

RiCORE Project Expert Workshop 4 Report (Deliverable 5.3)

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Acronym list

AMI	Appel à Manifestation d’Intérêt [Call for expressions of interest]
CERAMA	Centre d’Etudes et d’Expertise sur les Risques, l’Environnement, la Mobilité et l’Aménagement
DG MARE	Directorate-General for Maritime Affairs and Fisheries
DRIP	Data Rich, Information Poor
DSF	Document Stratégique de Façade
ECJ	European Court of Justice
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
EMF	Electro Magnetic Fields
EMODNET	European Marine Observation and Data Network
GES	Good Environmental Status
INSPIRE	Infrastructures for Spatial Information
MRE	Marine Renewable Energy
MSFD	Marine Strategy Framework Directive
MSP	Marine Spatial Planning
MW	Mega Watts
NGO	Non Governmental Organisation
NSIP	Nationally Significant Infrastructure Projects
OEF	Ocean Energy Forum
ORDEP	Offshore Renewable Energy Development Plan
ORJIP	Offshore Renewables Joint Industry Programme
RBA	Risk Based Approach
RiCORE	Risk based Consenting for Offshore Renewable Energy
RSPB	Royal Society for the Protection of Birds
SDM	Survey, Deploy, Monitor
SEA	Strategic Environmental Assessment
SNH	Scottish Natural Heritage
SWOT	Strengths, Weaknesses, Opportunities, Strengths

1. Introduction

RiCORE is a HORIZON 2020 funded project which aims to promote the successful development of offshore renewable energy in the European Union. This is to be achieved through three broad strands of activity:

1. Understanding the offshore renewables consenting process in different Member States. Specifically:
 - The consenting process
 - Application of legislation
 - Legal and administrative barriers to ‘standard’ approaches...
 - ...what is required to overcome those barriers
2. Looking at the potential for developing and using *risk profiles* to speed up the consenting of offshore wind, wave and tidal energy, particularly for:
 - Small arrays...
 - ...of known technology...
 - ...in areas of low environmental sensitivity
3. Seeking more standardisation in post-deployment environmental impact monitoring. Standardising data collection would allow policymakers to compare and better understand the environmental effects of different devices.

The six project partners come from five EU Member States:

- Robert Gordon University (Scotland – lead partner, representing the Offshore Renewables Institute)

- Marine Scotland (Scotland)
- AZTI (Spain)
- WavEC (Portugal)
- MaREI, University College Cork (Ireland)
- E-CUBE (France)

There are also two organisations sub-contracted to the project to provide specific expertise:

- The European Marine Energy Centre (EMEC) undertake data and logic checking of the project deliverables
- Aquatera support the work undertaken by Marine Scotland, in particular through the use of their extensive databases and proprietary analytical models

The project commenced in January 2015 and has a scheduled duration of 18 months, due to complete in June 2016.

To enhance the research activities undertaken by the project partners a number of workshops have been held to obtain the views of experts in all aspects of offshore renewable consenting. This report describes the fourth, and final, workshop in the series.

2. Workshop Details

2.1 Location and date

The workshop was held on 12th April 2016 in the Marine and Renewable Energy Ireland (MaREI) Centre, housed in the Beaufort Building, part of University College Cork.

2.2 Attendees

The workshop was attended by 25 invited experts from six countries: France, Ireland, Netherlands, Portugal, Spain and the UK. The experts were specially selected to ensure coverage of the three main stakeholder groups of interest to the project: scientists, regulators and developers. In addition 15 members of the project partner teams were in attendance.

2.3 Title and content

The title of the workshop was **“Risk based approach in MRE consenting process: What needs to be done?”**.

The primary aim of the workshop was to confirm the issues that RiCORE seeks to address and establish next steps to be taken by the project during the last few months of its life and by the wider offshore renewables community in the future.

The workshop agenda included three key activities:

- A “Strengths, Weaknesses, Opportunities, Threats” (SWOT) analysis to document the issues
- Discussion in country groups (France, Ireland, Portugal, Spain, UK) to determine five next steps relevant to each country
- Discussion in stakeholder groups (2 x Scientists, 2 x Regulators, 1 x Developers) to determine next steps appropriate to each type of stakeholder.

3. SWOT analysis results

The SWOT analysis regarding the implementation of a risk based approach in the consenting of MRE projects in each country was conducted in the same country groups used for the next phase of the workshop, hence the results are presented in that way.

3.1 France

<p style="text-align: center;"><u>Strengths</u></p> <p>Strong adaptability of the method allowing</p> <ul style="list-style-type: none"> • Adaption to the French context – human usage is key • Collection of a unique set of data, and use of them to draw conclusions for different sets of stand points held by different actors in the consenting process • Integration of new data sets and new knowledge as it develops <p>Scalable model</p> <ul style="list-style-type: none"> • Geographic : Country / Façade (3) / Maritime region (4) / Coastal regions (7) • Interest group type (fishing, environmental, ...) • Small test model for trial 	<p style="text-align: center;"><u>Weaknesses</u></p> <ul style="list-style-type: none"> • “En rupture” (i.e. in contradiction to) with existing Marine planning approaches favouring publication of data but not publication of data analysis models (and their parameters) • Very innovative and would need some expert training (complex in principal although mathematical model is very simple) • The most valuable data from actual pre and post monitoring EIA is not easy to access and not very structured to be reused for other projects (but biodiversity law may make it mandatory in 2016 – Loi reconquête de la biodiversité, nature et paysages) • All data needed is not collected yet (would need campaigns – but on the other hand implementing the method would allow better targeting of general data acquisition campaigns)
<p style="text-align: center;"><u>Opportunities</u></p> <ul style="list-style-type: none"> • Existing and formalized Data on a centralized Information System - Centre d’Etudes et d’Expertise sur les Risques, l’Environnement, la Mobilité 	<p style="text-align: center;"><u>Threats</u></p> <ul style="list-style-type: none"> • High visibility and simplicity of the results exposing method building to immediate pressure from lobby groups even before a project application is

<p>et l'Aménagement (CEREMA)</p> <ul style="list-style-type: none"> • Existing data collection campaigns (existing pre-consent on-going Environmental Impact Assessments (EAs)) • Existing data collection and model calibration programs linked to Appels à Manifestation d'Intérêt (AMIs) (and other projects) and including an examination of pre consent gaps • DSF - MSFD: it is possible (though unlikely) that RiCORE type approaches become a tool to build the Document Stratégique de Façade (DSF) and contribute to Marine Strategy Framework Directive (MSFD) measures to achieve Good Environmental Status (GES) • There is no fully fledged Risk based approach today in France, but data will soon become available through the development of DSF ; INSPIRE (Infrastructures for Spatial Information) directive and EMODNET.EU (European Marine Observation and Data Network) will allow easier access to existing data 	<p>made</p> <ul style="list-style-type: none"> • High number of experts needed if model is to be very complete • Non binding • Quite easy to manipulate • May encounter strong political opposition from central decision makers (especially if we try to deploy extensively and immediately)
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3.2 Ireland

<p style="text-align: center;"><u>Strengths</u></p> <ul style="list-style-type: none"> • Offshore Renewable Energy Development Plan (ORDEP) and Strategic Environmental Assessment (SEA) done and implementation plan in place • Small country and not many ‘layers’ to navigate through • Good research infrastructure • Blue Growth momentum • Risk based approaches being considered at high policy level 	<p style="text-align: center;"><u>Weaknesses</u></p> <ul style="list-style-type: none"> • Low level of baseline data for some key receptors (primarily highly mobile species) • Government unwilling to take environmental risk due to previous European Court of Justice (ECJ) rulings against Ireland • Lack of other offshore industries in place (e.g. oil and gas) to learn from • Lack of science in consenting process • Unclear who the decision makers are and what information they have
<p style="text-align: center;"><u>Opportunities</u></p> <ul style="list-style-type: none"> • Lack of existing policies means we can start from a blank sheet • Large wave and wind resource • Revision of Foreshore consenting system presents a huge opportunity • National policy drivers for economic growth in the marine sector • Clean, sustainable industry balanced against any environmental impacts 	<p style="text-align: center;"><u>Threats</u></p> <ul style="list-style-type: none"> • Very biodiverse country and risks associated with MRE are largely unknown • Ireland at the ‘test stage’ so Ireland could wait for others to take the risks while losing out on market opportunities • New foreshore consenting system might not include a risk-based approach • Low capacity in NGO sector to understand complexity and risk may lead to increased objections to developments

3.3 Portugal

<p style="text-align: center;"><u>Strengths</u></p> <ul style="list-style-type: none"> • Anticipating impacts and constrains • Optimizing monitoring costs • Adapting monitoring needs to the scale and features of the project • Sustainable development of the sector 	<p style="text-align: center;"><u>Weaknesses</u></p> <ul style="list-style-type: none"> • Screening and scoping needs to be improved in Portugal to implement the Risk Based Approach (RBA) • Lack of experience in the application of risk analysis in public administrations (responsible for consenting)
<p style="text-align: center;"><u>Opportunities</u></p> <ul style="list-style-type: none"> • To improve knowledge on the environmental effects of ocean energy projects • To develop guidance documents on licensing and monitoring • To streamline the licensing process (particularly the environmental licensing) through the implementation of the RBA in the decision-making process • To better study and understand the environmental issues of each site in order to improve the quality of the decisions to be made, including project design and operation and environmental management 	<p style="text-align: center;"><u>Threats</u></p> <ul style="list-style-type: none"> • The legal framework in the country is complex and may not assist in the implementation of the RBA • The time taken to implement the RBA and incorporate it in the decision making process at the public administration level

3.4 Spain

<p style="text-align: center;"><u>Strengths</u></p> <ul style="list-style-type: none"> • Reduction of uncertainties for evaluators and developers in the consenting process with a more standardized approach not subject to the personal view of the developer or evaluator. • Unique competency for renewables exists in the Spanish Ministry, thus facilitating the future implementation of this risk based approach. 	<p style="text-align: center;"><u>Weaknesses</u></p> <ul style="list-style-type: none"> • How to integrate the risk based approach into Spanish legislation?
<p style="text-align: center;"><u>Opportunities</u></p> <ul style="list-style-type: none"> • Think about how to integrate the risk based approach. • If SDM or risk based approach is accepted as a common guideline at European level, this will facilitate the implementation of the approach in Spanish legislation because it is a guideline endorsed by experts throughout Europe. • These guidelines will guarantee that the work done under their requirements is good and consenting could progress more smoothly. 	<p style="text-align: center;"><u>Threats</u></p> <ul style="list-style-type: none"> • For low risk projects this approach will increment the cost and timing for the consenting procedure. At this scale consenting decisions in Spain take three months, whilst the SDM approach requires one year of monitoring. • Non-implementation of the approach is a threat to developers and evaluators.

3.5 United Kingdom

<u>Strengths</u>	<u>Weaknesses</u>
<ul style="list-style-type: none"> • One stop shop approach in Scotland – coordinated approach; process for continual improvement • One stop shop approach allows coordinated strategy to manage risk • Faster decision making as opposed to a worst case scenario approach • Experience – in building projects, which leads to investment • Marine renewable projects have been consented and installed • UK has allowed consents to be issued, deployments to go ahead, jobs to be created and investment in local communities. This has meant that policy has been created to support the work of licensing teams, aligning departments of Government. This has allowed regulators and advisors to manage scientific uncertainty within the consenting process • Marine renewables test centre exists, and experience, evidence and data has been gathered • Apply lessons learnt to other marine projects • Wave and tidal demonstrated low environmental risk technology compared with nuclear/gas – many monitoring results to support this • Ability to gather real evidence through demonstration strategy • Experience and expertise base to provide enlightened advice and leadership • Experience – devices and projects to date have given knowledge to develop the approach 	<ul style="list-style-type: none"> • Policy support and alignment – this is difficult to do • Requires strong policy support and alignment of principles • Could result in different processes for different activities? • Need to differentiate between wind, wave and tidal • Adds a certain amount of risk to the process which requires strong management post-consent at all levels i.e. regulator and developer • Lack of sufficient scientific and government resource • Lots of expert judgment involved – assumptions about magnitude of impacts – may get them wrong • Relies on decision makers having access to science specialists • Lack of understanding in advisory groups about risk and risk-based management • Lack of clarity/agreement on levels of risk within the sector and between sectors • How to score unknowns? • Places developers open to risk of project failure • Weaknesses – resources • Post-consent monitoring – no real consensus on boundaries or standardisation • Post consent monitoring is difficult and expensive • Resistance to monitoring “we think we know enough” • Not enough projects to prove lack of perceived impact • Getting hold of the data relies on

<ul style="list-style-type: none"> • Existing developments give opportunities for monitoring • Marine Scotland has provided “leadership” in this approach • Leadership and engagement at high levels • Most deployments are in Scotland • Also good abundance of possible sensitivities • Allowed us to get devices in the water in the face of a lot of uncertainty about impacts – facilitates learning • Allows new technology to compete with incumbents which are more established • Enabling new technologies to be constructed • Has allowed a proportionate approach which takes into account the likely magnitude of the effect of impact pathways on sensitive receptors and for these to be controlled • Allows a phased approach which deals with uncertainty in manageable chunks • Spreads responsibility across developer, regulator and advisor • UK is data and science-focused • Willingness to fund research • Strategic monitoring and research is being taken forward • Research is being coordinated through ORJIP • Always building science understanding of risks to inform regulation • Active and well-networked community (relative to others) • Regulation of a new activity forces a more honest conversation about risk • Academia/regulators and developers are willing to collaborate on topic of 	<ul style="list-style-type: none"> • developer cooperation • How does it scale up? – gap between test/demo and build out • Shifting baselines • Project funding can’t be guaranteed • Communication • NGO’s have a precautionary approach – risk of litigation • It can be implemented incorrectly and requires strong guidance through each stage of the consenting process • Difficult to manage cumulative effects and transboundary issues • Needs to allow possible risks to be weighted against opportunity • Lack of funding for strategic research to reduce uncertainty • Poorly defined and open to interpretation unless there is a clear framework for delivery • Regulator needs to provide view on where threshold between acceptable and unacceptable impacts lies – not always good at this • Risk is a gradient – sliding scale, unclear where decisions should lie on this scale • Opens regulator and advisor to challenge • Shouldn’t be badging risk-based approach for renewables differently for other activities – all decisions are based on risk- - this is a terminology issue • Weakness – evidence only at scale or array • Mix of turbine technology • Relies on existing science that may not be there yet – changing baseline • Need to get monitoring coordinated and standardised – e.g. avoid offshore wind monitoring debacle • Less certainty – as system is always evolving
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<p>risk</p> <ul style="list-style-type: none"> • Comprehensive data • Opportunities to share results from demo strategy and improve evidence base • Fairly clear assessment process, largely evidence-based • SDM policy is straightforward • [Risk-based approaches] give ability to consent low risk projects • Risk-based approach is quite straightforward to understand, is already developed and there are examples of it working • Opportunity for improved understanding of a risk-based approach vs precautionary approach • <i>Fairly</i> well defined process and procedures (relatively) • Opportunity for new technologies • Policy formed and being supported by EC DG MARE • Survey deploy and monitor policy exists – risk-based consenting • One stop shop approach • Reputation • Pipeline • Data 	<ul style="list-style-type: none"> • Shifting baselines • Requires a lot of investment in <u>robust</u> and relevant monitoring • R+D – who pays? When do you stop? • Uncertainties lead to complex modelling – difficult to communicate • Different approaches in Scotland/England/Wales • Worst case scenario conflates cumulative assessment • High risk of challenge • DRIPpy data (Date Rich, Information Poor) • Time consuming • Talking about RISK all the time engenders a negative attitude around the industry • Do we actually walk the talk consistently? • Need to communicate more areas/technology of low risk • We should have monitored more earlier with strategic funding • Requires new processes re post-consent monitoring and feedback • NGO's and others have an easy target to challenge • No formal acknowledgment that risk-based approaches are most suitable • Language of risk – connotations are perceived as a negative thing (Nature conservation directives) • Gap between scientific understanding of risk and expert opinion • Still a limited consensus around best approaches for tolerating risk • Topic of post-consent monitoring is not sufficiently addressed through existing policies • Gatechecking timescales • Statutory consultees take too long – precautionary approach and mindset • Grid
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	<ul style="list-style-type: none"> • Lack of specific marine law framework • Crowded space – cumulative impacts
<p style="text-align: center;"><u>Opportunities</u></p> <ul style="list-style-type: none"> • UK – tremendous wind/wave/tidal resource • Opportunity to shape policy • Opportunity to change mindsets • Opportunity to bring in investment/jobs • Open conversation about risk • Reduction in costs over long term • Sharing data – learning from each project • Apply lessons learned – all players involved • Reduce scientific uncertainty • Opportunity to provide certainty • Centralise data, standard processes and protocols • Early identification of impacts • Keep moving forward despite uncertainty • Build a wealth of knowledge as we go • Get devices in the water • Use dummy devices to test uncertainty • Deploy more where we know most and have some sensitivities with strategic backing • Prove environmental and economic sustainability • Provides a mechanism for the sustainable development of a new renewable energy sector • First project array could prove sustainability of tidal turbine technology • Change culture from risk aversion to risk management • Improve understanding of risk-based approaches 	<p style="text-align: center;"><u>Threats</u></p> <ul style="list-style-type: none"> • Access to finance for demos • Cuts in expenditure stop investment in marine renewable energy • Lack of funding for early stage monitoring • Lack of cash • Time – consultees dragging their heels • Lack of clear renewable policy (England) • Government appetite • Investor appetite • No one-stop shop in England/Wales • Could increase post-monitoring costs (or at least perceived to?) • No leading department (The Crown Estate?) • Government institutions feel threatened by change to risk-based approach • Other sectors may challenge what they perceive as a less precautionary approach to consenting – why a “special” approach for marine energy? • Is it preventing just “going for it” with a big Nationally Significant Infrastructure Project (NSIP) style application? • Without a clear framework for delivery (i.e. mechanism), introduces too much expert judgment into the process • No common agreement about what a “risk-based approach” is and how to balance it against a precautionary approach • Lack of alignment in advisers

<ul style="list-style-type: none"> • Bring it into the marine planning agenda – gather stakeholders • An opportunity – bring UK experience together – this is very different across UK (e.g. receptors, stakeholder views) – what do we learn? • Marine spatial planning – identify and designate and consent marine renewable energy based on the whole system • Because of Survey Deploy and Monitor we understand risk • Provides a framework for discussion between stakeholders • We could better share responsibility for improving the evidence base across regulators, industry, academia, i.e. opportunity for collaborative working • Opportunity to consent larger arrays • Allows new technologies to come through as they develop • Could allow consent in principle for large scale arrays which can then be “managed” through post consent monitoring and adaptive management • Opportunity to standardise post-consent monitoring • Creation of conservation zones barring fishing activities • Use MRE development areas as marine habitat conservation areas • Identify early flags and retire perceived risks and impacts • Call it something different – bad terminology suggests a special case for renewables • With policy support, allows “riskier” approach than other sector decisions (e.g. prepared to accept impacts on mammals from renewables, but not fisheries) 	<p>(Scottish Natural Heritage - SNH)</p> <ul style="list-style-type: none"> • Worst case scenario not realistic • Design envelope – worst case scenario not realistic, not consentable • Potential risks identified or evident only at large scale or over the long term • Takes a long time to identify some impacts – what happens if there is one in 10-15 years post-installation? • If assumptions about impacts have been wrong, could prevent roll-out of commercial scale development • Perceived risks delay projects • Survey monitoring design robustness costs money • DRIPy monitoring polarises opinions regarding risk • DRIPy data! • Lack of coordination in survey and monitoring techniques e.g. must be joined up pre-and post-consent to get good evidence • May find that impacts are not tolerable (contingency plan) • Requires good data sharing and transparency in risk and decision making, aligning with EU/EIA/Renewables/Habitats/Birds legislation • Exposure of applicants to legal challenge • NGO’s and others challenge projects and plans • RSPB • Getting it wrong! • Negative spin – potentially toxic • Perception • Lack of local thought reduces support for projects • Lack of public understanding/acceptance • Failure to learn lessons from other
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<ul style="list-style-type: none"> • Allows phased approach which addresses uncertainty in manageable chunks and builds in opportunities for learning • Monitoring to target knowledge gaps • Monitor more and better with strategic funding • Accelerate installation to achieve reduced emissions and energy security • Learn from mistakes • Apply lessons better between sectors but manage each on its own suite of impacts • Fast track early demo projects • Greater data collaboration • Opportunity to move more rapidly and cheaply to acquiring a robust evidence base focussed on key issues • Could reduce costs in the long term • Makes it clearer to developer what path to follow • Risk based consenting being supported by DG MARE • Blue growth agenda could provide other sources of funding • Opportunity for SMARTER regulation? • Opportunity to change the culture of EIA process from risk averse to risk management 	<p>projects</p> <ul style="list-style-type: none"> • Have we learned the right lessons? • Misinformation and conflation of experience from different conditions e.g. wave/wind tidal issues with offshore wind • Lack of communication of low/no risk experience • Negatively focused from the outset – “risk” sounds negative, “precautionary” sounds positive • Natura Directives promote precaution and could weaken risk-based consenting • Lack of specific marine legislation • Litigation
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4. Country next steps

4.1 France

I - Identify possible / needs for outputs of the method

- Type of recommendations
 - Guidance on methodologies and receptors to be targeted
 - First approach on duration or metrics on expected costs of EIA
 - No go risk
- Receptors
 - Human receptors must be included as they are a key driver
 - Type of output for new kind of receptor must be defined
 - Go - no go?
 - Gradient / possibility and effort needed to shift activity
 - Metrics about mitigation cost ...
- Stressors / technology rating
 - Could prioritize data acquisition and research programmes (academic & pilot projects)
- Missing data, gaps, type of knowledge
- Level of confidence / uncertainty
- Structure
 - The model would probably need to be able to test the different points of view of different stakeholders (this approach has already been practiced) and to check sensitivity to uncertainties

II – Implement a demonstration project

- Identify and set up an expert team and stakeholder team (at least 2)
- Area / receptor / stressors / output subset selection
 - Depending on available means and knowledge
- Identify the project holder and the participating promoters
- Carry out the project, and use the result for promotion and explanation

III – Possible future steps depending on demonstration project output

- Internal / Informal / semi confidential tool for administrations / project holders
- Flexible tool usable by all actors
- Increase scope after demonstrating value in terms of letting a consensus emerge (geo / lobby / receptors Scope)
- Integrated into DSF (becomes more binding)

4.2 Ireland

1. **Identify decision makers and ensure they have information and resources to make good decisions:**
 - Include adaptive management and evidence-based planning and decision making
 - Make consenting a participatory process where stakeholders can contribute at application phase rather than at consultation
2. **Work with other Member States to get a common understanding of the Risk-based approach**
3. **Strategic approach to environmental monitoring and assessment**
 - Include transboundary monitoring and cost-sharing
4. **Outreach/Education/Capacity Building/Community Gain**
 - Make stakeholders aware of Industry and issues
 - Myth-busting about scientific uncertainty
5. **Ensure the law works**
 - Recruit/outsource specialists able to effectively transpose EU Directives into Irish Law
 - Establishment of Environmental Court
 - Rationalise/consolidate legislation
 - Assign a single contact to address split decision making process.

4.3 Portugal

1. To disseminate the RBA among stakeholders (regulators, decision-makers, developers, etc)
2. To discuss the incorporation of RBA into the Portuguese legal framework and application to the marine environment of the country
3. To develop a guidance on RBA to support decision-making
4. To test and evaluate the RBA application during a period with some projects
5. To change legislation in case of a positive evaluation or amend legislation accordingly

4.4 Spain

1. To develop a guideline accepted at EU level for this approach, especially for large projects.

2. If we don't have accepted guidelines at EU level, to build on the findings of RICOE project and develop this guideline at a Spanish level.
3. Coordinate the findings of the RICOE project with the MSFD that has been implemented in each country.
4. To communicate to the stakeholders, developers and evaluators in Spain the findings of the RiCORE project in order to get a consensus between all groups.
5. To develop a working group on this issue (risk based approach) for discussion, implementation of the SDM approach. We have some Technological Platforms at a national level that could be a good place to do it.

4.5 United Kingdom

1. Need stronger policy support for MRE.
2. Revise current approaches including SDM based on the outcomes from RiCORE (and other relevant projects) – Review performance of SDM
3. Improved communication – better dissemination of project outputs at both EU and national level (inform EC Ocean Energy Forum / EU Directorate Generals / Government Departments) and promotion of benefits to communities, consultees, developers and regulatory authorities.
4. Organise a UK regulators workshop to promote common understanding and awareness of RBA.
5. Enabling consent based on a flexible (phased) approach backed up by appropriate monitoring

5. Stakeholder next steps

5.1 Regulators group 1

1. Role of regulators

Most countries have a fragmented governance structure with responsibilities spread across numerous Government departments, agencies etc. There is little appetite politically for greater integration (views from some Irish and Portuguese participants). MSP in Portugal has resulted in one entity who coordinates all permits so a single contact point rather than a single, integrated permit. Questions about whether MSP and MSFD should be in the same unit of a responsible authority (this is the case in Ireland and Portugal but not the case in Germany or Italy).

One of the roles of the regulator is to give consent. To do this they need to know what and what not to consider. They also need clear and sensible policy that has strategic priorities for different sectors. They need to know the activities that go on within their area (marine waters) and the best places for development both now and in the future. This enables them to make clear decisions. They need to know how to prioritise activities.

2. Data and Information

Data is for scientists, information is for regulators. Information enables regulators to understand interactions and that is the information regulators need. It can then be used to make robust decisions. You need to know what information you have as well as know the activities operating. Can do opportunity and constraint mapping on that basis and use that to plan, manage and make decisions. This can be resource intensive however.

3. Gap Analysis

On the basis of the level of information available or required, regulators should have a programme of measures to address any gaps be it environmental, economic or social. There is also a need for a horizon-scanning exercise to see what could become a priority in the future (influence of climate change mentioned here also). Addressing gaps could take years so this is where (and why) risk-based approach is necessary/helpful. Uncertainty can be addressed through looking at location, scale and type of development (like in SDM policy).

4. EIA and Licencing

Documents submitted by developer (EIS) for the purposes of EIA should be well balanced and neutral. They should not be an agenda for a particular development or an advert for it. The information should be concise and relevant i.e. focus on potential significant effects not everything known about the site. The legislation governing licensing needs to be precise. Licences need to have flexibility (e.g. a suitable design envelope). There must be a feedback

mechanism within the consenting process to enable the system to respond to change and evidence recorded. This is also where adaptive management comes in: learn by doing. The design envelope is an example of a 'first level' of feedback; legislation a 'second level'. Licences should be determined by impact (maybe through the use of criteria) not design.

5. Alternative approaches?

Example from the Netherlands where large infrastructure projects are advanced by Government initially. The Government puts out a call for tender for a specific project e.g. wind farm of 10 turbines with 5MW capacity or whatever). Project developers respond to the call. The scheme works like a pre-consented site. The developer gets a subsidy but part of this is retained by the Government who in turn uses it to pay for any subsequent environmental monitoring. The Government will also pay for any cabling works. Operates like a 'plug and play' system. This has been the approach taken in the Netherlands since 2004. It is both collaborative and collective between the authorities involved.

5.2 Regulators group 2

1. Common Environmental Information Sharing Platform
2. Updated European Level Guidance for implementation of the Habitats Directive
This needs to be user friendly and easily understandable to enable a more standardised approach to implementation.
Need updated guidance on how the Habitats Directive and EIA Directive can succeed in adaptive management scheme. This has been mentioned at the EU Commission in February 2016 during the roundtable on Environmental Law and consenting for marine renewable energy projects. Before arguing for additional guidance from the EU, it is firstly up to Member States to simplify their licensing system and to publish national guidance on their own EIA procedures and requirements.
States (in particular France) should map their maritime areas and collate these data at national scale first. We have the data but they are spread across a range of institutions and are not accessible for some of them.
3. Scientific Specialism within Regulators.
Often regulators do not have scientific advisors and they do not have the expertise to be able to ascertain what the key points are from the massive amount of information provided in supporting documents.
4. Consolidated National Maritime Plans
Those plans should consider use of the seas by all sectors, not just renewable energy.

5. Improve / reinforce transboundary consultation and cooperation for projects – agreed approach between Member States.
The legal requirements are here through SEA, MSP, MSFD, it just has to be applied in real life now. England did it with Netherlands and Belgium for the installation of planned offshore wind farms.

5.3 Scientists group 1

1. National high level guidance for scientists
2. Linking Science to Regulation / regulatory processes
3. Scientific community needs projects to measure change
4. Perceived fear of detecting change
5. Need for publicly available data / access to data

5.4 Scientists group 2

1. Pooling resources nationally and internationally to improve baseline knowledge. Compiling data from multiple sources, sharing data to improve knowledge, Common framework for assessing impacts of MRE and standardisation of methods.
2. Better communication between developers, regulators and scientists
Identify knowledge gaps, prioritise research needs – what are the key research aims?
Sign posting – responsibility for making sure the outputs are accessible/digestible
3. Identify appropriate sources of money - more funds for technology development (long-term research, time-series data, combining data)
4. Adapting science to novel problems / use of suitable approaches
5. Confidence in risk rather than an exact number
More responsibility in raising awareness of confidence intervals, providing a better understanding of risks – understanding uncertainty; more transparency

5.5 Developers

1. Collection of available tools and methodologies (to be done at EU level).
Make recommendation on the best practices in terms of consenting.

2. Implementation plan for a “one-stop-shop” (Marine licensing coordinator and leader / clear competent authority) approach for EU Member States (country specific)
Identification of the institutions that are best placed to take the lead, in each country or region, towards a one stop shop approach, partly through meetings in relation to MSP and SEA.
Dedicated MRE legislation involving local communities (often left out of national MSP work).
3. “Survey” is a risk based option : whether it needs to be done or not, and whether it needs to be +/- for a certain duration (e.g. for one season, etc.)
4. Communication on positive impacts (economic / environmental)
Fight positive prejudices relayed towards CO2 emitting energies
Combat misinformation in general
5. Co-ordinated EU wide research plan
With Industry / Academic / Regulators / NGOs
Focus on key scientific areas of uncertainty
Identify “retired risks” (like EMF) list, and share this information with regulators
Differentiate research work from pre and post consent monitoring

6. Common recommendations

6.1 Enabling Legislation / Policy

Ensure the law works.

Implementation of the SDM approach through the European Technology Platforms programme (http://ec.europa.eu/research/innovation-union/index_en.cfm?pg=etp) at a national level.

Change or review of legislation in case of positive evaluation (of RBA).

Need stronger policy support for Marine Renewable Energy (MRE).

Flexible RBA tool that can be used by all actors.

6.2 Dissemination / Promotion

Outreach/Education/Capacity Building/Community Gain.

To communicate to the stakeholders, developers and evaluators in Spain the findings of the Ricore project in order to get a consensus between all the people.

Dissemination of the Risk Based Approach (RBA) amongst stakeholders.

Improved communication – better dissemination of other relevant project outputs.

Increase scope after demonstrating value.

6.3 Identification / Engagement of ALL relevant stakeholders

Identify decision makersWork with other Member States to get a common understanding of the Risk-based approach.

To develop a working group on this issue (risk based approach) for discussion, implementation of the SDM approach through Technological Platforms at a national level.

Develop guidance on RBA methodology to support decision-making.

Organise a UK regulators workshop to promote common understanding and awareness of RBA.

Implement a demonstration project, ideally one that runs through the entire consenting process including the final operation of a farm.

6.4 Integrated / Strategic / Adaptive Approach

Strategic approach to environmental monitoring and assessment.

To develop guidance at EU level for this approach, especially for large projects.

Discussion of the applicability of the RBA towards its adaptation to the legal context and marine environmental characteristics.

Revise current approaches including Survey Deploy Monitor (SDM) based on the outcomes from RiCORE.

6.5 Cross-cutting next step

The RiCORE project has attempted in the limited time available to it to address some of the issues relating to the more widespread roll-out of a risk-based approach to consenting. The outputs from the project need to be taken forward either by the Member States themselves (or more correctly the regulators, policy makers, developers, etc.) or by the European Commission. A clear channel to achieve this is for the outputs to be fed into the Ocean Energy Forum (OEF) for consideration in the creation of the final version of the Roadmap. Members of the project team sit on the OEF so will be in a position to assist with this.