

# Norwegian position paper on the Common Strategic Framework for EU Research and Innovation Funding

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## Introduction

Further to the position paper submitted on December 21<sup>st</sup> 2010 concerning the 8<sup>th</sup> framework programme, the following comments present Norway's response to the Commission's Green Paper on the Common Strategic Framework for EU Research and Innovation Funding (CSF)<sup>1</sup>.

Research and innovation (R&I) play a decisive role in Europe's effort to further establish itself as a knowledge-based economy, and in reaching the Europe 2020 objectives of smarter, greener and more inclusive growth. Consequently, the implementation of a Common Strategic Framework (CSF) should be the first of several steps towards a more coordinated effort pertaining to the "knowledge triangle". Norway remains strongly committed to participation in European research cooperation, and recognizes the significance of crafting a CSF with a long-term perspective. As an associated country, the decision to participate in the next framework programme will be subject to Parliament's approval at a later stage.

The CSF should be a key instrument in implementing the European Research Area (ERA). ERA activities, in particular ESFRI and the Joint Programming Initiatives, must therefore be firmly integrated into the new framework. Furthermore, the CSF should be a major contributor to achieving the objectives set forth in the Communication on the Innovation Union. Europe's goal must be to focus on further developing effective funding instruments for R&I, underpinned by mechanisms which transform scientific and technological progress into added value for society as a whole.

The objectives of the Europe 2020 strategy on economic growth cannot be met without complementary efforts at national and European level. This requires a joint effort to tackle societal challenges, involving a combination of an excellent science base, a high level of industry mobilization, and SME growth. Participation must be attractive for researchers and industry, as well as investors. This, in turn, requires radical simplification and a balanced portfolio of programmes that cover research, innovation and education.

The CSF should focus on those areas where there is a clear advantage of cooperation and coordination at the European level, and where European states lack sufficient critical mass and capacity.

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<sup>1</sup> Please note that this document is structured in accordance with the captions of the Green Paper, and does not present the Norwegian comments in any prioritized order.

## 1) Working together to deliver on Europe 2020

### A comprehensive approach – seeing Europe’s diversity as an asset

Europe is diverse, both in terms of human resources and in terms of the sectoral, regional and national preconditions for policy intervention. Diversity should be considered an advantage for succeeding in a globalized world. This is consistent with recent empirical research, which has found that industrial diversity serves as an enabler for innovation (*cf.* the report on ‘Constructing Regional Advantage’ which was funded by the Commission).

#### *Recommendations:*

- *CSF should emphasize mobilization of competences and resources on a broad basis.*
- *Programmes should be designed to function as venues for the creation and exploration of new technological linkages, across different sectors and academic fields.*

The interim evaluation of the FP7 states that further steps should be taken to increase female participation in the programme. Furthermore, the genSET report states that increased diversity in research teams correlates positively with the quality of research. Thus, we believe that gender diversity is an important factor in fostering excellent and innovative research, for strengthening the science base and for increasing competitiveness. We need to take full advantage of the total human resource base in Europe. In order to tackle societal challenges and increase competitiveness, a gender-diverse perspective is of great importance.

#### *Recommendations:*

- *All project proposals should, as a general rule, present plans for gender diversity. The gender action plans from FP6 might serve as a model.*
- *The Commission should urge participating institutions to align with the recommendations from the genSET report.*
- *Mutual learning actions, such as OMC, are deemed relevant in this regard.*

### Linkages towards 3<sup>rd</sup> countries of strategic importance

Considering the decisive impact of globalization on the economy of most countries in Europe, it is important that the future CSF contributes to enhancing linkages towards 3<sup>rd</sup> countries which possess research communities and industrial capabilities complementary to those within Europe. The CSF should develop strategic and long term policies, including greater coherence with the work of SFIC. This will primarily pertain to the world’s leading R&I countries, such as the USA and Japan, but also to BRICS and other countries which are rapidly developing advanced scientific and industrial capabilities.

#### *Recommendation:*

- *A more strategic approach to international cooperation on certain topics with selected countries should be pursued, taking into account the work of the SFIC group.*

## **Towards a trust-based administrative and financial system – simplification seen from the participants’ perspective**

Norway supports the Commission’s work on further simplification of the administrative and financial procedures, whilst keeping in mind the balance of streamlining mechanisms for the cause of simplification and the need for tailor-made solutions for specific actors. Simplification should have a clear participants’ perspective. Administrative and financial systems should be based on trust and predictability. We would particularly like to see recognition of usual accounting practices when requesting reimbursement for average personnel costs, as adopted by the Commission on January 24<sup>th</sup> this year. Likewise, we would see the use of specific national auditing standards as an important contribution to simplification.

### *Recommendation:*

- *Full acceptance of usual accounting practices when requesting reimbursement for average personnel costs, as well as acceptance of national auditing standards.*

## **2) Tackling societal challenges**

Norway acknowledges the importance of identifying those common challenges that should be addressed at the European level. These macro challenges are often complex, both in terms of their cause, effect and solution. The JPIs are suitable instruments for tackling societal challenges, in addition to thematic programmes such as the current Cooperation programme in FP7.

### **Addressing societal challenges which should be tackled at European level**

The CSF should, as stated above, fund R&I that address societal challenges that clearly benefit from cooperation on the European level . Countries participating in the CSF should be involved at an early stage when these challenges are selected and defined. Some of these challenges might have an impact across European borders and beyond, such as climate including Arctic research, marine and maritime issues, etc. Others are likely to be common for all European countries such as value creation, societal adaptability due to changing industry structure in Europe, energy supply including renewable energy, as well as the ageing population or environmental degradation. Many of these challenges are also subject to concerted actions through the JPIs, such as the JPI on Healthy and Productive Seas and Oceans, as well as the SET-plan. The Commission should play a role in this regard, both in co-funding the JPIs, and in stimulating activities that support the development of the JPIs.

In addition, it is essential to also include key technologies that will contribute to tackling future and emerging challenges, and that will strengthen competitiveness and innovation. Relevant technologies in this respect are ICT, nanotechnology and biotechnology.

### *Recommendations:*

- *The implementation of the JPIs should be integrated in the CSF, and the Commission should have a co-funding role in these programmes.*
- *The Commission should stimulate the implementation of the JPIs and of the SET-plan.*

### **Balance between curiosity-driven and agenda-driven activities**

The programmes and activities tackling societal challenges should balance between curiosity-driven research and agenda-driven activities. In many cases it is curiosity-driven, basic research, such as that funded by the ERC, that leads to innovative solutions to societal needs. However, it is important to link this up to agenda-driven activities, initiated and formulated by stakeholders such as researchers, industry, societal actors, policy-makers and more. We therefore emphasize the significance of avoiding overly specified calls in all programmes and activities. In several calls in the FP7, there are examples of topics where only one project is funded per topic. In some cases this may weaken the development of alternative and competing ideas. It is important to leave room for critical R&I, as well as R&I in support of current policy development.

*Recommendation:*

- *Overly specified calls should be avoided.*

### **A holistic approach to societal challenges – need for increased interdisciplinarity**

The science base in Europe should arise from a combination of technological solutions and an understanding of how to make use of these in society and in support for policy development. Therefore, a comprehensive and holistic approach to tackling societal challenges is essential. This involves increased interdisciplinarity, including the social sciences and the humanities. However, we realize that fostering interdisciplinarity poses a challenge due to lack of sufficient meeting points between various research groups from different disciplines and thematic fields. The CSF should therefore develop programmes which create such meeting points. The JPIs will present a suitable instrument for interdisciplinarity.

*Recommendation:*

- *The CSF should foster interdisciplinarity, for example through the JPIs.*

## **3) Strengthening Europe's science base and the European Research Area**

Norway remains determined to be an active participant in the development and implementation of ERA. We support the integration of ERA in the CSF. The Commission should have a funding role in important initiatives such as the JPIs, as well as being an active partner in establishing activities related to these and the research infrastructures on the ESFRI roadmap.

## Continued support for groundbreaking research through the ERC

Norway supports the strengthening of excellent basic research at the European level, especially through the European Research Council. An open and competitive arena for excellent research is required in order to strengthening the science base in Europe and for the long-term effort to foster innovation and competitiveness. The ERC could be expanded to also fund bottom-up, collaborative research, but not at the expense of the individual grants. In addition to an enhanced commitment to the ERC, we recommend a strengthening of basic research linked to thematic areas such as the Future and Emerging Technologies instrument in FP7.

*Recommendation:*

- *The ERC should be strengthened in the next framework programme.*

## Bottom-up versus top-down initiatives

European experience with bottom-up innovation programmes such as Eurostars has been good, and should be continued and expanded. The nature of research and innovation is unpredictable. This is confirmed by major innovation breakthroughs not resulting from any European governmental initiatives (*i.e.* Web 2.0). Such experiences indicate that a substantial share of R&I funding should be reserved for bottom-up processes, supplementing funding targeting the build-up of critical mass research capacity in selected enabling technology fields. We suggest the use of open arenas both for research and innovation. In particular, there is a need for new, bottom-up collaborative innovation programmes (open innovation programmes) with the objective to enhance bottom-up innovation and creativity in European value-chains.

*Recommendations:*

- *Bottom-up activities should play a larger role in the CSF, including open arenas both for research and innovation.*
- *Initiate new bottom-up innovation programmes, opening up for funding of open innovation collaboration schemes between businesses in value-chains and between businesses and research organizations.*

## European Research Infrastructures

The development of research infrastructures (RI) will contribute to increasing Europe's competitiveness in excellent and groundbreaking research and innovation. The variable geometry presented by the ERA initiative on European research infrastructures through the European Strategic Forum on Research Infrastructures (ESFRI) is a valuable tool for pooling national resources on strategic and prioritized RIs. This process is an opportunity to establish large scale RIs that individual states do not have the capacity to do on their own. The Commission should take a role in ensuring open, trans-national access for individual researchers to these RIs in order to attract the best researchers to European facilities.

*Recommendation:*

- *The CSF should continue the effort to ensure open, trans-national access for individual researchers to large-scale European RIs.*

## **The role and value of education**

We believe that the role and value of research in higher education as well as higher education itself is underestimated in the Green Paper on the CSF. There is an important mutual relationship between education, research and innovation. Scientific excellence is the basis of an effective innovation system, and innovation brings forth new knowledge that has an impact on our educational systems. Thus, the education system serves not only the purpose of diffusing research-based knowledge into society, but also the purpose of diffusing new knowledge developed by industry into new usages. We also need our educational institutions to foster entrepreneurial skills in cooperation with industry and other societal actors. The European Institute of Innovation and Technology has been established to stimulate this type of collaboration, and it is important that the role and instruments of EIT are thoroughly assessed.

*Recommendation:*

- *The link of research and innovation to higher education should be better defined in the CSF.*

## **Marie Curie Actions**

Marie Curie Actions are important in fostering attractive research careers and mobility, both international and trans-sector mobility. The MCAs are vital for stimulating increased cooperation between industry and academia. We support the newly established industrial PhD, and believe this concept should continue in the next framework programme. We also suggest that the MCAs could be used more to stimulate increased international cooperation beyond Europe, also trans-sector international cooperation.

*Recommendations:*

- *The European industrial PhD should continue in the next framework programme.*
- *The MCAs could be used more to stimulate increased international cooperation with countries outside Europe.*

## **Social systems as drivers for innovation – the importance of social sciences and the humanities**

Social systems are important drivers for innovation and change. Technological development and innovation interact with social, legal and cultural systems. Social sciences and the humanities raise fundamental questions that challenge our values and beliefs, and the different factors forming our identities. We argue both for maintaining a specific place for this research area in a new framework programme, and for finding good ways of integrating them in the various other activities of the programme, like societal challenges such as energy, ICT, climate issues, etc.

One possible mechanism which we recommend is that the Commission considers the integration of social science research into technological development projects, including legal and ethical issues raised by technological developments. This will increase our knowledge of the link between research and innovation, strengthen the relevance of SSH research and potentially form part of the basis for innovation in services.

*Recommendations:*

- *SSH should be integrated into the CSF, while also being pursued as a separate research programme.*
- *Social science research should be integrated into technological development projects*

#### **4) Strengthening competitiveness**

In line with what we have stated above, the CSF should focus on those innovation activities that benefit clearly from cooperation and coordination at the European level. European innovation policy instruments ought to be well integrated and complementary with national and regional innovation policies. Innovation policy instruments in CSF should therefore focus on those innovation projects of international commercial reach that have insufficient funding from national sources. In addition to that, CSF should also explore the possibility to initiate joint innovation efforts with the purpose to exploit synergies and complementarities between national innovation funding sources. The ERA-NET and INNOAction coordination models for joint innovation calls should be further explored.

There is a wide variety of relevant innovation processes, i.e. open vs. closed innovation, incremental vs. disruptive innovation, and R&D-based vs. non-R&D based innovation. The design of the instruments in support of innovation needs to reflect this. Having said that, it is important that the CSF instruments are logically inter-connected, i.e. that they have complementary but distinct roles in addressing critical weaknesses in the European innovation system.

The CSF should thus contribute to good cooperation and solid networks between industry, universities and research organizations, *cf.* the “knowledge triangle”. The knowledge triangle should be supported more as a set of mutual relationships which enable interactive learning and knowledge diffusion, and less as a linear transfer processes from one sphere (universities) to others (research organizations, and then industry).

#### **Service sector innovation and non-R&D innovation**

The report by the Aho group from 2006 points out that demand side limitations are particularly acute in the service sector. Innovation in the service sector often relies on close customer dialogue and quick interaction between development and consumption. One could argue that existing EU funding contains a certain bias in favour of i) so-called high-tech industrial sectors, and ii) ‘upstream’ university-industry linkages, which in turn translate into a bias against innovation in services. To improve the balance one could envisage specific service sector programmes focusing on collaboration between lead users and service providers. Similarly, we

believe that initiatives which force stronger linkages between SSH, technology and natural sciences are important to strengthen the academic foundation for advanced service innovation.

*Recommendations:*

- *Service sector and non-R&D innovation should be stimulated through programmes focusing on collaboration between lead users and service providers/producers; and through the establishment of innovation-friendly markets more generally.*
- *Increased awareness of the role of education in diffusing knowledge in society is vital to support service innovation.*
- *Stronger links between SSH, technology and natural sciences will contribute to the build-up of a stronger foundation for innovation in services.*

## **SME growth and internationalization**

In order to promote structural change in the economy, it is important to stimulate growth of new firms into international industrial actors. Unfortunately, many SMEs find it difficult to participate in EU funded programmes, because a certain size, R&D intensity and established networks are required to successfully engage in complex collaborative work. We believe that the propensity to engage in collaborative research is linked to intellectual property (i.e. patents). Thus, large R&D conducting enterprises with well-defined patent portfolios may have a clear advantage over SMEs with respect to cooperation in general, and participation in EU funded projects in particular.

Consequently, initiatives targeting SME mobilization should be designed to overcome the limitations they have in complex multi-partner projects. The strong focus of traditional funding schemes on large project consortia, high-tech industries and university-industry linkages suggest that dedicated SME funding tools are necessary to ensure SME mobilization. This type of funding should also be made for smaller project consortia. In addition, initiatives that reduce partner search and project application costs on the side of SMEs should also be considered. This can be done by strengthening the Enterprise Europe Network.

At the same time, we caution against an excessive singular focus on SMEs. We know from statistics that large companies do more research and development than small companies. This type of research, by means of spill-over effects, and increasingly, external technology commercialization strategies, form a main share of the foundation for new firm formation. Large companies are also important customers to innovative SMEs. Therefore, if Europe is to reach the three percent R&D target, there is a need to balance the focus on small enterprises with a focus on medium-sized enterprise growth and on large companies with adequate resources to pursue large in-house R&D activity.

*Recommendations:*

- *The CSF must acknowledge the limitations for SMEs in participating in complex, multi-partner project work. Dedicated SME funding tools are required to ensure sufficient mobilisation.*
- *The CSF should fund R&I where SMEs and larger companies naturally have incentives to collaborate; for example, projects with large companies and their SME suppliers.*