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Food Security, Sustainable Agriculture and Forestry, Marine, Maritime and Inland Water Research and the Bioeconomy

A transition is needed towards an optimal and renewable use of biological resources and towards sustainable primary production and processing systems. These systems will need to produce more food, fibre and other bio-based products with minimised inputs, environmental impact and greenhouse gas emissions, and with enhanced ecosystem services, zero waste and adequate societal value.

Agriculture, forestry, fisheries and aquaculture, together with the bio-based industries, are integral parts of the European economy and society. Relying on the use of limited natural resources, these sectors produce and process biological resources to satisfy the demand of consumers and a wide range of industries for food, feed, bio-energy and bio-based products. While they enhance Europe's self-reliance and provide jobs and business opportunities essential for rural, coastal and marine areas, these sectors are also facing significant challenges which require solutions based on research and innovation.

Agriculture and forestry

Agriculture and forestry have always had and maintain an important role for EU's society: they supply reliable, healthy and nutritious food as well as feed and non-food products for a wide range of industries, shape and take care of our landscapes, provide public goods, and keep the countryside alive by providing jobs. Research activities and policies will help to cope with the three main challenges these sectors are facing today: securing viable food production in face of a growing world food demand; ensuring sustainable management of natural resources and climate action; and finally to contribute to a balanced territorial development of the EU's rural areas and their communities.

Agri-food sector for a safe and healthy diet

Ensuring food security goes beyond securing a sufficient supply. It also requires social and economic access to safe and nutritious food. Food consumption has an impact on human health and the environment. The challenge is how to meet consumers' needs and preferences while minimising the related impact on health and the environment. Research and innovation will address food and feed security and safety, the competitiveness of the European agri-food industry and the sustainability of food production, processing and consumption. It will cover the whole food chain and related services

from primary production to consumption.

Aquatic living resources and marine research

Oceans and seas represent over 70% of the earth's surface, and living aquatic resources can provide a significant contribution to food, energy and bio-based products. The objective is to sustainably manage and exploit aquatic living resources to maximise benefits from Europe's oceans, seas and inland waters. This includes optimising the sustainable contribution of fisheries and aquaculture to food security, boosting innovation through blue biotechnologies and fostering cross-cutting marine and maritime research to harness the potential of Europe's oceans, seas and coasts for jobs and growth.

Bio-based industries

The transition from fossil-based European industries towards low carbon, resource efficient and sustainable ones is a major challenge. It entails the transformation of conventional industrial processes and products into environmentally friendly bio-based ones, the development of integrated bio-refineries and the opening of new markets for bio-based products. Research and innovation will provide the means to reduce the Union's dependency on fossil resources and contribute to meeting its energy and climate change policy targets for 2020.

Investments in research and innovation under this societal challenge will support Europe in contributing to food security, climate protection and sustainability. It will also enable Europe to take leadership in the concerned markets and will play a role in supporting the goals of the Common Agricultural Policy, the European Bioeconomy Strategy, and more broadly of the Europe 2020 strategy and its flagship initiatives 'Innovation Union' and 'Resource-efficient Europe'.

[Work Programme 2018 - 2020](#) [1]

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