?

1=not interested

2=a little interest

3= interested

4= very interested

	1	2	3	4	Do not know
I want to participate in a follow-up survey					
I want to participate in workshops brokerage sessions					
I want to participate in a BG combination pilot					

Question 2: What would you like to get out of your involvement?

Question 3: What should be on the programme of the Workshops so that you will come?

Question 4: In what other way would you like to be involved?

If No to question 1

