EUROPEAN PARLIAMENT 2009 - 2014

Committee on Agriculture and Rural Development

2011/0401(COD)

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OPINION

of the Committee on Agriculture and Rural Development

for the Committee on Industry, Research and Energy

on the proposal for a regulation of the European Parliament and of the Council establishing Horizon 2020 - The Framework Programme for Research and Innovation (2014-2020)
(COM(2011)0809 – C7-0466/2011 – 2011/0401(COD))

Rapporteur: Sandra Kalniete

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SHORT JUSTIFICATION

The draftsperson welcomes the creation of the Horizon 2020 Programme by the Commission, since she believes that it will help the European Union (EU) to overcome the debt crisis and restore growth, by strengthening its competitiveness.

The Horizon 2020 Programme will for the first time bring together EU research and innovation funding in one programme. Horizon 2020 is directed towards using scientific breakthroughs in innovative products and services, which will create business opportunities and improve people's lives. It aims to reduce bureaucracy by simplifying the rules and application procedures, in order to attract more scientists and innovative businesses.

Horizon 2020 will enter into force in January 2014, with a budget for the period up to 2020 of 87.74 billion Euros. It is divided up into three broad parts: 1. excellent science, 2. industrial leadership, 3. societal challenges. The draftsperson thinks that the AGRI Committee should focus most of its efforts on the third part, which specifically addresses agriculture-related issues. The third part is divided into six areas:

(a) Health, demographic change and well-being (9.07 billion EUR);

(b) Food security, sustainable agriculture, marine and maritime research, and the bioeconomy (4.69 billion EUR);

(c) Secure, clean and efficient energy (6.53 billion EUR);

(d) Smart, green and integrated transport (7.69 billion EUR);

(e) Climate action, resource efficiency and raw materials (4.31 billion EUR);

(f) Inclusive, innovative and secure societies (4.31 billion EUR).

In the field of food security and sustainable agriculture, the draftsperson stresses the need for scientists to actively cooperate with farmers, notably in discussing research priorities, so that newly generated discoveries are used in real life. Including non-governmental organizations in such discussions is also important.

The draftsperson welcomes the fact that, compared to Seventh Framework Programme (FP7), the budget allocated to agriculture-related research has been substantially increased.

The draftsperson would like to draw particular attention to the need to stimulate research on reducing food waste, in a context of growing demand for food in Europe and globally. It is important to use natural resources with much greater efficiency.

During the AGRI Committee's exchange views on Horizon 2020, it was stated that there was a need to reduce the bureaucracy of its procedures. The draftsperson considers that, in this proposal, the Commission has considerably reduced 'red tape' and has made the application process easier.

Overall, the draftsperson considers the proposal to be balanced and very well designed. The

draftsperson invites colleagues to approach the review of this proposal in an astute manner and hopes that the programme will enter into force on 1 January 2014, so that, come the New Year, it will help scientists make new discoveries which will increase Europe's overall competitiveness.

AMENDMENTS

The Committee on Agriculture and Rural Development calls on the Committee on Industry, Research and Energy, as the committee responsible, to incorporate the following amendments in its report:

Amendment 1

Proposal for a regulation
Recital 3

Text proposed by the Commission	*Amendment*
(3) The Union is committed to achieving the Europe 2020 strategy, which has set the objectives of smart, sustainable and inclusive growth, highlighting the role of research and innovation as key drivers of social and economic prosperity and of environmental sustainability and setting itself the goal to increase spending on Research and Development to reach 3 % of gross domestic product (GDP) by 2020 while developing an innovation intensity indicator. In this context, the Innovation Union flagship initiative sets out a strategic and integrated approach to research and innovation, setting the framework and objectives to which future Union research and innovation funding should contribute. Research and innovation are also key factors for other Europe 2020 flagship initiatives, notably on resource efficient Europe, an industrial policy for the globalisation era, and a digital agenda for Europe. Moreover, for achieving the Europe 2020 objectives relating to research and innovation, Cohesion policy has a key role to play through building capacity and providing a stairway to excellence.	(3) The Union is committed to achieving the Europe 2020 strategy, which has set the objectives of smart, sustainable and inclusive growth, highlighting the role of research and innovation ***and application of the results thereof*** as key drivers of social and economic prosperity and of environmental sustainability and setting itself the goal to increase spending on Research and Development to reach 3 % of gross domestic product (GDP) by 2020 while developing an innovation intensity indicator. In this context, the Innovation Union flagship initiative sets out a strategic and integrated approach to research and innovation, setting the framework and objectives to which future Union research and innovation funding should contribute. Research and innovation are also key factors for other Europe 2020 flagship initiatives, notably on resource efficient Europe, an industrial policy for the globalisation era, and a digital agenda for Europe. Moreover, for achieving the Europe 2020 objectives relating to research and innovation, Cohesion policy has a key role to play through building capacity and

providing a stairway to excellence.

Amendment 2

Proposal for a regulation
Recital 11

Text proposed by the Commission	*Amendment*
(11) Horizon 2020 - the Framework Programme for Research and Innovation in the European Union (hereinafter 'Horizon 2020'), focuses on three priorities, namely generating excellent science in order to strengthen the Union's world-class excellence in science, fostering industrial leadership to support business, including small and medium-sized enterprises (SME) and innovation and tackling societal challenges, in order to respond directly to the challenges identified in the Europe 2020 strategy by supporting activities covering the entire spectrum from research to market. Horizon 2020 should support all stages in the innovation chain, especially activities closer to the market including innovative financial instruments, as well as non-technological and social innovation, and aims to satisfy the research needs of a broad spectrum of Union policies by placing emphasis on the widest possible use and dissemination of knowledge generated by the supported activities up to its commercial exploitation. The priorities of Horizon 2020 should also be supported through a programme under the Euratom Treaty on nuclear research and training.	(11) Horizon 2020 - the Framework Programme for Research and Innovation in the European Union (hereinafter 'Horizon 2020'), focuses on three priorities, namely generating excellent science in order to strengthen the Union's world-class excellence in science ***and farming***, fostering industrial leadership to support business, including small and medium-sized enterprises (SME) and innovation and tackling societal challenges, in order to respond directly to the challenges identified in the Europe 2020 strategy by supporting activities covering the entire spectrum from research to market. Horizon 2020 should support all stages in the innovation chain, especially activities closer to the market including innovative financial instruments, as well as non-technological and social innovation, and aims to satisfy the research needs of a broad spectrum of Union policies by placing emphasis on the widest possible use and dissemination of knowledge generated by the supported activities up to its commercial exploitation. The priorities of Horizon 2020 should also be supported through a programme under the Euratom Treaty on nuclear research and training.

Amendment 3

Proposal for a regulation
Recital 11 a (new)

Text proposed by the Commission	*Amendment*
	(11a) Most agricultural holdings in the Union are also SMEs and there is currently a lack of coherence between research and technological innovation and Union legislation covering agricultural products which makes it increasingly difficult for new technological developments to be actively applied by European SMEs. In order to fully capitalise on agricultural research in the Union, legislation should be adapted to allow a quicker uptake and more effective use of new technology by European farms.

Amendment 4

Proposal for a regulation
Recital 15

Text proposed by the Commission	*Amendment*
(15) Simplification is a central aim of Horizon 2020 which should be fully reflected in its design, rules, financial management and implementation. Horizon 2020 should aim to attract the strong participation of universities, research centres, industry and specifically SMEs and be open to new participants, as it brings together the full range of research and innovation support in one common strategic framework, including a streamlined set of forms of support and uses rules for participation with principles applicable to all actions under the programme. Simpler funding rules should reduce the administrative costs for participation and will contribute to a reduction of financial errors.	(15) Simplification is a central aim of Horizon 2020 which should be fully reflected in its design, rules, financial management and implementation. Horizon 2020 should aim to attract the strong participation of universities, research centres, industry and specifically SMEs, ***as well as civil society,*** and be open to new participants, as it brings together the full range of research and innovation support in one common strategic framework, including a streamlined set of forms of support and uses rules for participation with principles applicable to all actions under the programme. Simpler funding rules should reduce the administrative costs for participation and will contribute to a reduction of financial errors.

Justification

Research activities concern not only researchers, public authorities and businesses, but also

civil society.

Amendment 5

Proposal for a regulation
Recital 19

Text proposed by the Commission	*Amendment*
(19) The implementation of Horizon 2020 may give rise to supplementary programmes involving the participation of certain Member States only, the participation of the Union in programmes undertaken by several Member States, or the setting up of joint undertakings or other arrangements within the meaning of Articles 184, 185 and 187 TFEU.	(19) The implementation of Horizon 2020 may give rise to supplementary programmes involving the participation of certain Member States only, the participation of the Union in programmes undertaken by several Member States, or the setting up of joint undertakings or other arrangements within the meaning of Articles 184, 185 and 187 TFEU***, although these must be open to participation by other Member States and include procedures facilitating participation by new countries***.

Amendment 6

Proposal for a regulation
Recital 20

Text proposed by the Commission	*Amendment*
(20) With the aim of deepening the relationship between science and society and ***reinforcing*** public confidence in science, Horizon 2020 should favour an ***informed engagement*** of citizens and civil society on research and innovation matters by promoting science education, by making scientific knowledge more accessible, by developing responsible research and innovation ***agendas*** that meet citizens' and civil society's concerns and expectations and by facilitating their participation in Horizon 2020 activities.	(20) With the aim of deepening the relationship between science and society and ***re-establishing and deepening*** public confidence in science, Horizon 2020 should favour an ***active participation*** of citizens and civil society on research and innovation matters by promoting ***participatory research,*** science education, by making scientific knowledge more accessible, by developing responsible ***agendas for*** research and innovation ***and application of the results thereof*** that meet citizens' and civil society's concerns and expectations and by facilitating their participation in Horizon 2020 activities.

Amendment 7

Proposal for a regulation
Recital 26

Text proposed by the Commission	*Amendment*
(26) To achieve maximum impact, Horizon 2020 should develop close synergies with other Union programmes in areas such as education, space, environment, competitiveness and SMEs, the internal security, culture and media and with the Cohesion Policy funds and Rural Development Policy, which can specifically help to strengthen national and regional research and innovation capabilities in the context of smart specialisation strategies.	(26) To achieve maximum impact, Horizon 2020 should develop close synergies with other Union programmes in areas such as education, space, environment, competitiveness and SMEs, the internal security, culture and media and with the Cohesion Policy funds and Rural Development Policy and ***the Common Agricultural Policy (in particular*** Rural Development Policy***)***, which can specifically help to strengthen national and regional research and innovation capabilities in the context of smart specialisation strategies.

Amendment 8

Proposal for a regulation
Recital 30

Text proposed by the Commission	*Amendment*
(30) Horizon 2020 should promote cooperation with third countries based on common interest and mutual benefit. International cooperation in science, technology and innovation should be targeted to contribute to achieving the Europe 2020 objectives to strengthen competitiveness, contribute to tackling societal challenges and support Union external and development policies, including by developing synergies with external programmes and contributing to the Union's international commitments	(30) Horizon 2020 should promote cooperation with third countries***, in particular European Neighbourhood Policy countries,*** based on common interest and mutual benefit. International cooperation in science, technology and innovation should be targeted to contribute to achieving the Europe 2020 objectives to strengthen competitiveness, contribute to tackling societal challenges and support Union external and development policies, including by developing synergies with external programmes and contributing to

such as the achievement of Millennium Development Goals.

the Union's international commitments such as the achievement of Millennium Development Goals.

Amendment 9

Proposal for a regulation
Recital 32

Text proposed by the Commission	*Amendment*
(32) The need for a new approach to ***control and*** risk management ***in*** *Union* research funding was recognised by the European Council of 4 February 2011***,*** ***asking*** for a new balance between trust and control and between risk-taking and risk avoidance. The European Parliament, in its Resolution of 11 November 2010 on simplifying the implementation of the Research Framework Programmes, called for a pragmatic shift towards administrative and financial simplification and states that the management of European research funding should be more trust-based and risk-tolerant towards ***participants***. The interim evaluation report of the Seventh Framework Programme for Research (2007-2013) concludes that a more radical approach is needed to attain a quantum leap ***in simplification, and*** that the ***risk-trust balance needs*** to ***be redressed***.	(32) The need for a new approach to ***develop an evidence-based*** risk management ***strategy as part of the*** *Union's* research funding ***strategy*** was recognised by the European Council of 4 February 2011***. At this time the Council asked*** for a new balance between trust and control and between risk-taking and risk avoidance. The European Parliament, in its Resolution of 11 November 2010 on simplifying the implementation of the Research Framework Programmes, called for a pragmatic shift towards administrative and financial simplification and states that the management of European research funding should be more trust-based and risk-tolerant towards ***researchers***. The interim evaluation report of the Seventh Framework Programme for Research (2007-2013) concludes that a more radical approach is needed to attain a quantum leap ***toward simplified procedures*** that ***demonstrate*** the ***Union's trust in researchers and encourage them*** to ***take the risks needed for accelerated progress in science and technology***.

Amendment 10

Proposal for a regulation
Article 1

Text proposed by the Commission	*Amendment*
This Regulation establishes Horizon 2020 -	This Regulation establishes Horizon 2020 -

the Framework Programme for Research and Innovation (2014-2020) ("Horizon 2020") and determines the framework governing Union support to research and innovation activities and fostering better exploitation of the industrial potential of policies of innovation, research and technological development.	the Framework Programme for Research and Innovation (2014-2020) ("Horizon 2020") and determines the framework governing Union support to research and innovation activities ***and application of the results thereof*** and fostering better exploitation of the industrial potential of policies of innovation, research and technological development.

Amendment 11

Proposal for a regulation
Article 5 – paragraph 2 – subparagraph 1 – point b

Text proposed by the Commission	*Amendment*
(b) ***industrial*** leadership;	(b) leadership ***in industry and farming***;

Amendment 12

Proposal for a regulation
Article 12 – paragraph 1

Text proposed by the Commission	*Amendment*
1. For the implementation of Horizon 2020, account shall be taken of advice and inputs provided by: advisory groups of independent, high level experts set up by the Commission; dialogue structures created under international science and technology agreements; forward looking activities; targeted public consultations; and transparent and interactive processes that ensure responsible research and innovation is supported.	1. For the implementation of Horizon 2020, account shall be taken of advice and inputs provided by: advisory groups of independent, high level experts set up by the Commission; dialogue structures created under international science and technology agreements; forward looking activities; targeted public consultations ***including non-governmental organisations and other civil society groups*** and transparent and interactive processes that ensure responsible research and innovation is supported.

Justification

Research activities concern not only researchers, public authorities and businesses, but also civil society.

Amendment 13

Proposal for a regulation
Annex I – paragraph 14 – point b

Text proposed by the Commission	*Amendment*
(b) Food security, sustainable agriculture, marine and maritime research, and the bio-economy;	(b) Food security, sustainable agriculture ***and forestry***, marine and maritime research, and the bio-economy;

Amendment 14

Proposal for a regulation
Annex I – Part I – point 2 – point 2.2 – paragraph 3

Text proposed by the Commission	*Amendment*
The FET programme shall address the entire spectrum of science-driven innovation: from bottom-up, small-scale early explorations of embryonic and fragile ideas to building new research and innovation communities around transformative emerging research areas and large and federated research initiatives built around a research agenda aiming to achieve ambitious and visionary goals. These three levels of engagement each have their own specific value, while being complementary and synergistic. For example, small-scale explorations can reveal needs for developing new themes that can lead to large-scale action based on roadmaps. They involve a wide range of research players, including young researchers and research-intensive SMEs, and stakeholder communities (civil society, policymakers, industry and public researchers), clustered around research agendas as they take shape, mature and diversify.	The FET programme shall address the entire spectrum of science-driven innovation: from bottom-up, small-scale early explorations of embryonic and fragile ideas to building new research and innovation communities around transformative emerging research areas and large and federated research initiatives built around a research agenda aiming to achieve ambitious and visionary goals. These three levels of engagement each have their own specific value, while being complementary and synergistic. For example, small-scale explorations can reveal needs for developing new themes that can lead to large-scale action based on roadmaps. They involve a wide range of research players, including young researchers, ***female researchers*** and research-intensive SMEs, and stakeholder communities (civil society, policymakers, industry and public researchers), clustered around research agendas as they take shape, mature and diversify.

Amendment 15

Proposal for a regulation
Annex I – Part I – point 3 – point 3.1 – paragraph 3

Text proposed by the Commission	*Amendment*
Although Europe hosts a large and diversified pool of skilled human resources for research and innovation, this needs to be constantly replenished, improved and adapted to the rapidly evolving needs of the labour market. Today only 46 % of this pool works in the business sector, which is much lower than in Europe's main economic competitors, e.g. 69 % in China, 73 % in Japan and 80 % in the United States. In addition, demographic factors mean that a disproportionate number of researchers will reach retirement age in the next few years. This, combined with the need for many more high-quality research jobs as the research intensity of the European economy increases, will be one of the main challenges facing European education, research and innovation systems in the years ahead.	Although Europe hosts a large and diversified pool of skilled human resources for research and innovation, this needs to be constantly replenished, improved and adapted to the rapidly evolving needs of the labour market. Today only 46 % of this pool works in the business sector, which is much lower than in Europe's main economic competitors, e.g. 69 % in China, 73 % in Japan and 80 % in the United States. In addition, demographic factors mean that a disproportionate number of researchers will reach retirement age in the next few years. This, combined with the need for many more high-quality research jobs as the research intensity of the European economy increases, will be one of the main challenges facing European education, research and innovation systems in the years ahead. ***Furthermore, given that one of the objectives of the framework programme is to guarantee the effective promotion of gender equality and gender mainstreaming in the field of research and innovation, it is necessary to encourage more women to participate and realise their full potential in the research sector.***

Amendment 16

Proposal for a regulation
Annex I – Part II – point 1 – paragraph 9

Text proposed by the Commission	*Amendment*
A major component of 'Leadership in Enabling and Industrial Technologies' are Key Enabling Technologies (KETs), defined as micro- and nanoelectronics, photonics, nanotechnology, biotechnology, advanced materials and advanced manufacturing systems. These multi-disciplinary, knowledge and capital-	A major component of 'Leadership in Enabling and Industrial Technologies' are Key Enabling Technologies (KETs), defined as micro- and nanoelectronics, photonics, nanotechnology, biotechnology, advanced materials and advanced manufacturing systems. These multi-disciplinary, knowledge and capital-

intensive technologies cut across many diverse sectors providing the basis for significant competitive advantage for European industry. An integrated approach, promoting the combination, convergence and cross-fertilisation effect of KETs in different innovation cycles and value chains can deliver promising research results and open the way to new industrial technologies, products, services and novel applications (e.g. in space, transport, environment, health etc.). The numerous interactions of KETs and enabling technologies will therefore be exploited in a flexible manner, as an important source of innovation. This will complement support for research and innovation in KETs that may be provided by national or regional authorities under the Cohesion Policy Funds within the framework of smart specialisation strategies.	intensive technologies cut across many diverse sectors providing the basis for significant competitive advantage for European industry. An integrated approach, promoting the combination, convergence and cross-fertilisation effect of KETs in different innovation cycles and value chains can deliver promising research results and open the way to new industrial technologies, products, services and novel applications (e.g. in space, transport, environment, health***, agriculture,*** etc.). The numerous interactions of KETs and enabling technologies will therefore be exploited in a flexible manner, as an important source of innovation. This will complement support for research and innovation in KETs that may be provided by national or regional authorities under the Cohesion Policy Funds within the framework of smart specialisation strategies.

Amendment 17

Proposal for a regulation
Annex I – Part II – point 1 – point 1.2.3 – point c

Text proposed by the Commission	*Amendment*
Focusing on governance of nanotechnology for societal benefit.	Focusing on governance of nanotechnology for societal benefit ***taking into account the precautionary principle***. ***Assessing the social acceptability of specific different applications of nanotechnology in addition to risk assessment.***

Amendment 18

Proposal for a regulation
Annex I - Part II – point 1 – point 1.4.1 – paragraph 2

Text proposed by the Commission	*Amendment*
A strong scientific, technological and	A strong scientific, technological and

innovation base in biotechnology, will support European industries securing leadership in this key enabling technology. This position will be further strengthened by integrating the safety assessment and management aspects of the overall risks in the deployment of biotechnology.	innovation base in biotechnology, will support European industries securing leadership in this key enabling technology. This position will be further strengthened by integrating the safety assessment and management aspects of the overall risks in the deployment of biotechnology***, thus ensuring a secure roadmap to application***.

Amendment 19

Proposal for a regulation
Annex I – Part II – point 1 – point 1.4.2 – paragraph 1

Text proposed by the Commission	*Amendment*
Powered by the expansion of the knowledge of living systems, biotechnology is set to deliver a stream of new applications and to strengthen the Union's industrial base and its innovation capacity. Examples of the rising importance of biotechnology are in industrial applications including bio-chemicals**,** of which the market share is estimated to increase by up to 12 %-20 % of chemical production by 2015. A number of the so-called twelve rules of Green Chemistry are also addressed by biotechnology, due to the selectivity and efficiency of bio-systems. The possible economic burdens for Union enterprises can be reduced by harnessing the potential of biotechnology processes and bio-based products to reduce CO2 emissions, estimated to range from between 1 to 2.5 billion tons CO2 equivalent per year by 2030.In Europe's biopharmaceutical sector, already some 20 % of the current medicines are derived from biotechnology, with up to 50 % of new medicines. Biotechnology also opens new avenues for exploiting the huge potential of marine resources for producing innovative industrial, health and environmental applications. The emerging sector of marine (blue) biotechnology has been	Powered by the expansion of the knowledge of living systems, biotechnology is set to deliver a stream of new applications and to strengthen the Union's industrial base and its innovation capacity. Examples of the rising importance of biotechnology are in industrial applications including bio-chemicals of which the market share is estimated to increase by up to 12 %-20 % of chemical production by 2015***, as well as agricultural applications including crop production, which is the starting point of the food production value-chain and bio-economy as a whole***. A number of the so-called twelve rules of Green Chemistry are also addressed by biotechnology, due to the selectivity and efficiency of bio-systems. The possible economic burdens for Union enterprises can be reduced by harnessing the potential of biotechnology processes and bio-based products to reduce CO2 emissions, estimated to range from between 1 to 2.5 billion tons CO2 equivalent per year by 2030.In Europe's biopharmaceutical sector, already some 20 % of the current medicines are derived from biotechnology, with up to 50 % of new medicines. Biotechnology also opens new avenues for exploiting the huge potential of marine resources for producing

predicted to grow by 10 % a year.	innovative industrial, health and environmental applications. The emerging sector of marine (blue) biotechnology has been predicted to grow by 10 % a year.

Amendment 20

Proposal for a regulation
Annex I – Part II – point 1 – point 1.4.3 – point b – introductory part

Text proposed by the Commission	*Amendment*
(b) Biotechnology-based ***industrial*** processes	(b) Biotechnology-based ***products and*** processes

Amendment 21

Proposal for a regulation
Annex I – Part II – point 1 – point 1.4.3 – point b

Text proposed by the Commission	*Amendment*
Developing ***industrial*** biotechnology for competitive ***industrial*** products and processes (e.g. chemical, health, mining, energy, pulp and paper, textile, starch, food processing) and its environmental dimension.	Developing biotechnology for competitive products and processes (e.g. chemical, ***construction,*** health, mining, energy, pulp and paper, textile, starch, ***agricultural production and*** food processing) and its environmental dimension.

Amendment 22

Proposal for a regulation
Annex I – Part II – point 3 – point 3.3 – point b – introductory part

Text proposed by the Commission	*Amendment*
(b) Support for research intensive SMEs	(b) Support for research intensive SMEs ***in all fields, including agriculture.***

Amendment 23

Proposal for a regulation
Annex I – Part II – point 3 – point 3.3 – point c – introductory part

Text proposed by the Commission	*Amendment*
(c) Enhancing the innovation capacity of SMEs	(c) Enhancing the innovation capacity of SMEs ***in all fields, including agriculture.***

Amendment 24

Proposal for a regulation
Annex I – Part II – point 3 – point 3.3 – point d

Text proposed by the Commission	*Amendment*
Supporting market-driven innovation to improve the framework conditions for innovation and tackling the specific barriers preventing, in particular, the growth of innovative SMEs.	Supporting market-driven innovation to improve the framework conditions for innovation and tackling the specific barriers preventing, in particular, the growth of innovative SMEs***, including the lack of coherence between technological innovation and Union legislation, particularly in the field of agriculture***.

Amendment 25

Proposal for a regulation
Annex I – Part III – point 1 – point 1.3 – paragraph 1

Text proposed by the Commission	*Amendment*
Effective health promotion, supported by a robust evidence base, prevents disease, improves wellbeing and is cost effective. Health promotion and disease prevention also depend on an understanding of the determinants of health, on effective preventive tools, such as vaccines, on effective health and disease surveillance and preparedness, and on effective screening programmes.	Effective health promotion, supported by a robust evidence base, prevents disease, improves wellbeing and is cost effective. Health promotion and disease prevention also depend on an understanding of the determinants of health, ***including the link between human and animal health,*** on effective preventive tools, such as vaccines, on effective health and disease surveillance and preparedness, and on effective screening programmes***, also covering the use of antibiotics in animals***.

Amendment 26

Proposal for a regulation
Annex I – Part III – point 2 – title

Text proposed by the Commission	*Amendment*
2. Food security, sustainable agriculture, marine and maritime research and *the* bio-economy	2. Food security, sustainable agriculture ***and forestry***, marine and maritime research and bio-economy

Amendment 27

Proposal for a regulation
Annex I – Part III – point 2 – point 2.1 – paragraph 1

Text proposed by the Commission	*Amendment*
The specific objective is to secure sufficient supplies of safe and high quality food and other bio-based products, by developing productive and resource-efficient primary production systems, fostering related ecosystem services, along side competitive and low carbon supply chains. This will accelerate the transition to a sustainable European bio-economy.	The specific objective is to secure sufficient supplies of safe and high quality food and other bio-based products, by developing productive and resource-efficient primary production systems, fostering related ecosystem services, along side competitive and low carbon supply chains. This will accelerate the transition to a sustainable ***competitive*** European bio-economy.

Amendment 28

Proposal for a regulation
Annex I – Part III – point 2 – point 2.1 – paragraph 2

Text proposed by the Commission	*Amendment*
Over the coming decades, Europe will be challenged by increased competition for limited and finite natural resources, by the effects of climate change, in particular on primary production systems (agriculture, forestry, fisheries and aquaculture) and by the need to provide a sustainable, safe and secure food supply for the European and an increasing global population. A 70% increase *of* the world food supply is estimated to be required to feed the 9 billion global population by 2050.	Over the coming decades, Europe will be challenged by increased competition for limited and finite natural resources ***(in particular water***, ***land, and fossil carbon sources)***, by the effects of climate change, in particular on primary production systems (agriculture, forestry, fisheries and aquaculture) and by the need to provide a sustainable, safe and secure food ***and drinking-water*** supply for the European and an increasing global population. A 70% increase *in* the world food supply is

Agriculture accounts for about 10% of Union greenhouse *gases* emissions, and while declining in Europe, global emissions from agriculture are projected to increase up to 20% by 2030. Furthermore, Europe will need to ensure sufficient supplies of raw materials, energy and industrial products, under conditions of decreasing fossil carbon resources (oil and liquid gas production expected to decrease by about 60% by 2050), while maintaining its competitiveness. Bio-waste (estimated at up to 138 million tonnes per year in the Union, of which up to 40% is *land-filled*) represents a huge problem and cost, despite its high potential added value. ***For example, an estimated 30% of all*** food ***produced in developed countries is*** discarded. ***Major changes are needed*** to reduce ***this*** amount by 50% ***in the Union*** by 2030. In addition, national borders are irrelevant in the spread of animal and plant pests and diseases, including zoonotic diseases, and *food borne* pathogens. While effective national prevention measures are needed, action at Union level is essential for ultimate control and the effective running of the single market. The challenge is complex, affects a broad range of interconnected sectors and requires a plurality of approaches.

estimated to be required to feed the 9 billion global population by 2050. Agriculture accounts for about 10 % of Union greenhouse *gas* emissions, and while declining in Europe, ***mainly due to innovation in production efficiency techniques and reduced numbers in livestock in some areas,*** global emissions from agriculture are projected to increase up to 20% by 2030. Furthermore, Europe will need to ensure sufficient supplies of raw materials, energy and industrial products, under conditions of decreasing fossil carbon resources (oil and liquid gas production expected to decrease by about 60% by 2050), while maintaining its competitiveness. Bio-waste (estimated at up to 138 million tonnes per year in the Union, of which up to 40 % is *landfilled*) represents a huge problem and cost, despite its high potential added value. ***According to Eurostat figures, the quantity of*** food discarded ***in the European Union alone amounts to 89 million tonnes a year, equivalent to 180 kg per person. Measures therefore need to be taken in order*** to reduce ***that*** amount ***(***by ***at least*** 50% by 2030***), avoid wasting food, and reuse food that would otherwise be thrown away, and further initiatives are needed to turn agricultural bio-waste into an asset. Research avenues should also be explored with a view to analysing and quantifying food waste, applying appropriate methodologies.*** In addition, national borders are irrelevant in the spread of animal and plant pests and diseases, including zoonotic diseases, and *food-borne* pathogens. While effective national prevention measures are needed, action at Union level is essential for ultimate control and the effective running of the single market. The challenge is complex, affects a broad range of interconnected sectors and requires ***further inter-sector synergies and*** a plurality of approaches.

Justification

Wasting food has serious environmental, socio-economic, nutritional, and ethical consequences; it occurs at every stage of the food chain in developed and developing countries alike. It is therefore essential to reduce waste, both by means of information campaigns and by developing new technologies, for example for packaging or for food preserving methods.

Amendment 29

Proposal for a regulation
Annex I – Part III – point 2 – point 2.1 – paragraph 4

Text proposed by the Commission	*Amendment*
The potential of biological resources and ecosystems could be used in a much more sustainable, efficient and integrated manner. For example, the potential of biomass from forests and waste streams from agricultural, aquatic, industrial, and also municipal origins could be better harnessed	The potential of biological resources and ecosystems could be used in a much more sustainable, efficient and integrated manner. For example, the potential of biomass from forests, ***farming,*** and waste streams from agricultural, aquatic, industrial, and also municipal origins could be better harnessed.

Amendment 30

Proposal for a regulation
Annex 1 – Part III – section 2.2 – paragraph 2

Text proposed by the Commission	*Amendment*
A fully functional European bio-economy – encompassing the sustainable production of renewable resources from land and aquatic environments and their conversion into food, biobased products and bioenergy as well as the related public goods - will generate high European added value. Managed in a sustainable manner, it can reduce the environmental footprint of primary production and the supply chain as a whole. It can increase their competitiveness and provide jobs and business opportunities for rural and coastal development. The food security,	A fully functional European bio-economy – encompassing the sustainable production of renewable resources from land and aquatic environments and their conversion into food ***and fodder***, biobased products and bioenergy as well as the related public goods - will generate high European added value. Managed in a sustainable manner, it can reduce the environmental footprint of primary production and the supply chain as a whole. It can increase their competitiveness and provide jobs and business opportunities for rural and coastal development. The food security,

sustainable agriculture, and overall bio-economy – related challenges are of a European and global nature. Actions at Union level are essential to bring together clusters to achieve the necessary breadth and critical mass to complement efforts made by a single or groups of Member States. A multi-actor approach will ensure the necessary cross-fertilising interactions between researcher, businesses, farmers/producers, advisors and end-users. The Union level is also necessary to ensure coherence in addressing this challenge across sectors and with strong links to relevant Union policies. Coordination of research and innovation at Union level will stimulate and help to accelerate the required changes across the Union.	sustainable agriculture, and overall bio-economy – related challenges are of a European and global nature. Actions at Union level are essential to bring together clusters to achieve the necessary breadth and critical mass to complement efforts made by a single or groups of Member States. A multi-actor approach will ensure the necessary cross-fertilising interactions between researcher, businesses, farmers/producers, advisors and end-users. ***Special efforts should be made to ensure that farmers and their representative organisations take part in knowledge exchange activities and play a role in setting research priorities. Researchers should receive incentives to participate in knowledge exchange activities, even if these concern already existing research.*** The Union level is also necessary to ensure coherence in addressing this challenge across sectors and with strong links to relevant Union policies. Coordination of research and innovation at Union level will stimulate and help to accelerate the required changes across the Union.

Justification

Knowledge exchange activities must be specifically tailored to farmers or their representative organisations, which are in a less favourable position than businesses to participate in such activities. Farmer' opinions on research priorities should be heard. Scientists mainly receive incentives for carrying out new research but not for explaining and discussing existing research with non-specialists interested in applying it.

Amendment 31

Proposal for a regulation
Annex I – Part III – point 2 – point 2.3 – point a – introductory part

Text proposed by the Commission	*Amendment*
(a) Sustainable agriculture and forestry	(a) Sustainable ***and competitive*** agriculture and forestry

Amendment 32

Proposal for a regulation
Annex I – Part III – point 2 – point 2.3 – point a

Text proposed by the Commission	*Amendment*
The aim is to supply sufficient food, feed, biomass and other raw-materials, while safeguarding natural resources and enhancing ecosystems services, including coping with and mitigating climate change. The activities shall focus on more sustainable and productive agriculture and forestry systems which are both resource-efficient (including low-carbon) and resilient, while at the same time developing ***of*** services, concepts and policies for thriving rural livelihoods.	The aim is to supply sufficient food, feed, biomass and other raw-materials, while safeguarding natural resources and enhancing ecosystems services, including coping with and mitigating climate change. The activities shall focus on more sustainable and productive agriculture and forestry systems which are both ***more*** resource-efficient (including ***nutrient and energy efficiency and*** low-carbon ***targets***) and resilient, ***enhancing the quality and value of agricultural products,*** while at the same time developing services, concepts and policies for thriving rural livelihoods ***and rural innovative SMEs***. ***Knowledge development capacity and innovation transfers in agriculture shall aim at reversing the continuous decrease of the yield growth potential in Europe, and create a virtuous cycle towards achieving a sustainable intensification of Union agriculture production. With a view to reducing agriculture's carbon footprint, the importance of short supply chains should be underlined.***

Amendment 33

Proposal for a regulation
Annex I – Part III – point 2 – point 2.3 – point b

Text proposed by the Commission	*Amendment*
The aim is to meet the requirements of citizens for safe, healthy and affordable food, and to make food and feed processing and distribution more sustainable and the food sector more competitive. The activities shall focus on	The aim is to meet the requirements of citizens for safe, healthy and affordable food, and to make food and feed processing and distribution ***as well as food consumption*** more sustainable and the food sector more competitive. The

healthy and safe foods for all, informed consumer choices, and competitive food processing methods that use less resources and produce less by-products, waste and green-house gases.	activities shall focus on ***a broad diversity of*** healthy***, authentic, high quality*** and safe foods for all, informed consumer choices, and competitive food processing methods that use less resources and ***additives and*** produce less by-products, waste and green-house gases. ***Consumers have to make conscious choices and be not only informed about safe foods, but also made aware of the environmental, socio-economic, and nutritional consequences entailed in their choices and in the fact of wasting food. These innovations should also aim to reduce food waste in production, the distribution chain and by consumers.***

Amendment 34

Proposal for a regulation
Annex I – Part III – point 2 – point 2.3 – point d

Text proposed by the Commission	*Amendment*
The aim is the promotion of low carbon, resource efficient, sustainable and competitive European bio-based industries. The activities shall focus on fostering the bio-economy by transforming conventional industrial processes and products into bio-based resource and energy efficient ones, the development of integrated biorefineries, utilising biomass from primary production, biowaste and bio-based industry by-products, and ***opening*** new markets through supporting standardisation, regulatory and demonstration/field trial activities and others, while taking into account the implication of the bio-economy on land use and land use changes.	The aim is the promotion of low carbon, ***more*** resource efficient ***(including nutrient, energy, carbon, water and soil use efficiency),*** sustainable and competitive European bio-based industries***, while making bio-waste an asset used at its full potential. It is vital to create a closed circuit between urban and rural areas.*** The activities shall focus on fostering the bio-economy by transforming conventional industrial processes and products into bio-based resource and energy efficient ones, the development of integrated ***second and third generation*** biorefineries, ***producing and*** utilising biomass ***and other residues*** from primary ***agricultural and forestry*** production, biowaste and bio-based industry by-products, and ***through efficient transformation of bio-waste in urban areas into agricultural inputs. This will foster*** new markets ***and create potential***

	new revenue streams for primary producers through supporting standardisation, ***certification schemes,*** regulatory and demonstration/field trial activities and others, while taking into account the implication of the bio-economy on land use and land use changes.

Amendment 35

Proposal for a regulation
Annex I – Part III – point 5 – point 5.2 – paragraph 4

Text proposed by the Commission	*Amendment*
Addressing the availability of raw materials calls for *co-ordinated* research and innovation efforts across many disciplines and sectors to help provide safe, economically feasible, environmentally sound and socially acceptable solutions along the entire value chain (exploration, extraction, processing, *re-use*, recycling and substitution). Innovation in these fields will provide opportunities for growth and jobs, as well as innovative options involving science, technology, the economy, policy and governance. For this reason, a European Innovation Partnership on Raw Materials is being prepared.	Addressing the availability of raw materials calls for *coordinated* research and innovation efforts across many disciplines and sectors to help provide safe, economically feasible, environmentally sound and socially acceptable solutions along the entire value chain (exploration, extraction, processing, *reuse*, recycling and substitution). ***Particular innovation efforts should be focused on agricultural uses of water resources, bearing in mind the sector's growing water needs and the fact that periods of severe drought are occurring more frequently and spreading over increasingly vast parts of the world, including for example Mediterranean Europe.*** Innovation in these fields will provide opportunities for growth and jobs, as well as innovative options involving science, technology, the economy, policy and governance. For this reason, a European Innovation Partnership on Raw Materials is being prepared.

Amendment 36

Proposal for a regulation
Annex I – Part IV – point 3 – point 3.3 – point b – introductory part

Text proposed by the Commission	*Amendment*
(b) Food security, sustainable agriculture, marine and maritime research and the bio-economy	(b) Food security, sustainable agriculture ***and forestry***, marine and maritime research and the bio-economy

Amendment 37

Proposal for a regulation
Annex I – Part IV – point 3 – point 3.3 – point e – introductory part

Text proposed by the Commission	*Amendment*
(e) Climate action, resource efficiency and raw materials	(e) Climate action, resource efficiency and ***conservation, and sustainable use of*** raw materials

PROCEDURE

Title	Establishment of Horizon 2020 - The Framework Programme for Research and Innovation (2014-2020)
References	COM(2011)0809 – C7-0466/2011 – 2011/0401(COD)
Committee responsible Date announced in plenary	ITRE 13.12.2011
Opinion by Date announced in plenary	AGRI 13.12.2011
Rapporteur Date appointed	Sandra Kalniete 20.12.2011
Discussed in committee	24.4.2012 31.5.2012
Date adopted	10.7.2012
Result of final vote	+: 31 –: 3 0: 0
Members present for the final vote	John Stuart Agnew, Eric Andrieu, Liam Aylward, Luis Manuel Capoulas Santos, Vasilica Viorica Dăncilă, Michel Dantin, Paolo De Castro, Albert Deß, Diane Dodds, Herbert Dorfmann, Iratxe García Pérez, Béla Glattfelder, Martin Häusling, Esther Herranz García, Peter Jahr, Elisabeth Jeggle, Jarosław Kalinowski, Elisabeth Köstinger, Gabriel Mato Adrover, Mairead McGuinness, Mariya Nedelcheva, James Nicholson, Georgios Papastamkos, Marit Paulsen, Britta Reimers, Ulrike Rodust, Alfreds Rubiks, Giancarlo Scottà, Czesław Adam Siekierski, Sergio Paolo Francesco Silvestris, Alyn Smith, Marc Tarabella
Substitute(s) present for the final vote	Salvatore Caronna, Marian Harkin, Sandra Kalniete, Giovanni La Via, Astrid Lulling, Maria do Céu Patrão Neves