P8 TA(2015)0291

Research and innovation in the blue economy to create jobs and growth

European Parliament resolution of 8 September 2015 on untapping the potential of research and innovation in the blue economy to create jobs and growth (2014/2240(INI))

(2017/C 316/06)

The European Parliament,

- having regard to the Commission communication of 8 May 2014 entitled 'Innovation in the Blue Economy: realising the potential of our seas and oceans for jobs and growth' (COM(2014)0254),
- having regard to Directive 2014/89/EU of the European Parliament and of the Council of 23 July 2014 establishing a framework for maritime spatial planning (1),
- having regard to Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for Community action in the field of marine environmental policy (Marine Strategy Framework Directive) $(^2)$,
- having regard to the Commission communication of 6 October 2010 entitled 'Europe 2020 Flagship Initiative Innovation Union' (COM(2010)0546),
- having regard to the Commission communication of 10 October 2007 on 'An Integrated Maritime Policy for the European Union' (COM(2007)0575),
- having regard to the Limassol Declaration of 8 October 2012 on a marine and maritime agenda for growth and jobs,
- having regard to the Commission communication of 13 September 2012 entitled 'Blue Growth opportunities for marine and maritime sustainable growth' (COM(2012)0494),
- having regard to the Commission communication of 13 May 2013 on an 'Action Plan for a Maritime Strategy in the Atlantic area. Delivering smart, sustainable and inclusive growth' (COM(2013)0279),
- having regard to the Commission Green Paper of 29 August 2012 entitled 'Marine Knowledge 2020 from seabed mapping to ocean forecasting' (COM(2012)0473),
- having regard to its resolution of 2 July 2013 on Blue Growth: enhancing sustainable growth in the EU's marine, maritime transport and tourism sectors (3),
- having regard to its resolution of 23 October 2013 on marine knowledge 2020: 'Seabed mapping for promoting sustainable fisheries' (4),
- having regard to its resolution of 27 February 2014 on specific actions in the Common Fisheries Policy for developing the role of women (5),
- having regard to Regulation (EU) No 1291/2013 of the European Parliament and of the Council of 11 December 2013 establishing Horizon 2020 — the Framework Programme for Research and Innovation (2014-2020) and repealing Decision No 1982/2006/EC (6),

OJ L 257, 28.8.2014, p. 135. OJ L 164, 25.6.2008, p. 19.

Texts adopted, P7_TA(2013)0300.

Texts adopted, P7_TA(2013)0438. Texts adopted, P7_TA(2014)0178.

OJ L 347, 20.12.2013, p. 104.

- having regard to Regulation (EU) No 1292/2013 of the European Parliament and of the Council of 11 December 2013 amending Regulation (EC) No 294/2008 establishing the European Institute of Innovation and Technology (1),
- having regard to Decision No 1312/2013/EU of the European Parliament and of the Council of 11 December 2013 on the Strategic Innovation Agenda of the European Institute of Innovation and Technology (EIT): the contribution of the EIT to a more innovative Europe (2),
- having regard to the opinion of the European Economic and Social Committee, delivered on 15 October 2014, on 'Innovation in the Blue Economy: realising the potential of our seas and oceans for jobs and growth' (3),
- having regard to the opinion of the Committee of the Regions, delivered on 3 December 2014, on Innovation in the Blue Economy: realising the potential of our seas and oceans for jobs and growth' (4),
- having regard to the Commission communication of 20 February 2014 on 'A European Strategy for more Growth and Jobs in Coastal and Maritime Tourism' (COM(2014)0086),
- having regard to the Competitiveness Council conclusions of 4 December 2014 entitled 'Strengthening tourism by leveraging Europe's cultural, natural and maritime heritage',
- having regard to the final declaration adopted at the UN Conference on Sustainable Development (Rio+20) held in Rio de Janeiro, Brazil, from 20 to 22 June 2012,
- having regard to Rule 52 of its Rules of Procedure,
- having regard to the report of the Committee on Industry, Research and Energy and the opinions of the Committee on Employment and Social Affairs and the Committee on Fisheries (A8-0214/2015),
- A. whereas the concept of the blue economy covers a wide range of economic sectors linked to the seas and oceans, spanning traditional or established and emerging sectors including fisheries, aquaculture, (seagoing) shipping and inland waterway transport, ports and logistics, tourism, pleasure sailing and cruising, shipbuilding and ship-repairing, maritime works and protection of the coastline, prospecting for, and exploitation of, offshore mineral resources, exploitation of offshore wind and marine energy, and biotechnology;
- B. whereas the development of the blue economy should focus on sustainable economic activities that meet the needs of current and future generations and generate prosperity for society;
- C. whereas the development of the blue economy needs firmly embedded scientific knowledge, this being the starting point for research and innovation, and whereas the scientific and technological fields related to the blue economy are widely diverse;
- D. whereas the protection and safeguarding of natural marine environments are fundamental to maintain, support and develop the blue economy and, furthermore, viable marine ecosystems are a precondition for exploiting the resources of the seas and oceans; whereas innovation and sustainability should be the key pillars of the blue economy to generate growth and jobs;

OJ L 347, 20.12.2013, p. 174. OJ L 347, 20.12.2013, p. 892.

OJ C 12, 15.1.2015, p. 93.

OJ C 19, 21.1.2015, p. 24.

- E. whereas there is a serious lack of data, information and knowledge about the seas and oceans, their resources and biodiversity, and the ways in which these interact with human activities, and the environmental and cumulative impacts of the latter activities whether taking place or still to be developed and whereas inadequate knowledge on those points severely inhibits sustainable use of the resources concerned, poses an obstacle to innovation and restricts the full potential of the seas and oceans, in the context of an increasing world population whereby our seas and oceans will be increasingly used for food, space, energy and minerals and thus need a more systematic approach for their sustainable use;
- F. whereas marine ecosystems are fragile biodiversity hotspots that are sensitive to human activities, and it is becoming increasingly important to obtain and share accurate information on the location and extent of habitat types to facilitate the sound management, development and protection of sensitive areas;
- G. whereas barriers to success in innovation in the blue economy lie not just in the scientific knowledge gap, which universities, businesses and research institutions are seeking to address through cutting-edge research, but also lie significantly in barriers to funding from both public and private resources;
- H. whereas the potential for exploiting marine resources to develop sustainable renewable energy resources could significantly contribute to the EU's energy security strategy by reducing Member States' reliance on non-EU sources of energy;
- I. whereas sustainably developing the blue economy could greatly boost growth and economic development, as well as job creation, especially for coastal regions, outermost regions and island countries, whilst taking into account the specific and diverse needs and differences of each geographical area;
- J. whereas increased investment in research and innovation associated with the seas and oceans may be a useful tool to support the goals of economic, social and territorial cohesion, tackling the asymmetries and growing differences between Member States, as well as strengthening the global position of the EU in the field of maritime policy and blue economy (for example through export of environmental technology), having regard to the importance of small and medium-sized enterprises (SMEs) and family businesses to innovation and jobs;
- K. whereas different adequate levels of competence are to be considered in blue economy activities, namely international, European and Member State levels; whereas the sectoral priorities for the development of the blue economy may differ from Member State to Member State, depending, on the one hand, on the respective development record of traditional or established sectors and, on the other hand, on existing resources and the development potential of emerging sectors in each Member State;
- L. whereas taking advantage of innovation opportunities in the blue economy requires a skilled, educated and adequately trained workforce; whereas there is currently a skills gap that must be tackled;
- M. whereas the fact of exploiting the potential of the blue economy must not serve as a pretext for subjecting the seas and oceans to forms of unsustainable exploitation of resources and growth models which have already shown themselves to be unsustainable, and whereas marine and ocean resources must be exploited strictly in accordance with the need for their sound management and conservation, without altering marine ecosystem balances and by restoring degraded ones, for example by using innovative methods to address marine pollution, especially the increasing volumes of plastic waste, plastiglomerate and disintegrating plastic micro particles, and recycling the waste without depleting resources;

- N. whereas numerous coastal and marine environmental management tools are supported by seabed mapping, including planning monitoring surveys by identifying areas likely to support a particular habitat of interest, or providing information to assist in locating and planning offshore projects, such as pier and marina development, coastal protection works, offshore wind farms and land reclamation, in an environmentally sustainable way;
- O. whereas, in accordance with Article 190 of the Lisbon Treaty and the Rio+20 declaration, the precautionary principle and the ecosystem-based approach should be at the core of the management of any activities having an impact on the marine environment;
- P. whereas the EU has been producing a set of programmes and guidelines providing a framework for blue economyrelated activities and innovation; whereas that framework should be judged according to its practical usefulness in supporting the efforts of Member States and regional and local authorities to develop the blue economy;
- Q. whereas support for, and the development of, a new, sustainable blue economy must be included in EU development policy, foreign policy and the policy of the Union for the Mediterranean and the African countries bordering the Mediterranean, the East African island states in the Indian Ocean and the island states party to the ACP Economic Partnership Agreement (EPA) must be seen as partners in the effort to establish a sustainable blue economy;
- R. whereas coastal and island communities and local and regional authorities are indispensable stakeholders in the debate on the potential of the blue economy and the manner of realising it;
- S. whereas coastal areas have specific characteristics which set them apart and determine their opportunities for development in the medium and long term;
- T. whereas European oceans and seas are very diverse, varying from the depths of the Atlantic off Ireland to the depths of the Black Sea off Romania and from the cold seas in the Arctic to the warm waters of the Mediterranean;
- U. whereas tourism accounts for 5 % of the EU's GDP, 12 million jobs and 2,2 million enterprises; whereas cultural tourism accounts for almost 40 % of pan-European tourism; whereas sea and coastal tourism accounts for one third of all tourist activities in Europe, employing 3,2 million workers;
- V. whereas it is currently estimated that between 3 and 5 % of the EU's GDP comes from the overall maritime sector, which employs around 5,6 million people and generates EUR 495 billion for the European economy;
- W. whereas it is currently believed that the number of molecules in the sea is considerably greater than the number of molecules on land, and that they offer incredible potential for research in the fields of healthcare, cosmetics and biotechnology;
- X. whereas the integrated maritime policy acts as a strong lever for blue economy activities, especially when it comes to finding an integrated response to all the challenges now facing Europe's seas;
- Y. whereas under the previous Common Fisheries Policy (CFP), fisheries development groups proved to be very useful as tools for creating employment and wealth and social and territorial cohesion, as well as in taking decisions and playing an active role in their own development;

- 1. Takes note of the Commission communication entitled 'Innovation in the Blue Economy: realising the potential of our seas and oceans for jobs and growth'; points out that the communication is of limited scope and does not cover all sectors making up the blue economy; calls on the Commission to adopt an integrated and more comprehensive approach encompassing the challenges of innovation and job creation over the whole varied range of interacting sectors;
- 2. Maintains that the blue economy should be defined in specific and embracing terms covering all sectoral and intersectoral activities connected with oceans, seas, coastal ecosystems, the connected hinterland and coastal areas, including forms of direct and indirect support; draws attention to the cross-cutting importance of innovation for all these activities, be they traditional or emerging;
- 3. Advocates the need for strategic planning of activities in the blue economy, direct methods of funding, targeting of priorities and an action plan in order to boost this sector by 2020, including specific ideas on cooperation mechanisms and investment in infrastructure;
- 4. Urges the Member States to carry out an analysis and quantification of the extent of their existent blue economy activities and calls for the development of a strategy which should bring together initiatives on all maritime-related sectors; calls on the Commission to carry out a census of the numerous projects that it has financed in the past that were relevant to the blue economy and to launch a comprehensive study on the importance and weight of the blue economy;
- 5. Underlines that seas and oceans are already under considerable anthropic pressure and are suffering the related consequences (pollution, environment and climate change, overexploitation of resources, overfishing, etc.), but that seas and oceans still retain important ecosystem reserves that are inaccessible and thus intact; believes that the blue economy should therefore consider protecting, restoring and maintaining seas' and oceans' ecosystems, biodiversity, resilience and productivity, including the services associated with marine biodiversity and ecosystem functioning; believes that the precautionary principle and the ecosystem approach should be at the core of the blue economy;
- 6. Stresses the important role of new technology in counteracting the degradation of marine ecosystems and stresses the links between the blue economy and the green economy, especially with regard to innovative methods to clean up the seas, including recycling of environmentally-damaging plastic in a cost-effective manner;
- 7. Points out that a better understanding of the seas and oceans, including the seabed and sea life, along with environmental impact assessments, will make it possible to exploit marine resources sustainably, improving the scientific foundations on which the EU's various maritime policies are based;
- 8. Calls on the Commission, in close coordination with Member States (following the completion of the abovementioned scientific analysis and census), to gauge the financing needs of the blue economy (at sectoral, regional, national and European level) with a view to realising its sustainable growth, development and job-creating potential, with a particular focus on regions which are highly dependent on fishing and taking particular account of start-ups, SMEs and family businesses;
- 9. Stresses that the sustainable development of the blue economy requires greater investment in knowledge and research; deplores the short- and long-term impact that cuts in public R&D investment are having on national research programmes; takes the view that, in order to improve understanding of the marine environment and its economic potential, the EU and the Member States must provide substantial funding under arrangements making for continuity and predictability over the long term, while not jeopardising the financing of already existing and running programmes;

- 10. Urges the Commission to encourage the compilation of periodic, up-to-date scientific data on the state of marine populations both within and outside of EU waters in collaboration with other international organisations; reiterates the multi-disciplinary nature of marine and maritime research and stresses the importance of supporting a cross-cutting endeavour which affects the various sectors and disciplines of marine and maritime research;
- 11. Urges that clear-cut objectives and time frames be laid down with a view to making data whether relating to the sea floor or to the water column and living resources transparent, more accessible and fully interoperable and harmonised; calls for information about seas and oceans to be supplied to the public, with a view to fostering innovation, while ensuring that funds are not wasted and projects are not duplicated; believes that investing in data acquisition projects will also contribute to productivity and increased innovation;
- 12. Calls for the findings of publicly funded research to be placed in the public domain for non-commercial uses (safeguarding data of strategic importance to Member States) and for that principle to be binding on partners in EU research programmes; calls for the provision of open access to the data supporting the results of said research; calls for an EU initiative to encourage private companies in the maritime sector to share economically insensitive data for research purposes and urges the Commission to set up the Horizon 2020 research information platform as quickly as possible;
- 13. Calls for the European Marine Data and Observation Network (EMODnet) project to explicitly include the survey of data relating to cumulative impacts, marine litter, marine noise and dissolvable endocrine disruptors in its human impact section:
- 14. Rejects the cuts in the budget for the Horizon 2020 research framework programme proposed by the Commission;
- 15. Urges the Commission to bring regular assessment to bear on the implementation of the Horizon 2020 programme in fields related to the blue economy and to publicise the findings; supports the establishment of a specific partnership for the maritime industry under the framework of Horizon 2020 and calls for it to be included in the work programme of Horizon 2020 for 2016-2017; considers that more efforts should be made to improve the link between research and industry in the development of new products and processes, growth and jobs;
- 16. Points out that the Member States and regional authorities have a key role to play in developing the blue economy and urges the Commission to support and encourage all forms of cooperation between Member States and regional authorities (addressing current shortcomings in this domain), for example joint programming initiatives, while also involving maritime clusters, the fisheries sector and local communities; stresses the role of macro-regional strategies as a way of addressing shared challenges and exploiting joint opportunities (e.g. the Strategy for the Adriatic and Ionian Region) and calls on the Commission and the Member States to continue to build on successful regional research projects (e.g. BONUS);
- 17. Calls for cooperation and partnerships between Member States to contribute to targeting more effectively the funding available through EU and national instruments; stresses that, when targeting priorities, the direct impact of funding on, and direct input to, the blue economy should be taken into account;
- 18. Underlines the interest of Member States in expanding cooperation with Southern Mediterranean countries and invites Member States to consider the blue economy as an additional field of cooperation; encourages forms of cooperation with non-EU countries (e.g. Union for the Mediterranean, Organisation of the Black Sea Economic Cooperation) and calls on the Commission to include support for the development of a sustainable blue economy as an objective of EU development policy;
- 19. Calls on the Commission to establish favourable regulatory and legal conditions for investing in renewable energy in the blue economy, and to bring forward a clear and stable framework of support for research, businesses and government that will allow for increased investment in innovative projects to develop renewable energy;

- 20. Emphasises that the European oceans and seas are very diverse and that it is therefore essential that the Commission does not adopt a 'one-size-fits-all' approach; draws attention to the need to promote an integrated approach to different sectors of the blue economy, based on common principles such as sustainability, recognising and respecting the specificities and needs of the different regions and the priorities of the different Member States, and supporting them in developing these priorities;
- 21. Calls on the Commission and its agencies to support Member States in the formulation and implementation of national and regional strategies for the development of the maritime economy;
- 22. Draws attention to the negative development and clear deterioration of some of the more traditional sectors of the blue economy (such as fisheries and shipbuilding and repair), especially in areas where they functioned as authentic anchor activities, boosting economic activities either upstream or downstream, creating jobs and promoting development; considers that any EU strategy on the blue economy should not forget these activities and regions, and should highlight the potential of innovation and take advantage of the European know-how (e.g. ship retrofitting) in reversing this decline;
- 23. Stresses the importance of sea and maritime research and of stronger cooperation on these sectors among researchers, among Member States and among regions in order to overcome the existing gap between Member States and the geographical concentration in some areas and to boost the competitiveness of coastal areas and the creation of quality and sustainable local jobs;
- 24. Considers the shortage of qualified professionals in various fields of study and activity including researchers, engineers, technicians and workers to be a huge hurdle that could prevent the blue economy from fully realising its potential; maintains that this shortcoming is closely bound up with the growing disengagement and disinvestment by Member States in the spheres of science and education and with the lack of valorisation of existing professionals, especially in those Member States which suffered the most from the economic crisis, and therefore calls for these two trends to be reversed without delay; urges Member States and regional authorities to invest in an ambitious social dimension of blue growth and maritime literacy in order to promote training and access for young people to maritime professions; calls on the Commission and the Member States to support both higher education and professional and continuous training programmes, and to ensure that these programmes incorporate blue economy perspectives;
- 25. Urges Member States, regional authorities, educational institutions and the industry to coordinate, create synergies and identify cross-cutting research issues in the blue economy area, in order to promote training and access for young people to blue growth related professions;
- 26. Considers that proper development of the blue economy requires the dignity of the professions associated with it and the creation of quality employment with rights, including health and safety rights for maritime workers, and an awareness of these rights to ensure that the sector remains attractive; furthermore, considers that, as the blue economy has traditionally been and still is very much dominated by men, it is now opportune for the EU to acknowledge that this is the ideal time to entice women into this economic niche; urges the Commission and the Member States to incorporate gender perspectives at all stages of the development of the blue economy and to foster and increase women's genuine participation therein;
- 27. Urges the Commission to promote the rights of workers and guarantee safe working conditions in all sectors within the blue economy, whether already established or newly emerging;
- 28. Calls on the Commission to gather and analyse data related to maritime careers at all levels (from law to engineering and environmental management, from diving instructors to seamen and maritime technicians) and use such data to explore job opportunities at various levels traditional, emerging and completely new ones which may come into existence;

- 29. Calls on the Commission to specify all the European funds available to finance blue economy activities and to concentrate them under a single platform accessible to citizens; also calls on the Commission to earmark funding for innovation and blue growth to finance fundamental research, R&D, training, job creation, business start-ups, SMEs, social enterprises, cooperatives, education and apprenticeships, reducing coastal poverty, biotechnological development, transport links, energy interconnectivity, shipbuilding and ship repairs, coastal access to broadband, environmental protection and the sale of innovative products, services and processes;
- 30. Believes that investment in the blue economy should focus, among others, on 'eco-innovation' which does not rely on finite resources, resource efficiency, the circular economy, nature conservation, marine and coastal protection, climate change mitigation and adaptation, and sustainable use of resources (ensuring that their rates of use do not, in the long term, exceed their natural regeneration rates); urges the Commission to incorporate these principles into present and future support programmes;
- 31. Calls for an appropriate financial framework to be established in order to stimulate innovation, the sustainable development of the blue economy and job creation, combining, coordinating and facilitating the access to the financial instruments available structural and investment funding (European Maritime and Fisheries Fund (EMFF), European Regional Development Fund (ERDF), European Social Fund (ESF), Cohesion Fund), the research framework programme, the possible creation of a future knowledge and innovation community (KIC) focused on the blue economy, the European Fund for Strategic Investments (EFSI) and so forth; points out that the instruments should be better geared to the needs of individual stakeholders public institutions, local authorities, businesses, especially SMEs, non-governmental organisations, etc. and the opportunities being offered widely publicised;
- 32. Deeply regrets the programming delays relating to the EMFF in certain Member States;
- 33. Considers that public investment, especially in some Member States, plays a decisive role in promoting the development and full exploitation of the potential of the blue economy, while not forgetting the role of private investment; emphasises that investment in the blue economy requires a mix of project focuses, from infrastructure projects to diverse, small-scale investments in SMEs, which require additional assistance in accessing funding;
- 34. Emphasises that the onshore industries which support the offshore blue economy are the vital link to ensuring marine innovation and calls on the Commission to provide for greater support for these onshore industries;
- 35. Urges the Commission to support the efforts of Member States to promote smart specialisation strategies with a view to creating and exploiting value chains linked to the many and varied blue economy activities; considers that the development of clusters or 'hyperclusters' implies that Member States must play an active role in fostering synergies within and between sectors; considers that strategies for maritime research and technological development could pilot at first and hence serve for the wider blue economy as a best practice example;
- 36. Considers that the implementation of strategies, plans and programmes, as well as specific national legislation, may provide a political and institutional framework which is more favourable to the development of the blue economy in the various Member States; stresses that these strategies, plans and programmes, together with specific national legislation, should contribute to harmonious and sustainable interaction between human activities and the marine and coastal environment; stresses the importance of maritime spatial planning for the sustainable and coordinated development of maritime activities, taking all concerned sectors' interests into account in an equitable manner, as well as land-sea interactions and Integrated Coastal Zone Management; recalls the Maritime Spatial Planning Directive, the Marine Strategy Framework Directive and the Integrated Maritime Policy at EU and sea-basin levels;

- 37. Draws attention to the importance of public or majority-owned state companies in areas such as merchant shipping, port management, the shipping industry and maritime and coastal defence works; rejects the vision that tends only to focus on the private sector and believes that the strengthening and modernisation of the public sector can be an important driving force behind the promotion of the blue economy;
- 38. Believes that in order to ensure sustainable development of the blue economy a better integration and coordination of efforts and competencies should be pursued at EU level, with cohesive and coherent actions; calls for the need to bring together the relevant agencies and dispersed competencies that already exist under an existing agency having maritime competencies, as a way of strengthening coordination, cooperation and support to Member States in the development and full use of the blue economy's potential;
- 39. Considers that coastal and island communities should be fully involved at every stage in the development of the blue economy, this being a sine qua non for realising its potential in terms of innovation, jobs, prosperity and sustainable development; acknowledges the potential and the need for innovative solutions regarding floating city expansion;
- 40. Acknowledges the diversity and particularity of coastal and island communities and calls for the adoption of exceptional measures in order to efficiently promote the development of the blue economy in these areas by alleviating investment barriers and creating favourable conditions for growth;

Sector-based approaches

- 41. Calls for more active support for modernisation and sustainable development of the fisheries sector and processing of fishery products, aiming at the creation of higher value added, laying emphasis on small-scale fisheries and seeking to make fishing gear more selective, reduce energy consumption and reduce the environmental impact of fishing, in addition to providing more effective ways to combat illegal, unregulated and unreported fishing; recalls that mapping and classification of resource habitats are essential for the establishment of a viable, sustainable and well managed fisheries sector; maintains that scientific fisheries-related data forming a basis for political decision-taking should be made public in their entirety;
- 42. Calls on the Commission to take the necessary steps to strengthen the role of fisheries development groups within the new CFP, providing them with more resources so that they can press ahead in order to develop their role and promote such interterritorial cooperation;
- 43. Advocates the need for cultural and natural attractions to be identified and promoted; stresses the role of 'no-go' zones to help pristine areas survive and over-exploited areas of seabed to regenerate, and thus contribute to the future sustainability of our seas;
- 44. Considers that the sustainable development of European aquaculture requires stronger support for scientific research and technological development related to the breeding of new species, especially indigenous species, ensuring sustainable sourcing of feed, avoiding escapes, minimising biodiversity impacts and reducing the impact of chemicals and medicine use, as well as in the field of the development of new or significantly improved products, in order to enable production and the supply of foodstuffs to be diversified and their quality enhanced while raising the level of environmental safety; points out that accurate knowledge of bathymetry and seabed composition are essential in the selection of the most appropriate sites for the expansion of the local aquaculture industry, in estimating their carrying capacity and in modelling pollution arising from aquaculture activities;
- 45. Advocates the integration of environmental and wider sustainability criteria into production standards and labelling, to reward responsible producers and to enable consumers to make better informed choices as this sector expands; calls for proper regulation related to aquaculture and for measures to mitigate alteration of water quality; calls for support for the transition from conventional aquaculture production methods to organic aquaculture;

- 46. Believes that, for reasons to do with energy consumption and technical ease of conversion into liquefied petroleum gas (LPG), merchant and fluvial shipping, compared with other ways of carrying goods, is increasingly assuming decisive importance; calls for resources to be channelled in order to support innovation in this sector with a view to improving energy efficiency, diversifying primary energy sources, and reducing noxious emissions;
- 47. Reiterates the need to take immediate action with regard to maritime transport in terms of efficiency improvements and speeding up the decarbonisation of the sector, and that the development and use of liquefied natural gas (LNG), as a cleaner transitional fuel, should be encouraged for this sector;
- 48. Points to the strategic importance of shipbuilding and ship-repairing and their links to other sectors including the steel industry, merchant shipping, fisheries, and cruise tourism; considers that a commitment to technological innovation and a high degree of specialisation, which could lead to gains in added value, could create contexts less exposed to international competition by aspiring towards a reverse in the downturn that the sector has been undergoing; maintains that specific support should be provided to revitalise and modernise the European shipbuilding and special steels industries in their different forms;
- 49. Calls on the Commission to fully re-examine its policy towards the European shipbuilding industry and strongly endorses special aid intended for the restart and modernisation of shipbuilding in Europe;
- 50. Believes that there should be a stronger focus on the role of the sea in tourism and on its sustainability; notes that European sea and coastal tourism is facing competition from third countries; points out that the EU should capitalise on its cultural richness to offer sustainable and high quality maritime and coastal tourism services; considers that cultural heritage and maritime and coastal tourism can play a distinctive role in attracting more consumers and businesses by diversifying the tourism offer; emphasises the positive contribution of cultural heritage, sea and coastal tourism to Europe's goals of sustainable economic growth and job creation; calls for increased support for SMEs, which constitute the vast majority of the aqua tourism sector, in ensuring that existing and new jobs are sustainable, high quality, and all year round;
- 51. Emphasises the importance of promoting socially, economically and environmentally sustainable forms of tourism that can constitute a significant source of added value for maritime areas;
- 52. Believes that it is imperative that underwater cultural heritage is given its due importance within the blue economy, particularly since underwater cultural heritage can teach present-day societies about past exploitation of the sea, and about human reactions to climate change and sea-level rises among others, and also since underwater cultural heritage is a resource for tourism;
- 53. Stresses the fact that while the EU remains a global leader in the blue economy, international competition in this sector is fierce and only a global level playing field can further secure sustainable growth and European job creation in this complex sector;
- 54. Considers that studies on the degradation of coastal systems (pollution and loss of biodiversity), ecosystem resilience and restoration, coastal erosion, mitigation of its causes and maritime works to protect the coastline (including natural-based solutions such as Green Infrastructures) are key blue economy areas that are becoming more important in the light of climate change; calls for greater EU support for these areas and flexibility for areas with distinct coastline profile and repeated occurrences of disasters due to coastal erosion;

- 55. Points out that energy from the seas and oceans has great potential from the point of view of utilising domestic resources, diversifying energy sources and contributing to climate and energy objectives; stresses that renewable marine energies are an industrial sector for the future and draws attention, in this respect, to the importance of developing innovative sources of clean energy and 'blue' energy, such as tidal stream energy, wave energy and osmotic energy, as referred to by the Commission in its communication of 20 January 2014 on blue energy; points out that offshore grids between the Member States are of great importance; underlines the need to take into consideration and to further study the carbon capture and storage (CCS) potential;
- 56. Stresses that prospection for, and the exploitation of, seas' and oceans' energy resources have to allow for technology transfer requirements, especially as regards the training of skilled and highly qualified workers, as well as meeting stringent environmental sustainability criteria; draws attention to the potential multiplier effect of these activities in terms of jobs and related activities, both upstream and downstream;
- 57. Stresses the important role of new technology, for example in counteracting the degradation of marine ecosystems, or in capturing and storing carbon emissions; calls on the Commission to further analyse how the technology and its accompanying infrastructure to transport CO_2 safely and in a cost-effective manner can be applied in an economically viable way;
- 58. Points out that the optimal location of power generators to harness blue energy, such as wind, wave or solar energy, ocean currents, osmotic power and thermal energy conversion, can depend on a number of factors, including water depth, seabed conditions, oceanographic characteristics and distance from shore; believes, therefore, that harmonising the data collected in the different national programmes on bathymetry, seabed characteristics or vertical ocean profiles can assist in site selection and licensing policies for renewable energy developments; stresses also that further research into marine energy solutions is a must to be able to develop affordable, cost-effective and resource-efficient energy technology solutions;
- 59. Considers that prospection and mining on the continental shelf require uninterrupted State involvement, especially as regards information, the identification of areas off limits from mining, environmental impact assessment, analysing and minimising risks, and the exercise of sovereignty; calls on the Commission to propose and update a non-exhaustive list of maritime activities (e.g. offshore energy production, deep-sea mining, sand and gravel exploitation at sea, etc.) requiring prior environmental and socio-economic impact assessments; calls for attention to be paid to the reuse and recycling of minerals as an alternative option to deep sea mining and the potential offered by these activities for embedding scientific knowledge and development and technology transfer;
- 60. Advocates a coordinated and strong EU involvement in the International Seabed Authority to ensure an effective and precautionary environmental regulatory framework to prevent adverse impacts of deep-sea mining exploration and exploitation, including Areas of Particular Environmental Interest (APEIs), as well as societal impacts of deep-sea mining and bioprospecting on local communities, and to guarantee full data transparency;
- 61. Considers marine- and ocean-related biotechnology to be a highly diversified sector which, taken as a whole, has immense potential from the point of view of engendering and applying new knowledge and creating new products and processes with high added value (new materials, foods, pharmaceutical ingredients, etc.); draws attention to the education and training requirements related to this sector, implying a need for Member States to shoulder a large measure of responsibility together with the private sector, and for international cooperation to be pursued on a similarly comprehensive scale;
- 62. Stresses the importance of social dialogue and considers that all the social partners involved in the blue economy should be represented; highlights the importance of stakeholder consultations on the development of the blue economy in general, including consultations with civil society and regional and local authorities;

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- 63. Strongly supports the Commission's initiative included in its communication to promote a Skills Alliance and a Knowledge Innovation Centre on Blue Economy;
- 64. Believes that a maritime safety 'Erika IV' package should be launched to prevent further major maritime disasters; considers that this package should recognise the ecological damage to marine waters in European legislation;
- 65. Highlights the need to increase civil society's awareness of the sea's importance as an economic, cultural and social resource and the role of research and dialogue in reaching integrated sustainability between stakeholders and citizens;
- 66. Feels that seas and coastlines are a valuable resource that should form one of the pillars of the EU's industrial renaissance policy; points out that steps should be taken towards revitalising blue industry while supporting the cohesiveness of the European economy and sustainable development, particularly in those regions where this potential has been marginalised as a result of the processes of globalisation;
- 67. Takes the view that the exchange of information and best practice could contribute to the sector's rapid and sustainable development;

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68. Instructs its President to forward this resolution to the Council and the Commission, and to the Member States.