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| Study/Report | Technological | Economical/Supply chain | Regulatory/Environmental | Infrastructure and Support | Link |
| Ocean Energy Status Report 2014 | Device and System Demonstrators* Installation & recovery methods
* Low-cost O&M techniques

Sub-Components* Control systems
* Energy extraction technology (e.g. blades, interaction surfaces)
* PTO
* Device structure
* Foundations and mooring systems
* Offshore umbilical & wet mate connectors

Infrastructure and Enablers* Offshore grid system design and demonstration
* Array electrical systems
* Onshore grid system development

Sub-sea electrical system equipment  |  |  |  | [https://setis.ec.europa.eu/sites/default/files/reports/2014-JRC-Ocean-Energy-Status-Report.pdf](https://scanmail.trustwave.com/?c=17268&d=0ZuD3cbfrgBvg8DCcHTIsfgVGfIizK8merXAkxL9Jw&s=5&u=https%3a%2f%2fsetis%2eec%2eeuropa%2eeu%2fsites%2fdefault%2ffiles%2freports%2f2014-JRC-Ocean-Energy-Status-Report%2epdf) |
| Ocean Energy ForumOCEAN ENERGY STRATEGIC ROADMAP 2016 | Testing and modellingReliability and survivabilityInstallation and logisticsPower generation and gridWave: Innovation to deploy large farms |  | Improving planning, consenting and environmental permitting to speed up project’s delivery | Insurance and Guarantee fundsInvestment support fundsStandardisation of the industry leading to certification | <https://webgate.ec.europa.eu/maritimeforum/sites/maritimeforum/files/OceanEnergyForum_Roadmap_Online_Version_08Nov2016.pdf> |
| TPOcean Strategic Research Agenda for Ocean Energy 2016 | Demonstration, Testing and Modelling* Deploy demonstration projects to generate learnings necessary for commercialization
* Technology development through validated numerical models and small-scale prototypes

Materials, Components and Systems* Develop high quality seaworthy materials
* Increase yield with improved power take-off
* Validation of components and sub-systems
* Control systems to increase performance and operability
* Condition monitoring systems to optimise operation and maintenance

Installation, Logistics and InfrastructureReduce uncertainty, risk and cost of foundations, anchoring systems and cablesPower transmission and array cable architecture | Building a case for investments, including LCoE analysisDevelop manufacturing expertise for ocean energy* Streamline manufacturing processes to drive down costs

Access to ocean energy sites, design adapted processes and vessels | Standards, health, safety and environment |  | <https://www.oceanenergy-europe.eu/wp-content/uploads/2017/03/TPOcean-Strategic_Research_Agenda_Nov2016.pdf> |
| Study on Lessons for Ocean Energy Development, EC, 2017 | Technical problems: * device failed partially or completely.
* components, structural problems, station keeping, survivability,
* rapid wearing or corrosion etc. due to fatigue or inadequate designs /materials.

GridsInstallation and maintenance | Financial problems: matching funds for public grants* increase the shareholder contribution from private equity due to not meeting milestones or delays,
* costly repair etc.

a company being sold or going into administration or the business has been shut down | Site characterisationEnvironmental impacts | Public procurement of technological innovation (WES) Organize systematic knowledge sharingOcean energy clustersAccess to test sites Change of finance and market conditions (ROCs, FITs)Competition for money with e.g. onshore & offshore wind | <http://publications.europa.eu/resource/cellar/03c9b48d-66af-11e7-b2f2-01aa75ed71a1.0001.01/DOC_1> |
| OES International Vision for OE 2017 | Design optimisation and tool developmentStructure & prime moversFoundations & MooringsPTO& Control SystemsArray systems & subsea connectionsInstallation, operational maintenance & recovery | Market IncentivesIndustry and Supply Chain Development |  | Energy policy driven capacity or generation targetsCapital Grants and Financial IncentivesResource Allocation and Industry StandardsResearch and Testing Facilities and Infrastructure | <http://www.oceanenergysystems.org/documents/73666-oes-vision-2017.pdf/>  |
| ETIPOCEAN: Integrated Strategy for the OE sector 2019 | Develop device design & numerical modelling methodologiesDevelop and iteratively redevelop of higher performance/lower cost devices, components & sub-system:* Power take-off systems – e.g. direct drive turbines, bi-radial wave turbines
* Moorings, foundations, anchors & cable connections
* Control systems that monitor conditions and respond dynamically to mitigate adverse impacts
* Novel materials for blades, moorings, power take offs & hull
* Protections against corrosion and biofouling

Improve device reliability & survivability | Prototype:Use first results to prove concept and attract initial investorsDemonstration:Produce data on performance, reliability, survivability & costs to showcase risk reductions to investors Begin standardisation of device, components and sub-systemsCompetitive outsourcing of some components & sub-systems Develop successively larger devices to improve power to cost ratios | Prototype:Generate first data on environmental impacts to inform consenting & licensing regimesDemonstration:Generate data on environmental impacts to inform consenting & licensing regimesProvide examples to inform national Marine Spatial PlansDevelop of standard procedures for monitoring of environmental impact of projects |  | <https://www.etipocean.eu/assets/Uploads/ETIP-Ocean-Integrated-Strategy-2019.pdf> |