NGO Alliance on Horizon 2020

June 17 2012

Amendments to the

Proposal for a
COUNCIL DECISION
establishing the Specific Programme Implementing Horizon 2020 - The Framework Programme for Research and Innovation (2014-2020)
Brussels, 30.11.2011 COM(2011) 811 final, 2011/0402 (CNS)

TITLE I ESTABLISHMENT

Amendment 1
Specific Programme
Title I. Establishment
Art. 2 Establishment of the Specific Programme (p. 9)

Text of the Commission	Amendment
In accordance with Article 5(2) and 5(3) of Regulation (EU) No XX/2012 [Horizon 2020], the specific programme shall consist of the following Parts: (a) Part I "Excellent science"; (b) Part II "Industrial leadership"; (c) Part III "Societal challenges";	In accordance with Article 5(2) and 5(3) of Regulation (EU) No XX/2012 [Horizon 2020], the specific programme shall consist of the following Parts: (a) Part I "Excellent science"; (b) Part II "Industrial leadership"; (c) Part III "Societal challenges ***and social leadership for a fair economy"***

Justification

Major parts of the Horizon 2020 proposal aim for industrial rather than social leadership. Science and innovation are key factors to tackle the pressing societal challenges, but Europe's citizens need to be involved in their development. Europe should take leadership for a fair economy.

Amendment 2
Specific programme
Title I Establishment
Article 3 Specific objectives, point 1 (p.9)

Text of the Commission	Amendment
1. Part I "Excellent science" shall strengthen the excellence of European research … by pursuing the following specific objectives: (a) strengthening frontier research, through the activities of the European Research Council (ERC); (b) strengthening research in Future and Emerging Technologies; (c) strengthening skills, training and career development, through the Marie Skłodowska-Curie actions ("Marie Curie actions"); (d) strengthening European research infrastructures, including e-infrastructures.	1. Part I "Excellent science" shall strengthen the excellence of European research … by pursuing the following specific objectives: (a) strengthening frontier research, through the activities of the European Research Council (ERC); (b) strengthening research in Future and Emerging Technologies; (c) strengthening skills, training and career development, through the Marie Skłodowska-Curie actions ("Marie Curie actions"); (d) strengthening European research infrastructures, including e-infrastructures. ***(e) strengthening research into needs expressed by civil society organisations.***

Justification

Scientific excellence is urgently needed in research domains relating to societal needs expressed by civil society organisations. Real world problems put forward by CSOs open challenging directions for research.

Amendment 3
Specific programme
Title I Establishment
Article 3 Specific objectives, point 3 (p.10)

Text of the Commission	Amendment
3. Part III "Societal challenges" shall contribute to the priority "Societal challenges" set out in Article 5(2)(c) of Regulation (EU) No XX/2012 [Horizon 2020] by pursuing research, technological development, demonstration and innovation actions which contribute to the following specific objectives: (a) improving the lifelong health and wellbeing; (b) securing sufficient supplies of safe	3. Part III "Societal challenges" shall contribute to the priority "Societal challenges" set out in Article 5(2)(c) of Regulation (EU) No XX/2012 [Horizon 2020] by pursuing research, technological development, demonstration and innovation actions which contribute to the following specific objectives: (a) improving the lifelong health and wellbeing; (b) securing 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; (c) making the transition to a reliable, sustainable and competitive energy system, in the face of increasing resource scarcity, increasing energy needs and climate change; (d) achieving a European transport system that is resource-efficient, environmentally-friendly, safe and seamless for the benefit of citizens, the economy and society; (e) achieving a resource-efficient and climate change resilient economy and a sustainable supply of raw materials, in order to meet the needs of a growing global population within the sustainable limits of the planet's natural resources; (f) fostering inclusive, innovative and secure European societies in a context of unprecedented transformations and growing global interdependencies.	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; (c) making the transition to a reliable, sustainable and competitive energy system, in the face of increasing resource scarcity, increasing energy needs and climate change; (d) achieving a European transport system that is resource-efficient, environmentally-friendly, safe and seamless for the benefit of citizens, the economy and society; (e) achieving a resource-efficient, ***resource-conserving*** and climate change resilient ***as well as a fair*** economy and a sustainable supply of raw materials, in order to meet the needs of a growing global population within the sustainable limits of the planet's natural resources; (f) fostering inclusive, innovative and secure European societies in a context of unprecedented transformations and growing global interdependencies. ***(g) boosting social leadership for a fair economy trough participatory and transdisciplinary research and social innovation;*** ***(h) contributing to Institutional knowledge and networks trough participatory research approaches based on the combination of new and existing/traditional knowledge;***

Justification

We believe the proposals need to recognize a variety of research and dissemination approaches based on a broad and inclusive understanding of innovation. This should focus on empowering of human and social capital in agriculture and food systems, which will result in low dependency of farmers on financial capital and external inputs, and will instead utilize natural capital to increase productivity through eco-functional intensification, diversification, local adaptation («local resilience») and best agricultural practice. There is a need for a paradigm change form ‘Productivity’ over ‘Efficiency’ to ‘Sufficiency’

TITLE II IMPLEMENTATION

Amendment 4
Specific programme
Title II Implementation
Article 5, after the last point add a new paragraph 7 (p.13-14)

Text of the Commission	Amendment
	add new paragraph 7: **The work programmes for the implementation of that part of Horizon 2020, which is referred to in Article 3, Paragraph 3, subparagraph f of this specific programme and any calls for proposals issued as a result of such programmes shall be the subject of an ethics review of the programme and the calls respectively before they are issued.**

Justification

This amendment is introduced in order to ensure that the extent to which the tension between fundamental rights and the security agenda are implicit in the programmes or calls is made explicit and are addressed in the formulation of the programmes and calls to the effect that the compliance with Article 16, paragraph 1 of the Proposed Regulation is complied with.

Amendment 5
Specific programme
Title II Implementation
Article 5 Work programmes (p.14)

Text of the Commission	Amendment
Last paragraph: In addition, those work programmes shall contain a section which identifies the cross-cutting actions as referred to in Article 13 of Regulation (EU) No XX/2012 [Horizon 2020], across two or more specific objectives both within the same priority and across two or more priorities. Those actions shall be implemented in an integrated manner.	Last paragraph: In addition, those work programmes shall contain a section which identifies the cross-cutting actions as referred to in Article 13 of Regulation (EU) No XX/2012 [Horizon 2020], across two or more specific objectives ~~both~~ ***be it*** within the same priority ~~and~~ ***or*** across two or more priorities. Those actions shall be implemented in an integrated manner.

Justification

This amendment would allow the full use of the potential of cross-cutting activities.

ANNEX I

Amendment 6
Specific programme
Annex I. Common elements for the indirect actions
1.2 Social sciences and humanities (p.20)

Text of the Commission	Amendment
2nd paragraph : Social sciences and humanities are also mainstreamed as an essential element of the activities needed to tackle each of the societal challenges to enhance their impact. This includes: understanding the determinants of health and optimising the effectiveness of healthcare systems, support to policies empowering rural areas and promoting informed consumer choices, robust decision making on energy policy and in ensuring a consumer friendly European electricity grid, supporting evidence based transport policy and foresight, support to climate change mitigation and adaptation strategies, resource efficiency initiatives and measures towards a green and sustainable economy.	2nd paragraph : Social sciences and humanities are also mainstreamed as an essential element of the activities needed to tackle each of the societal challenges to enhance their impact ***as well as to contribute to solutions through more participative research.*** This includes: understanding the determinants of health and optimising the effectiveness of healthcare systems, support to policies empowering rural areas and promoting informed consumer choices, robust decision making on energy policy and in ensuring a consumer friendly European electricity grid, supporting evidence based transport policy and foresight, support to climate change mitigation and adaptation strategies, resource efficiency ***and sufficiency*** initiatives and measures towards a green and sustainable ***as well as a fair*** economy.

Justification

Research is still disciplinary, often carried out in fragmented way and not sufficiently based on agro-ecologically system knowledge. The enhancement of public goods would need much more transdisciplinary and participatory research, which captures the innovative potential of the whole agriculture and food sector and does not underestimate farmers and SMEs as a source of innovation in the food and farming sector.

Amendment 7
Specific programme
Annex I. Common elements for the indirect actions
3. Complementarities And Cross-Cutting Actions (p.23)

Text of the Commission	Amendment
4th paragraph: Cross-cutting action will also be vital in	4th paragraph: Cross-cutting action will also be vital in

stimulating the interactions between the societal challenges and the enabling and industrial technologies needed to generate major technological breakthroughs. Examples of where such interactions may be developed are: the domain of eHealth, smart grids, intelligent transport systems, mainstreaming of climate actions, nanomedicine, advanced materials for lightweight vehicles or the development of bio- based industrial processes and products. Strong synergies will therefore be fostered between the societal challenges and the development of generic enabling and industrial technologies. This will be explicitly taken into account in developing the multi-annual strategies and the priority setting for each of these specific objectives. It will require that stakeholders representing the different perspectives are fully involved in the implementation and in many cases, it will also require actions which bring together funding from the enabling and industrial technologies and the societal challenges concerned.	stimulating the interactions between the societal challenges and the enabling and industrial technologies needed to generate major technological breakthroughs ***and a fair economy***. Examples of where such interactions may be developed are: the domain of eHealth, smart grids, intelligent transport systems, mainstreaming of climate actions, nanomedicine, advanced materials for lightweight vehicles or the development of bio- based industrial processes and products. Strong synergies will therefore be fostered between the societal challenges and the development of generic enabling and industrial technologies ***and social innovation***. This will be explicitly taken into account in developing the multi-annual strategies and the priority setting for each of these specific objectives. It will require that stakeholders representing the different perspectives ***including civil society organisations*** are fully involved in the ***formulation of relevant research questions as well during the*** implementation and in many cases, it will also require actions which bring together funding from the enabling and industrial technologies and the societal challenges concerned. ***New innovative ways of knowledge management and transfer need to be developed which facilitate mutual learning in collaborative networks and result in a better research impact.***

Justification

It is important to work closer together with NGOs and organisations that represent the civil society rather than the interests of industry. In this regard, improved methods of dissemination of knowledge are needed to guarantee the involvement of all parts of society.

PART I EXCELLENT SCIENCE

Amendment 8
Specific programme
Part I Excellent science
2. Future and emerging technologies (FET)
2.1. FET Open: fostering novel ideas (p.29)

Text of the Commission	Amendment
2.1. FET Open: fostering novel ideas Supporting a large set of embryonic, high risk visionary science and technology collaborative research projects is necessary for the successful exploration of new foundations for radically new future technologies. By being explicitly non–topical and non-prescriptive, this activity allows for new ideas, whenever they arise and wherever they come from, within the broadest spectrum of themes and disciplines. Nurturing such fragile ideas requires an agile, risk- friendly and highly interdisciplinary research approach, going well beyond the strictly technological realms. Attracting and stimulating the participation of new high-potential actors in research and innovation, such as young researchers and high-tech SMEs is also important for nurturing the scientific and industrial leaders of the future.	2.1. FET Open: fostering novel ideas Supporting a large set of embryonic, high risk visionary science and technology collaborative research projects is necessary for the successful exploration of new foundations for radically new future technologies. By being explicitly non–topical and non-prescriptive, this activity allows for new ideas, whenever they arise and wherever they come from, within the broadest spectrum of themes and disciplines. Nurturing such fragile ideas requires an agile, risk- friendly and highly interdisciplinary research approach, going well beyond the strictly technological realms. Attracting and stimulating the participation of new high-potential actors in research and innovation, such as young researchers, ~~and high-tech~~ SMEs ***and civil society organisations*** is also important for nurturing the scientific and industrial leaders of the future.

Amendment 9
Specific programme
Part I Excellent science
2. Future and emerging technologies (FET)
2.3. FET Flagships: tackling grand interdisciplinary science and technology challenges (p.29)

Text of the Commission	Amendment
2.3. FET Flagships: tackling grand interdisciplinary science and technology challenges Research initiatives within this challenge are science-driven, large-scale, multidisciplinary and built around a visionary unifying goal. They tackle grand science and technology challenges requiring cooperation among a range of disciplines, communities and programmes. The scientific advance should provide a strong and broad basis for future technological innovation and economic exploitation, as well as novel benefits for	2.3. FET Flagships: tackling grand interdisciplinary science and technology challenges Research initiatives within this challenge are science-driven, large-scale, multidisciplinary and built around a visionary unifying goal. They tackle grand science and technology challenges requiring cooperation among a range of disciplines, communities and programmes. The scientific advance should provide a strong and broad basis for ***sustainability***, future technological innovation ***(be it high tech or low tech)*** and

society. The overarching nature and magnitude implies that they can only be realised through a federated and sustained effort (in the order of 10 years duration). Activities in the three FET pillars are complemented, by a wide range of networking, and community-based activities for creating a fertile and vibrant European base for science-driven research towards future technologies. They will support the future developments of the FET activities, foster the debate on implications of new technologies, and accelerate impact.	economic exploitation, as well as novel ***social*** benefits for society. The overarching nature and magnitude implies that they can only be realised through a federated and sustained effort (in the order of 10 years duration). Activities in the three FET pillars are complemented, by a wide range of networking, and community-based activities for creating a fertile and vibrant European base for science-driven research towards future technologies. They will support the future developments of the FET activities, foster the debate on implications of new technologies, and accelerate impact.

Amendment 10
Specific programme
Part I Excellent science
3. Marie Curie Actions
3.1. Fostering new skills by means of excellent initial training of researchers (p.30-31)

Text of the Commission	Amendment
3.1. Fostering new skills by means of excellent initial training of researchers paragraph 2 : This will be achieved in particular by structuring and raising excellence in a substantial share of the high-quality initial training of early stage researchers and doctoral candidates throughout Member states and associated countries. By equipping early stage researchers with a diversity of skills that will allow them to face current and future challenges, the next generation of researchers will benefit from enhanced career perspectives in both public and private sectors, thereby enhancing also the attraction of young people to research careers.	3.1. Fostering new skills by means of excellent initial training of researchers paragraph 2 : This will be achieved in particular by structuring and raising excellence in a substantial share of the high-quality initial training of early stage researchers and doctoral candidates throughout Member states and associated countries. By equipping early stage researchers with a diversity of skills that will allow them to face current and future challenges, the next generation of researchers will benefit from enhanced career perspectives in both public and private sectors ***including the non for profit civil society sector***, thereby enhancing also the attraction of young people to research careers.

Justification

Young people are not only attracted by pure academic careers and careers in the private industry but also by the possibility to work for non for profit organisations. This development has to be encouraged since highly innovative research can emerge from this sector.

Amendment 11
Specific programme
Part I Excellent science
3. Marie Curie Actions
3.2. Nurturing excellence through cross-border and cross-sector mobility (p.31)

Text of the Commission	Amendment
3.2. Nurturing excellence by means of cross-border and cross-sector mobility paragraph 1: Europe has to be attractive for the best researchers, European and non-European. This will be achieved in particular by supporting attractive career opportunities for experienced researchers in both public and private sectors, and encouraging them to move between countries, sectors and disciplines to enhance their creative and innovative potential.	3.2. Nurturing excellence by means of cross-border and cross-sector mobility paragraph 1: Europe has to be attractive for the best researchers, European and non-European. This will be achieved in particular by supporting attractive career opportunities for experienced researchers in both public and private sectors ***including the non for profit civil society sector***, and encouraging them to move between countries, sectors and disciplines to enhance their creative and innovative potential.

Amendment 12
Specific programme
Part I Excellent science
3. Marie Curie Actions
3.2. Nurturing excellence through cross-border and cross-sector mobility (p.31)

Text of the Commission	Amendment
3.2. Nurturing excellence through cross-border and cross-sector mobility (p.31) Paragraph 2: Funding will be given to the best or most promising experienced researchers, regardless of their nationality, who want to develop their skills through a trans-national or international mobility experience. They can be supported along all the different stages of their career, including the most junior ones just after their doctoral degree or	3.2. Nurturing excellence through cross-border and cross-sector mobility (p.31) Paragraph 2: Funding will be given to the best or most promising experienced researchers, regardless of their nationality, who want to develop their skills through a trans-national or international mobility experience. They can be supported along all the different stages of their career, including the most junior ones just after their doctoral degree or

equivalent experience. These researchers will receive funding on the condition that they move from one country to another to broaden or deepen their competences in universities, research institutions, businesses, SMEs or other socio-economic actors of their choice, working on research and innovation projects fitting their personal needs and interests. They will also be encouraged to move from public to private sector or vice-versa through the support of temporary postings. Part-time opportunities allowing combined positions in both public and private sectors will also be supported to enhance the transfer of knowledge between sectors and also encourage the creation of start-ups. Such tailor-made research opportunities will help promising researchers to become fully independent and to facilitate career moves between public and private sectors.	equivalent experience. These researchers will receive funding on the condition that they move from one country to another to broaden or deepen their competences in universities, research institutions, businesses, SMEs, ***civil society organisations*** or other socio-economic actors of their choice, working on research and innovation projects fitting their personal needs and interests. They will also be encouraged to move from public to private sector or vice-versa through the support of temporary postings. Part-time opportunities allowing combined positions in both public and private sectors will also be supported to enhance the transfer of knowledge between sectors and also encourage the creation of start-ups. Such tailor-made research opportunities will help promising researchers to become fully independent and to facilitate career moves between public and private sectors.

Amendment 13
Specific programme
Part I Excellent science
3. Marie Curie Actions
3.3. Stimulating innovation by means of cross-fertilisation of knowledge (p.32)

Text of the Commission	Amendment
3.3. Stimulating innovation by means of cross-fertilisation of knowledge Societal challenges are becoming more and more global and cross-border and cross-sector collaborations are crucial to successfully face them. Sharing of knowledge and ideas from research to market is therefore vital and can only be achieved through the connection of people. This will be promoted through the support of flexible exchanges of highly skilled research and innovation staff between sectors, countries and disciplines. European funding will support short term exchanges of research and innovation staff within partnerships of universities, research institutions, businesses, SMEs and other	3.3. Stimulating innovation by means of cross-fertilisation of knowledge Societal challenges are becoming more and more global and cross-border and cross-sector collaborations are crucial to successfully face them. Sharing of knowledge and ideas from research ***to society and*** to market is therefore vital and can only be achieved through the connection of people. This will be promoted through the support of flexible exchanges of highly skilled research and innovation staff between sectors, countries and disciplines. European funding will support short term exchanges of research and innovation staff within partnerships of universities, research institutions, businesses, SMEs, ***civil society***

socio-economic actors among Europe, as well as between Europe and third countries to reinforce international cooperation. It will be open to research and innovation staff at all career levels, from the most junior (post-graduate) to the most senior (management), including also administrative and technical staff.	***organisations*** and other socio-economic actors among Europe, as well as between Europe and third countries to reinforce international cooperation. It will be open to research and innovation staff at all career levels, from the most junior (post-graduate) to the most senior (management), including also administrative and technical staff.

Amendment 14
Specific programme
Part I Excellent science
3. Marie Curie Actions
3.6. Specific implementation aspects (p.33)

Text of the Commission	Amendment
3.6. Specific implementation aspects paragraph3: Throughout all the activities described above, attention will be paid to encourage a strong participation of enterprises, in particular SMEs, as well as other socio-economic actors for the successful implementation and impact of the Marcie Curie actions. A long-term collaboration between higher education, research organisations and the private sector, taking into account the protection of intellectual property rights, is promoted throughout all the Marie Curie actions.	3.6. Specific implementation aspects paragraph 3: Throughout all the activities described above, attention will be paid to encourage a strong participation of enterprises, in particular SMEs, ***civil society organisations*** as well as other socio-economic actors for the successful implementation and impact of the Marcie Curie actions. A long-term collaboration between higher education, research organisations and the private sector, taking into account the protection of intellectual property rights, is promoted throughout all the Marie Curie actions.

PART II INDUSTRIAL LEADERSHIP

Amendment 15
Specific programme
Part II Industrial leadership
1. Leadership In Enabling And Industrial Technologies
Specific Implementation aspects (p.37)

Text of the Commission	Amendment
4th paragraph (p.38): For nanotechnology and biotechnology in particular, engagement with stakeholders and the general public will aim to raise the awareness of benefits and risks. Safety assessment and the management of overall risks in the deployment of these technologies will be systematically addressed.	4th paragraph (p.38): For nanotechnology and biotechnology in particular, engagement with stakeholders and the general public will aim to raise the awareness of benefits and risks. Safety assessment and the management of overall risks in the deployment of these technologies will be systematically addressed. ***Criteria and transparent procedures need to be developed through social science to assess the social desirability and social acceptability of certain types of new technologies, preferably in an early stage of development.***

Justification

The civil society has to be included in a transparent and open dialogue to evaluate whether innovations that might be in conflict with ethical values and concerns should be pursuit.

Amendment 16
Specific programme
Part II Industrial leadership
1. Leadership In Enabling And Industrial Technologies
1.2 Nanotechnologies (p.40)

Text of the Commission	Amendment
1.2.3. Developing the societal dimension of nanotechnology Addressing the human and physical infrastructure needs of nanotechnology deployment and focusing on governance of nanotechnology for societal benefit.	1.2.3. Developing the societal dimension of nanotechnology Addressing the human and physical infrastructure needs of nanotechnology deployment and focusing on governance of nanotechnology for societal benefit. ***Assessing the social acceptability of specific applications of nanotechnology in addition to risk assessment.***

Justification

Following the precautionary principle the public acceptability of specific application of nanotechnologies (e.g. for food) has to be assessed.

Amendment 17
Specific programme
Part II Industrial leadership
1. Leadership In Enabling And Industrial Technologies
1.4 Biotechnology (p. 41)

Text of the Commission	Amendment
	add a point: ***1.4.4. Societal and ethical concerns*** ***The objective is to take account of societal and ethical concerns with regard to certain types of biotechnology by developing assessment criteria and procedures for broad consultation of stakeholders for policy processes.***

PART III SOCIETAL CHALLENGES

Amendment 18
Specific Programme
Part III – Societal Challenges
2. Food Security, Sustainable Agriculture, Marine And Maritime Research And The Bio-Economy
2.1. Sustainable agriculture and forestry (p. 54)

Text of the Commission	Amendment
2.1. Sustainable agriculture and forestry Appropriate knowledge, tools, services and innovations are necessary to support more productive, resource-efficient and resilient agriculture and forestry systems that supply sufficient food, feed, biomass and other raw-materials and deliver ecosystems services while at the same time supporting the development of thriving rural livelihoods. Research and innovation will provide options for integrating agronomic and environmental goals into sustainable production, thus: increasing productivity and resource efficiency of agriculture; reducing	2.1. Sustainable agriculture and forestry Appropriate knowledge, tools, services and innovations are necessary to support more productive, resource-efficient***, resource-protecting*** and resilient agriculture and forestry systems that supply sufficient food, feed, biomass and other raw-materials and deliver ecosystems services while at the same time ***preserve the natural resource base, biodiversity and*** support ~~the development~~ of thriving rural communities. Research and innovation will provide options for integrating agronomic and environmental goals into sustainable production ***and food systems*** thus: increasing productivity, resource efficiency of agriculture; reducing

agricultural greenhouse gases (GHGs) emissions; reducing leaching of nutrients from cultivated lands into terrestrial and aquatic environments; decreasing dependence from international plant derived protein imports to Europe; increasing the level of biodiversity in primary production systems.	agricultural greenhouse gases (GHGs) emissions; reducing leaching of nutrients from cultivated lands into terrestrial and aquatic environments; decreasing dependence from international plant derived protein imports ***and other materials*** to Europe; increasing ~~the level of~~ biodiversity in ~~primary production~~ ***agricultural systems and landscapes, recycling of nutrients and organic matter and preserving water and soil resources, thereby improving adaptive capacities of farmers with regard to climate change and uncertainties.***

Justification

The Horizon 2020 legislative proposals place much emphasis on resource efficiency but ignore the need for the conversation and protection of the remaining scarce natural resources (capital) such as land, water, phosphorous and biodiversity and their relations with climate change which are all crucial for food production.

Amendment 19
Specific Programme
Part III – Societal Challenges
2. Food Security, Sustainable Agriculture, Marine And Maritime Research And The Bio-Economy
2.1.1. Increasing production efficiency and coping with climate change, while ensuring sustainability and resilience (p.54)

Text of the Commission	Amendment
2.1.1. Increasing production efficiency and coping with climate change, while ensuring sustainability and resilience Paragraph 2: Multi-disciplinary approaches will be sought to improve the performance of plants, animals, micro-organisms, while ensuring efficient resource use (water, nutrients, energy) and the ecological integrity of rural areas. Emphasis will be placed on integrated and diverse production systems and agronomic practices, including the use of precision technologies and ecological intensification approaches to benefit both conventional and organic agriculture. Genetic improvement of plants and animals for adaptation and productivity traits will call	2.1.1. Increasing production efficiency and coping with climate change, while ensuring sustainability and resilience Paragraph 2: Multi-***and trans***disciplinary approaches ***utilizing the expertise and experience of actors along the whole supply chain*** will be sought to improve the performance of plants, animals, micro-organisms, while ensuring efficient resource use (water, nutrients, energy) and the ecological integrity ***and vitality*** of rural areas. Emphasis will be placed on integrated and diverse production systems and agronomic practices, including the use of precision technologies, ***agro-ecological and organic farming methods*** and ecological intensification approaches to

for all appropriated conventional and modern breeding approaches and for a better use of genetic resources. Due attention will be given to on-farm soil management for increasing soil fertility as a basis for crop productivity. Animal and plant health will be promoted and integrated disease/pest control measures will be further developed. Strategies for the eradication of animal diseases including zoonoses will be tackled along with research on antimicrobial resistance. Studying the effects of practices on animal welfare will help meet societal concerns. The above listed areas will be underpinned by more fundamental research to address relevant biological questions as well as to support the development and implementation of Union policies.	benefit both conventional and organic agriculture. Genetic improvement of plants and animals for adaptation and productivity traits will call for all appropriated conventional and modern breeding approaches and for a better use of genetic resources ***for adaptation to scarce resources, reduced pesticide use and local environmental conditions***. Due attention will be given to on-farm soil management for increasing soil fertility as a basis for crop productivity. Animal and plant health will be promoted and integrated disease/pest control measures will be further developed. Strategies for the eradication of animal diseases including zoonoses will be tackled along with research on antimicrobial resistance. Studying the effects of practices on animal welfare will help meet societal concerns. The above listed areas will be underpinned by more fundamental research to address relevant biological questions as well as to support the development and implementation of Union policies.

Justification

In this regard, bottom-up approaches are very useful, as the ones who daily work on the field are more likely to articulate their problems and highlight research priorities and desired solutions. The potential of small scale farmers and SMEs contributing to e to such innovation in an environmentally friendly way via agro-ecological and organic methods is still underestimated.

Amendment 20
Specific Programme
Part III – Societal Challenges
2. Food Security, Sustainable Agriculture, Marine And Maritime Research And The Bio-Economy
2.1.2. Providing ecosystem services and public goods (p. 54/55)

Text of the Commission	Amendment
2.1.2. Providing ecosystem services and public goods Agriculture and forestry are unique systems delivering commercial products but also wider societal public goods (including cultural and recreational value) and important ecological services such as	2.1.2. Providing ecosystem services and public goods Agriculture and forestry are unique systems delivering commercial products but also wider societal public goods (including cultural and recreational value ***and landscape aesthetics)*** and important

functional and in-situ biodiversity, pollination, water regulation, landscape, erosion reduction and carbon sequestration / GHG mitigation. Research activities will support the provisions of these public goods and services, through the delivery of management solutions, decision-support tools and the assessment of their non-market value. Specific issues to be dealt with include the identification of farming/forest systems and landscape patterns likely to achieve these goals.	ecological services such as functional and in-situ biodiversity, pollination, water regulation, ~~landscape~~, erosion reduction and carbon sequestration / GHG mitigation. Research activities will support the provisions of these public goods and services, through the delivery of management solutions, decision- ***and policy support*** tools and the assessment ***and impact measurement*** of their non-market value. Specific issues to be dealt with include the identification ***and development*** of ***diverse*** farming/forest systems and landscape patterns likely to achieve these goals.

Justification

The aesthetic value of a landscape is definitely also a public good.

Amendment 21
Specific Programme
Part III – Societal Challenges
2. Food Security, Sustainable Agriculture, Marine And Maritime Research And The Bio-Economy
2.1.3. Empowerment of rural areas, support to policies and rural innovation (p. 55)

Text of the Commission	Amendment
Development opportunities for rural communities will be mobilised by strengthening their capacity for primary production and delivery of eco-systems services as well as by opening avenues for the production of new and diversified products (food, feed, materials, energy), which meet the increasing demand for low-carbon short-chain delivery systems. Socio-economic research along with the development of new concepts and institutional innovations is needed to ensure cohesion of rural areas and prevent economic and social marginalisation, foster diversification of economic activities (including service sector), ensure appropriate relations between rural and urban areas, as well as facilitate knowledge exchange, demonstration, innovation and dissemination and foster participatory resource management. Also, there is a need to look at	Development opportunities for rural communities will be mobilised by strengthening their capacity for primary production and delivery of eco-systems services as well as by opening avenues for the production of new and diversified products (food, feed, materials, energy), which meet the increasing demand for low-carbon short-chain delivery systems. Socio-economic research along with the development of new concepts and institutional innovations is needed to ensure cohesion of rural areas and prevent economic and social marginalisation, foster diversification of economic activities (including service sector), ensure appropriate relations between rural and urban areas, as well as facilitate knowledge exchange, demonstration, innovation and dissemination and foster participatory resource management. Also, there is a need to look at

ways in which public goods in rural areas can be converted into local/regional socio-economic benefits. Innovation needs defined at regional and local levels will be complemented by cross-sectoral research actions at inter-regional and European levels. By providing the necessary analytical tools, indicators, models and forward looking activities, research projects will support policy makers and other actors in the implementation, monitoring and assessment of relevant strategies, policies and legislation, not only for rural areas but for the whole bio-economy. Tools and data are also required to allow for proper assessment of potential trade-offs between various types of resource use (land, water and other inputs) and bio-economy products. Socio-economic and comparative assessment of farming/forestry systems and their sustainability performance will be addressed.	ways in which public goods in rural areas can be converted into local/regional socio-economic benefits. Innovation needs defined at regional and local levels will be complemented by cross-sectoral research actions at inter-regional and European levels. By providing the necessary analytical tools, indicators, models and forward looking activities, research projects will support policy makers and other actors in the implementation, monitoring and assessment of relevant strategies, policies and legislation, not only for rural areas but for the whole bio-economy. Tools and data are also required to allow for proper assessment of potential trade-offs between various types of resource use (land, water and other inputs) and bio-economy products. Socio-economic and comparative assessment of farming/forestry systems and their sustainability performance will be addressed. ***Criteria for transparent procedures for the assessment of the desirability and acceptability of new technologies will be taken into account as well as ethical concerns of civil society.***

Justification

The civil society has to be included in a transparent and open dialogue to evaluate whether innovations that might be in conflict with ethical values and concerns should be pursuit.

Amendment 22
Specific Programme
Part III – Societal Challenges
2. Food Security, Sustainable Agriculture, Marine And Maritime Research And The Bio-Economy
2.2. Sustainable and competitive agri-food sector for a safe and healthy diet (p. 56)

Text of the Commission	Amendment
Consumer needs for safe, healthy and affordable food have to be addressed, while considering the impacts of food consumption behaviour and food and feed production on human health and the total ecosystem. Food and feed security and safety, the competitiveness of the European agri-food industry and the sustainability of food	Consumer needs for safe, healthy and affordable food have to be addressed, while considering the impacts of food consumption behaviour and food and feed production on human health and the total ecosystem. Food and feed security and safety, the competitiveness of the European agri-food industry and the sustainability of food

production and supply will be addressed, covering the whole food chain and related services, whether conventional or organic, from primary production to consumption. This approach will contribute to (a) achieving food safety and security for all Europeans and eradication of hunger in the world (b) decreasing the burden of food- and diet-related diseases by promoting the shift towards healthy and sustainable diets, via consumer education and innovations in the food industry (c) reducing water and energy consumption in food processing, transport and distribution and (d) reducing food waste by 50 % by 2030.	production and supply will be addressed, covering the whole food chain and related services, whether conventional or organic, from primary production to consumption. This approach will contribute to (a) achieving food safety and security for all Europeans and eradication of hunger in the world (b) decreasing the burden of food- and diet-related diseases by promoting the shift towards healthy and sustainable diets, via consumer education and innovations in the food industry (c) reducing water and energy consumption in food processing, transport and distribution and (d) reducing food waste by 50 % by 2030 ***(e) The research activities shall also focus on a broad diversity of healthy, authentic, high quality and safe foods for all. Furthermore, they should concentrate on consumer wishes and competitive food processing methods that use less resources and additives and produce less by-products and greenhouse gases.***

Justification

There is need to recognize food production as one of the important determinants of health. The proposals should include cross cutting actions between the production and quality of food and public health. Encouraging consumers to adopt a diet based on fresh and whole foods, using processing technology with only minimal alterations to the intrinsic qualities, such as organic food processing, will have major benefits for public health.

Amendment 23
Specific Programme
Part III – Societal Challenges
2. Food Security, Sustainable Agriculture, Marine And Maritime Research And The Bio-Economy
2.2.1. Informed consumer choices (p.56)

Text of the Commission	Amendment
2.2.1. Informed consumer choices Consumer preferences, attitudes, needs, behaviour, lifestyle and education will be addressed, and communication between consumers and the food chain research community and its operators will be enhanced in order to improve informed choice, sustainable consumption and their	2.2.1. Informed consumer choices Consumer preferences, attitudes, needs, behaviour, lifestyle and education will be addressed, and communication between consumers and the food chain research community and its operators will be enhanced in order to improve informed ***and reflective*** choice, sustainable consumption

impacts on production, inclusive growth and quality of life, especially of vulnerable groups. Social innovation will respond to societal challenges, and innovative models and methodologies in consumer science will deliver comparable data and lay the ground for responses to Union policy needs.	and their impacts on production, inclusive growth and quality of life, especially of vulnerable groups. Social innovation will respond to societal challenges, and innovative models and methodologies in consumer science will deliver comparable data and lay the ground for responses to Union policy needs. ***The potential of new networks or alliances across actors and sectors in the agro-food supply chain – i.e. farmers, processors, retailers and urban consumers – especially in order to enhance proximate relations should be recognized.***

Justification

We believe the proposals need to recognize a variety of research and dissemination approaches based on a broad and inclusive understanding of innovation. Therefore much more transdisciplinary and participatory research is needed, which captures the innovative potential of the whole agriculture and food sector.

Amendment 24
Specific Programme
Part III – Societal Challenges
2. Food Security, Sustainable Agriculture, Marine And Maritime Research And The Bio-Economy
2.2.2. Healthy and safe foods and diets for all (p.56)

Text of the Commission	Amendment
2.2.2. Healthy and safe foods and diets for all Nutritional needs and the impact of food on physiological functions, physical and mental performance will be addressed as well as the links between diet, ageing, chronic diseases and disorders and dietary patterns. Dietary solutions and innovations leading to improvements in health and well-being will be identified. Chemical and microbial food and feed contamination, risks and exposures will be assessed, monitored, controlled and traced throughout the food and drinking water supply chains from production and storage to processing, packaging, distribution, catering, and preparation at home. Food safety inno- vations, improved risk communication tools and improved food	2.2.2. Healthy and safe foods and diets for all Nutritional needs and the impact of food on physiological functions, physical and mental performance will be addressed as well as the links between diet, ageing, chronic diseases and disorders and dietary patterns. Dietary solutions and innovations leading to improvements in health and well-being will be identified. Chemical and microbial food and feed contamination, risks and exposures will be assessed, monitored, controlled and traced throughout the food and drinking water supply chains from production and storage to processing, packaging, distribution, catering, and preparation at home. Food safety inno- vations, improved risk communication tools and improved food

safety standards will lead to enhanced consumer trust and protection in Europe. Globally improved food safety standards will also help to strengthen the competitiveness of the European food industry.	safety standards will lead to enhanced consumer trust and protection in Europe. Globally improved food safety standards will also help to strengthen the competitiveness of the European food industry. ***The link between healthy soils, healthy plants, healthy animals and healthy human food will be made.***

Justification

The proposal focuses on two societal challenges (health & wellbeing and sustainable agriculture) both human and animal health is primarily considered in the context of disease challenges and disease control and not health promotion. Food production should be recognized as one of the important determinants of health.

Amendment 25
Specific Programme
Part III – Societal Challenges
2. Food Security, Sustainable Agriculture, Marine And Maritime Research And The Bio-Economy
2.2.3. A sustainable and competitive agri-food industry (p.56)

Text of the Commission	Amendment
2.2.3. A sustainable and competitive agri-food industry The needs for the food and feed industry to cope with social, environmental, climate and economic change from local to global will be addressed at all stages of the food and feed production chain, including food design, processing, packaging, process control, waste reduction, by-product valorisation and the safe use or disposal of animal by-products. Innovative and sustainable resource-efficient processes and diversified, safe, affordable and high quality products will be generated. This will strengthen the innovation potential of the European food supply chain, enhance its competitiveness, create economic growth and employment and allow the European food industry to adapt to changes. Other aspects to address are traceability, logistics and services, socio-economic factors, the resilience of the food chain against environmental and climate risks, and the limitation of negative impacts of food chain activities and of changing diets and	2.2.3. A sustainable and competitive agri-food industry The needs for the food and feed industry to cope with social, environmental, climate and economic change from local to global will be addressed at all stages of the food and feed production chain, including food design, ***minimum or careful*** processing, packaging, process control, waste reduction, by-product valorisation and the safe use or disposal of animal by-products. Innovative and sustainable resource-efficient ***and resource-conserving*** processes ***as well as*** ~~and~~ diversified, safe, affordable and high quality products will be generated. This will strengthen the innovation potential of the European food supply chain, enhance its competitiveness, create economic growth and employment and allow the European food industry to adapt to changes. Other aspects to address are traceability, logistics and services, socio-economic factors, the resilience of the food chain against environmental and climate risks, and the

production systems on the environment.	limitation of negative impacts of food chain activities and of changing diets and production systems on the environment.

Justification

As resource efficiency consequently does not always lead to resource saving ("Rebound effect") there is a need for a paradigm change form 'Productivity' over 'Efficiency' to 'Sufficiency' technologies and to create centres for innovation within Europe's farming communities. There is a need to recognize and support the adaptive capacities of production systems in relation to environmental and climatic challenges as well as to economic and social changes should be supported.

Amendment 26
Specific Programme
Part III Societal challenges
6.1. Inclusive societies (p.76)

Text of the Commission	Amendment
Paragraph 2: In this context, the objective is to enhance social, economic and political inclusion, combat poverty, enhance human rights, digital inclusiveness, equality, solidarity and inter-cultural dynamics by supporting interdisciplinary research, indicators, technological advances, organisational solutions and new forms of collaboration and co-creation. Research and other activities shall support the implementation of the Europe 2020 strategy as well as other relevant Union foreign policies. Humanities research may have an important role to play in this context. Specifying, monitoring and assessing the objectives of European strategies and policies will require focused research on high-quality statistical information systems, and the development of adapted instruments that allow policy makers to assess the impact and effectiveness of envisaged measures, in particular in favour of social inclusion.	Paragraph 2: In this context, the objective is to enhance social, economic and political inclusion, combat poverty, enhance human rights, digital inclusiveness, equality, solidarity and inter-cultural dynamics by supporting interdisciplinary research, indicators, technological advances, organisational solutions and new forms of collaboration and co-creation. Research and other activities shall support the implementation of the Europe 2020 strategy as well as other relevant Union foreign policies. ***Social sciences and*** Humanities research ~~may~~ ***will*** have an important role to play in this context. Specifying, monitoring and assessing the objectives of European strategies and policies will require focused research on high-quality statistical information systems, and the development of adapted instruments that allow policy makers to assess the impact and effectiveness of envisaged measures, in particular in favour of social inclusion.

Amendment 27
Specific Programme
Part III Societal challenges
6.1.2. Building resilient and inclusive societies in Europe (p.76-77)

Text of the Commission	Amendment
Understanding social transformations in Europe requires the analysis of changing democratic practices and expectations as well as of the historical evolution of identities, diversity, territories, religions, cultures and values. This includes a good understanding of the history of European integration. Besides, understanding the strains and opportunities arising from the uptake of ICT, both at individual and collective levels, is important in order to open new paths of inclusive innovation. It is essential to identify ways to adapt and improve the European welfare systems, public services and the broader social security dimension of policies in order to achieve cohesion and promote more social and economic equality and intergenerational solidarity. Research will analyse how societies and politics become more European in a broad sense through evolutions of identities, cultures and values, the circulation of ideas and beliefs and combinations of principles and practices of reciprocity, commonality and equality. It will analyse how vulnerable populations can participate fully in society and democracy, notably through the acquisition of various skills and the protection of human rights. The analysis of how political systems respond or not to such social evolutions and themselves evolve will thus be central. Research will also address the evolution of key systems that provide underlying forms of social bonds, such as family, work, education and employment and help combat poverty. It will take into account the importance of migration and demography in the future development of European policies.	Understanding social transformations in Europe requires the analysis of changing democratic practices and expectations as well as of the historical evolution of identities, diversity, territories, religions, cultures and values. This includes a good understanding of the history of European integration. Besides, understanding the strains and opportunities arising from the uptake of ICT, both at individual and collective levels, is important in order to open new paths of inclusive innovation. It is essential to identify ways to adapt and improve the European welfare systems, public services and the broader social security dimension of policies in order to achieve cohesion and promote more social and economic equality and ***intra- and*** intergenerational solidarity. Research will analyse how societies and politics become more European in a broad sense through evolutions of identities, cultures and values, the circulation of ideas and beliefs and combinations of principles and practices of reciprocity, commonality and equality. It will analyse how vulnerable populations can participate fully in society and democracy, notably through the acquisition of various skills, ~~and~~ the protection of human rights ***and the promotion and use of participatory deliberative policy processes***. The analysis of how political systems respond or not to such social evolutions and themselves evolve will thus be central. Research will also address the evolution of key systems that provide underlying forms of social bonds, such as family, work, education and employment and help combat poverty. It will take into account the importance of migration and demography in the future development of European policies.

Amendment 28
Specific Programme
Part III Societal challenges
6.2.1. Strengthening the evidence base and support for the Innovation Union and European Research Area (p.79), paragraph 1

Text of the Commission	Amendment
Paragraph 1: In order to assess and prioritise investments and strengthen the Innovation Union and the European Research Area, the analysis of research and innovation policies, systems and actors in Europe and third countries as well as the development of indicators, data and information infrastructures will be supported. Forward-looking activities and pilot initiatives, economic analysis, policy monitoring, mutual learning, coordination tools and activities and the development of methodologies for impact assessment and evaluations will also be needed, exploiting direct feedback from research stakeholders, enterprises, public authorities and citizens.	Paragraph 1: In order to assess and prioritise investments and strengthen the Innovation Union and the European Research Area, the analysis of research and innovation policies, systems and actors in Europe and third countries as well as the development of indicators, data and information infrastructures will be supported. Forward-looking activities and pilot initiatives, economic analysis, policy monitoring, mutual learning, coordination tools and activities and the development of methodologies for impact assessment and evaluations will also be needed, exploiting direct feedback from research stakeholders, enterprises, public authorities, ***civil society organisations*** and citizens.

Amendment 29
Specific Programme
Part III Societal challenges
6.2.1. Strengthening the evidence base and support for the Innovation Union and European Research Area (p.79), paragraph 4

Text of the Commission	Amendment
To implement the Innovation Union initiative, there is also a need to support (private and public) market-driven innovation in view of enhancing the innovation capacity of firms and fostering European competitiveness. This will require improving the overall framework conditions for innovation as well as tackling the specific barriers preventing the growth of innovative firms. Powerful innovation support mechanisms (for e.g. improved cluster management, public-private partnerships and network cooperation), highly specialised innovation support services (on e.g. IPR	To implement the Innovation Union initiative, there is also a need to support (private and public) market-driven ***as well as non market-driven*** innovation in view of enhancing the innovation capacity of firms ***and of civil society organisations*** and fostering European competitiveness ***as well as social, economic and ecological resilience***. This will require improving the overall framework conditions for innovation as well as tackling the specific barriers preventing the growth of innovative firms ***responding to the account of sustainability***. Powerful innovation support mechanisms

management/exploitation, innovation management, networks of procurers) and reviews of public policies in relation to innovation will be supported. Issues specific to SMEs will be supported under the specific objective 'Innovation in SMEs'.	(for e.g. improved cluster management, public-private partnerships and network cooperation), highly specialised innovation support services (on e.g. IPR management/exploitation, innovation management, networks of procurers) and reviews of public policies in relation to innovation will be supported. Issues specific to SMEs will be supported under the specific objective 'Innovation in SMEs'.

Amendment 30
Specific Programme
Part III Societal challenges
6.2.3. Ensuring societal engagement in research and innovation (p.80)

Text of the Commission	Amendment
6.2.3. Ensuring societal engagement in research and innovation Enabling all societal actors to interact in the innovation cycle increases the quality, relevance, acceptability and sustainability of innovation outcomes by integrating society's interests and values. […] A scientifically literate, responsible and creative society will be nurtured through the promotion of and research on appropriate science education methods.	***6.2.3. Science with and for society*** Enabling all societal actors to interact in the innovation cycle increases the quality, relevance, acceptability and sustainability of innovation outcomes by integrating society's interests and values ***(responsible research and innovation)***. […] A scientifically literate, responsible and creative society will be nurtured through the promotion of and research on appropriate science education methods. ***It also includes participatory research where scientists and CSOs co-produce protocols and knowledge in order to respond to society needs.***

Justification

CSOs are today actively taking part in research and innovation activities. The co-production of knowledge with CSOs is an emerging research paradigm, which potential should be fully used. Activities that have started under FP6 and FP7 should be continued and reinforced.

Amendment 31
Specific Programme
Part III Societal challenges
6.3. Secure societies, paragraph 4, p.81

Text of the Commission	Amendment

Paragraph 4: Activities will follow a mission-oriented approach and integrate the relevant societal dimensions. They will support the Union's policies for internal and external security, defence policies, and the relevant new provision of the Lisbon Treaty, and ensure cyber security, trust and privacy in the Digital single Market.	Paragraph 4: Activities will follow an ~~mission-oriented~~ approach ~~and~~ which ~~integrate~~ frames the research within the ~~relevant societal dimensions~~ social policy concerns at the root of the EU's response to serious acts of terrorism. They will support the Union's policies for internal and external security, ~~defence~~ policies, and the relevant new provision of the Lisbon Treaty, and ensure cyber security, trust and privacy in the Digital Single Market.'

Justification

If research is 'mission-oriented' it will immediately focus on specific technical and technological responses to specific perceived threats. If research is first and foremost framed within the social policy concerns, then the question of which technology comes second. And whilst we are not arguing that there should be no technological research – some is clearly necessary – the primary approach to deciding which technologies should be the focus of research should be determined by the social policy objectives and not the other way around. This, too, would help in ensuring that the agenda is set by those who need to ensure security and not those who have a vested interest in developing specific technologies, often with a dual-use aim in mind.

Amendment 32
Specific Programme
Part III Societal challenges
6.3. Secure societies
add new 6.3.2. after 6.3.1. p.81

Text of the Commission	Amendment
	6.3.2 (new): Identify the reasons why people become radicalized into violence and effective social policy measures to counter these reasons. ***The ambition is to conduct research, which provides both evidence and social policy proposals which will be effective in preventing the radicalization into violence and channelling social discontent into peaceful, democratic protest and dialogue.***

Amendment 33
Specific Programme
Part III Societal challenges
6.3. Secure societies

add new 6.3.5. after 6.3.4. p.82

Text of the Commission	Amendment
	6.3.5 (new): Research, through engagement with citizens and elected representatives, the degree of risk society is willing to take in return for fewer intrusive counterterrorism measures. ***This requires the systematic engagement in dialogue – framed and conducted in a scientific context – to establish the limits to risk and the limits to intrusion citizens are willing to accept and the trade-offs that this necessitates. This research should be geared to providing a basis for evidence-based decision-making and for policy dialogue that reflects social realities.***

Amendment 34
Specific Programme
Part III Societal challenges
6.3. Secure societies
add new 6.3.6. after old 6.3.5. p.82

Text of the Commission	Amendment
	6.3.6 (new): Research the contribution that restorative justice processes can make in the 'prevent' and 'respond' strands of the counterterrorism strategy. ***Research should include the degree to which victims of terrorist attacks are able to engage with actual or potential offenders in restorative justice processes to aid mutual understanding of both the root causes of terrorism and the impact this has on victims; research should also look at the impact restorative justice processes can have on the prevention of radicalization into violence on the part of 'at risk' groups; finally, such research should investigate the contribution restorative justice can make to the healing of communities affected by serious terrorist crime.***