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Volume 1

COMMISSION STAFF WORKING PAPER

EXECUTIVE SUMMARY OF THE IMPACT ASSESSMENT

Accompanying the

Communication from the Commission 'Horizon 2020 - The Framework Programme for Research and Innovation';

Proposal for a Regulation of the European Parliament and of the Council establishing Horizon 2020 – the Framework Programme for Research and Innovation (2014-2020);

Proposal for a Council Decision establishing the Specific Programme implementing Horizon 2020 – The Framework Programme for Research and Innovation (2014-2020);

Proposal for a Council Regulation on the Research and Training Programme of the European Atomic Energy Community (2014-2018) complementing the Horizon 2020 – The Framework Programme for Research and Innovation

{COM(2011) 808 final}
{SEC(2011) 1427 final}

EXECUTIVE SUMMARY

1. PROBLEM DEFINITION

The problem that requires action

In this the second decade of the 21st century, on the backdrop of a changing world order, Europe faces a series of crucial challenges: low growth, insufficient innovation, and a diverse set of environmental and social challenges. Europe 2020, the EU's comprehensive long-term strategy, recognizes these challenges and argues that Europe faces a moment of transformation.

The solutions to all of these problems are linked. It is precisely by addressing its environmental and social challenges that Europe will be able to boost productivity, generate long-term growth and secure its place in the new world order.

The key problem driver

Science and innovation are key factors that will help Europe to move towards smart, sustainable, inclusive growth, and along the way to tackle its pressing societal challenges. But Europe suffers from a number of critical weaknesses in its science and innovation system which contribute to the above problem.

The key driver of the problems is Europe's structural innovation gap: compared to its competitors, Europe's patenting performance is weak and it lags behind in developing new products, new processes and new services. To boost productivity and growth, it is critically important to generate breakthrough technologies and translate them into new products, processes and services. Europe has taken an early technological lead in many key technology areas, but in the face of growing competition its advantage is tenuous, and has not translated into an innovative and competitive lead. A timely and targeted European policy is needed for bridging the "valley of death" if Europe is to remain competitive.

The underpinning structural problem drivers

This key driver is underpinned by the following structural problem drivers:

- Insufficient contribution of research and innovation to tackling societal challenges
- Insufficient technological leadership and innovation capability of firms
- The need to strengthen the science base
- Insufficient cross-border coordination

The policy context

The EU recognizes the urgency of the situation, and is responding with new policy strategies. Europe 2020 and the Innovation Union initiative have clearly signalled the EU's intention to rise to the challenge. Europe 2020 focuses on achieving smart growth, while the Innovation Union sets out measures to contribute to this aim, including increasing investment, refocusing R&D and innovation policy on major societal challenges, and strengthening the links from frontier research right through to commercialisation. In addition, the European Council has

called for a completion of the European Research Area by 2014 in order to create a single market for knowledge, research and innovation, which will require both funding and non-funding measures.

A key challenge for the EU in implementing its strategy will be to build a next-generation expenditure programme which matches this level of ambition in both its budget and its aspirations.

2. ANALYSIS OF SUBSIDIARITY

EU right to act

The EU's right to act in this area is set out in the Treaty on the Functioning of the European Union and its objectives are cited under Article 179 and Article 180 (for research) and in Article 173 for the competitiveness of industry. The European Atomic Energy Community Programme (2014-2018) complementing Horizon 2020 has its legal basis in the Euratom Treaty (see in particular Article 7).

The need for public intervention, subsidiarity and European Added Value

There is a clear case for public intervention to tackle the problems above. Markets alone will not deliver European leadership. Large-scale public intervention through both supply and demand measures will be needed to overcome the market failures associated with systemic shifts in basic technologies.

However, Member States acting alone will not be able to make the required public intervention. Their investment in research and innovation is comparatively low, is fragmented and suffers from inefficiencies - a crucial obstacle when it comes to technological paradigm shifts. It is difficult for Member States on their own to accelerate technology development over a sufficiently broad portfolio of technologies, or to tackle the lack of transnational coordination.

As highlighted in the proposal for the next Multi-annual Financial Framework, the EU is well positioned to provide added value, through measures to coordinate national funding, which restructure more efficiently the European research and innovation landscape, and through implementing collaborative research and mobility actions, which generated critical mass.

Experience from previous programmes

A next generation programme should build on the experience from past Framework Programmes for Research and Technological Demonstration (FP), the Competitiveness and Innovation Programme (CIP), and the European Institute of Technology and Innovation (EIT) (see Annex 1 for a detailed analysis). Over several decades, EU programmes have funded Europe's best researchers and institutes, and produced large-scale structuring effects, scientific, technological and innovation impacts, micro-economic benefits, and downstream macro-economic, social and environmental impacts for all EU Member States.

However, important lessons can be learned from the past, including academic insights and stakeholder feedback (Chapter 1). Research, innovation and education should be addressed in a more coordinated manner and research results better disseminated and valorised into new products, processes and services. The intervention logic should be more focused, concrete, detailed and transparent. Programme access should be improved and participation increased from start-ups, SMEs, industry, less performing Member States and extra-EU countries. Monitoring and evaluation need to be strengthened.

3. OBJECTIVES

In order to tackle the problems identified above, the following objectives have been set.

The general objective of the next EU spending programme for research and innovation will be to contribute to the objectives of the Europe 2020 strategy and to the completion of the European Research Area.

In order to achieve this general objective, there are five specific objectives:

- *Strengthen Europe's science base by improving its performance in frontier research, stimulating future and emerging technologies, encouraging cross-border training and career development, and supporting research infrastructures*
- *Boost Europe's industrial leadership and competitiveness through stimulating leadership in enabling and industrial technologies, improving access to risk finance, and stimulating innovation in SMEs*
- *Increase the contribution of research and innovation to the resolution of key societal challenges*
- *Provide customer-driven scientific and technical support to Union policies*
- *Help to better integrate the knowledge triangle - research, researcher training and innovation*

These objectives, and a number of operational objectives, are detailed in chapter 3 of the report.

4. POLICY OPTIONS

The options considered were designed and evaluated in relation to stakeholders' views, the problems and the objectives above. They take into account some key parameters set out in the EU budget review: the need to focus on instruments with proven European added value, to develop a more results-driven approach, to leverage other public and private funding, and to design EU instruments that work together in a single strategic framework.

This Impact Assessment considers four policy options:

Business-as-usual (BAU): maintaining the current plurality of programmes for R&D and innovation: In this scenario, the three main existing EU sources of funding for research and innovation - FP7, the innovation-related part of the CIP, and the EIT - are simply carried forward into the next multiannual financial framework as separate instruments, and in their current formats.

Improved business-as-usual: loose integration and stand-alone simplification (BAU+): In this scenario, FP7, the innovation-related part of the CIP, and the EIT remain separate instruments and retain their current formats but are put together under a 'common roof'; loose coordination mechanisms are established between them. The implementing modalities of each programme are simplified separately, but no single set of simplified rules, funding schemes, support services etc. applies across the three programmes.

Horizon 2020 - Establishing a single strategic framework for Research and Innovation: In this scenario, FP7, the innovation-related part of the CIP, and the EIT are fully integrated into a single unitary framework: Horizon 2020, The Framework Programme for Research and

Innovation. The current separation between research and innovation activities is eliminated. Horizon 2020 sets out three strategic policy objectives: raising and spreading the levels of excellence in the research base; tackling major societal challenges; and maximising competitiveness impacts of research and innovation. Horizon 2020 is structured around three priorities which link directly to these aims. The selection of actions and instruments is driven by policy objectives and not by instruments. Horizon 2020 also integrates a major simplification and standardisation of funding schemes and implementing modalities across all areas.

Bring to an end EU level R&D financing and re-nationalise R&D and innovation policies: The renationalisation option consists of discontinuing EU research and innovation programmes and of spending those funds at Member State level. A discontinuation option, which is assessed to a lesser extent, consists of discontinuing EU research and innovation programmes and not spending those funds at Member State level either.

5. COMPARISON OF OPTIONS

How the options were compared

The four policy options were compared along a range of key parameters relevant to assessing public intervention in research and innovation:

- clarity of focus of the intervention
- quality of the intervention logic
- extent to which the intervention achieves critical mass at both programme and project level
- extent of flexibility associated with the intervention
- extent to which it promotes excellence
- accessibility and reach
- degree of stakeholder support
- impact on SMEs
- extent to which the intervention promotes knowledge triangle and broader horizontal policy coordination
- impacts of the intervention – structuring, leverage, innovation, economic and competitiveness, social, environmental, and EU policy impacts
- cost-effectiveness

The comparison along these parameters was done using a range of evidence including: ex-post evaluations; foresight studies; analyses of FP and Community Innovation Survey data; science, technology and innovation indicators; econometric modelling; reviews of academic literature; competitiveness studies; expert hearings etc.

Comparison of options and assessment of cost-effectiveness

Horizon 2020 emerges as the preferred option. It was also endorsed as the preferred option in the 29 June 2011 Commission Communication on the next Multi-annual Financial Framework 2014-2020. This option has clarity of focus and a well-developed intervention

logic. Like the BAU option, it achieves critical mass at programme and project level. It also enhances the promotion of scientific and technological excellence and allows for more flexibility. Levels of administrative burden would be reduced drastically, significantly improving accessibility and increasing stakeholder support. Knowledge triangle and broader policy coordination are enhanced through a single framework seamlessly integrating research, education and innovation aspects and explicitly defining links with other policies. SMEs would benefit in particular from administrative simplification and closer knowledge triangle coordination particularly concerning research and innovation finance. S&T and innovation impacts would be enhanced through the seamless support from idea to marketable product, stronger output orientation, better dissemination of results, clearer technological objectives, enhanced industrial and SME participation and thus better leverage, the funding of demonstration activities, and innovation financing and support. Enhanced scientific, technological and innovation impacts would translate into larger downstream economic, competiveness and social impacts (see Box), as well as environmental and EU policy impacts. Horizon 2020 also maximises cost-effectiveness (see chapter 5). On the cost side, its far-reaching integration, simplification and harmonisation will reduce costs for the Commission and for applicants. At the same time, the Horizon 2020 option maximises the benefits through a close integration of research, innovation and training. This will provide the best approach for ensuring that investments made at EU level in research projects are fully valorised into patents and new products, processes and services.

Quantifying economic, competitiveness and social impacts

The enhanced scientific, technological and innovation impacts produced by Horizon 2020 should translate into larger downstream economic and competitiveness impacts. It is estimated that by 2030 it could generate the following impacts over and above the BAU option:

- Horizon 2020 will stimulate Europe's economic growth, generating 0.53 percent of extra GDP.
- It will also enhance Europe's competitiveness, increasing its exports by 0.79 percent, and reducing its imports by 0.1 percent.
- It will create jobs for Europe's citizens, increasing employment by 0.21 percent.

Under the renationalisation and discontinuation options, the effects would be weaker compared with the BAU option by 2030:

- Renationalisation would reduce GDP by 0.04 percent, cut 0.06 percent off exports, have no effect for imports, but would lead to a job loss of 0.01 percent.
- Discontinuation would shave 0.39 percent off GDP, decrease exports by 0.58 percent, and raise imports by 0.05 percent, while producing job losses of 0.19 percent.

Comparing the positive effects of the Horizon 2020 option with the negative effects of the discontinuation option demonstrates its true added value:

- By 2030, it is expected to generate an extra 0.92 percent (0.53+0.39) of GDP, 1.37 percent (0.79+0.58) of exports, -0.15 percent (0.10+0.05) of imports, and 0.40 (0.21+0.19) percent of employment.

The BAU+ option would allow for some alignment of objectives and achieve a certain degree of simplification producing positive effects on administrative burden, accessibility, reach,

structuring effects, leverage effects, innovation impacts and downstream economic, social, environmental and EU policy impacts.

In the case of the renationalisation option, it would be more difficult to orient Europe's research and innovation programmes on commonly agreed objectives while critical mass and excellence would be compromised. The quality of the intervention logic, the level of flexibility, accessibility and reach, and the extent of knowledge triangle and broader horizontal policy coordination could in theory be enhanced more easily at national or regional level though this is not the case now and would involve important trade-offs. This would compromise the return on investment in research as scientific, technological and innovation impacts would be reduced, which would translate into smaller economic and competitiveness, social, environmental and EU policy impacts.

A summary of the comparison of options is given in the table.

Impacts of the BAU+, Horizon 2020, and renationalisation options compared to the BAU option

Dimension	**BAU+**	**Horizon 2020**	**Renationalisation**
Effectiveness			
Focus	+	++	**+(1)**
Intervention logic	=	+	**+/-(2)**
Accessibility, reach	+	++	**++(4)**
SMEs	+	++	**++(5)**
Excellence	=	+	-
Critical mass	=	=	-
Structuring effect	+	++	-
Leverage effect	+	++	-
Innovation impact	+	++	-
Economic and competitiveness impact	+	++	-
Social impact	+	++	-
Environmental impact	+	++	-
Impact on EU policy	+	++	-
Efficiency			
Reduction of administrative costs	+	++	**++(3)**
Reduction of participation costs	+	++	**++(3)**

Coherence			
Knowledge triangle coordination	**+**	**++**	**+/-(2)**
Broader horizontal policy coordination	**=**	**+**	**+/-(2)**
Flexibility	**=**	**+**	**++(3)**

Notes: (1) Easier to focus programmes, but more difficult to focus them on pan-European objectives; (2) In theory, easier to achieve/enhance; in practice, mixed Member State and regional performance; (3) but reduced critical mass, excellence; (4) but reduced critical mass and ability to pool resources; (5) but reduced access to foreign partners, capabilities, markets.

Under Horizon 2020, only those kinds of activities will be supported that have passed the European added value test. The criteria for allocation and details on implementation are presented in the report. Under the proposal on the next MFF, the funding for Horizon 2020 amounts to €80 billion (constant 2011 prices), which represents a 46 percent increase with respect to comparable funding under the MFF 2007-2013 (constant 2011 prices).

6. MONITORING AND EVALUATION

The new system for the evaluation and monitoring of Horizon 2020 will be based on a comprehensive, well-timed and harmonised strategy, with a strong focus on throughput, output, results and impacts. It will be supported by an appropriate data archive, experts, a dedicated research activity, and increased cooperation with Member States and Associated States, and it will be valorised through appropriate dissemination and reporting.

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Volume 2

COMMISSION STAFF WORKING PAPER

EXECUTIVE SUMMARY OF THE IMPACT ASSESSMENT

Accompanying the

COMMUNICATION FROM THE COMMISSION

'Horizon 2020 - The Framework Programme for Research and Innovation'

PROPOSAL FOR A REGULATION OF THE EUROPEAN PARLIAMENT AND THE COUNCIL

laying down the rules for the participation and dissemination in Horizon 2020 – the Framework Programme for Research and Innovation (2014-2020)

PROPOSAL FOR A COUNCIL REGULATION

on the Research and Training Programme of the European Atomic Energy Community (2014-2018) contributing to the Horizon 2020 – The Framework Programme for Research and Innovation

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1. PROBLEM DEFINITION

The purpose of the Rules for Participation and dissemination (hereinafter **RfP**) is to implement the EU's multi-annual Framework Programmes (hereinafter **FPs**).

The prerequisites for attaining the expected level of participation in the FPs are clarity of their rules and instruments, an overall participant-centred orientation, consistency and stability, as well as lightness and speed of administrative procedures. At present, the biggest obstacle to participation in the research FPs is the **complexity of administrative procedures** along with the **administrative burden.** Thus, simplification was a priority in the comments from stakeholders and in the documents from the institutions involved. Current shortcomings were attributed to the constraints imposed by the Financial Regulation in force, the design of the FP or management choices of the Commission. This impact assessment addresses the simplification potential of the provisions of the RfP, bearing in mind that the benefits of any simplification measure must outweigh its disadvantages.

The consultations carried out have revealed that participants find it very burdensome to apply different sets of rules depending on the EU research and innovation programme concerned and they want greater **consistency of rules between instruments**. Under FP7, the number of intervention mechanisms has increased, in particular with the participation in joint programmes of Member States ('Article 185 Initiatives')[1] and the creation of Joint Technology Initiatives (JTIs)[2]. Each of these mechanisms has its own distinct rules with its separate legal and administrative framework. Also, the Competitiveness and Innovation Framework Programme (CIP) follows rules different than FP7. Finally, the European Institute of Innovation and Technology (EIT) implements its actions by supporting Knowledge and Innovation Communities (KICs) also under ad-hoc provisions.

According to the objectives for the EU 2020 Strategy, rules must also **contribute to achievement of 'Innovation Union' Flagship Initiative objectives** including more synergies between research and innovation. Among the main factors contributing to extending the innovation impact of FPs, a key role is given to the participation of innovative enterprises, in particular SMEs, whose relevance for innovation has been widely demonstrated. Another element, currently applied only on a limited pilot scale, refers to mechanisms for funding innovation via new forms of procurement.

In addition, a cross-cutting issue for implementation of the FPs is the necessity to provide appropriate mechanisms for international cooperation. During its first four years FP7 has funded projects with participant organisations from as many as 169 countries.

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[1] Article 185 TFEU Initiatives are set up at European level for integration of national research and development programmes by the participation of the European Union in joint programmes undertaken by several Member States.

[2] A JTI is set up as a legally established body on the basis of Article 187 of the TFEU. Each JTI is accountable to its founding members as well as to the Council and the European Parliament. .

The last issue is the need to introduce a risk/trust balance. Currently too many procedures, in particular regarding financial controls, appear to be designed exclusively to ensure a very low risk of errors, but also result in control mechanisms perceived as rigid and excessive.[3]

Finally, it should be noted that simplification should be pursued not only in the definition of the rules but also in their application.

2. THE NEED FOR ACTION AT EU LEVEL

The legal bases for EU and Community action in this matter are respectively Article 183 of the Treaty on the Functioning of the European Union (hereinafter TFEU) and Article 7 of the Euratom Treaty. The principle of subsidiarity does not apply in this case. The principle of proportionality is satisfied inasmuch as the proposed simplification and rationalisation ensure that EU action would not go beyond the minimum necessary to achieve the objective of ensuring the implementation of Horizon 2020.

3. OBJECTIVES

The general objectives of the initiative are to:

- To ensure implementation of the Horizon 2020 multiannual FP. The aim of the proposal is to provide a coherent, comprehensive, transparent and effective set of rules taking into account participants' concerns through simplified and harmonised procedures;

- To help achieve the objectives set out in the Commission's initiative 'Europe 2020 – a strategy for smart, sustainable and inclusive growth', at the core of which are research and innovation and in particular the 'Innovation Union' flagship.

The specific and related operational objectives are described below:

1. To increase attractiveness and accessibility for participants by:

    - simplifying the funding provisions related to grants;

    - reducing the administrative burden for participants.

2. To find a good balance between the need for harmonisation and the need for flexibility by:

    - enlarging the scope of the RfP, in order to set up a common set of basic principles;

    - allowing for flexibility to address specific needs of the Horizon 2020 initiatives, e.g. EIT.

3. To ensure appropriate and harmonised protection of the EU against risks of participants' errors and insolvency by:

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[3] In line with guidelines of the Commission, impact of legislative proposals for Horizon 2020 and its rules on this objective will be thoroughly analysed in the Financial Statement accompanying the Framework Programmes and therefore is not referred to in this impact assessment.

- finding the right balance between effective implementation of the EU control strategy and a lower control burden for beneficiaries, leading to a reduced amount of participants' errors;

- extending the scope of the **Participant Guarantee Fund** (hereinafter **GF**) to all actions financed under Horizon 2020 (thus including also CIP, EIT, JTIs and Article 185 Initiatives).

4. To achieve strategically targeted international cooperation that will contribute to achieving the Horizon 2020 objectives:

- greater targeting of research funding (revision of the current provisions on funding of entities from certain third countries and replacement of the former International Partner and Cooperation Countries (ICPC) list);

- facilitating European participation in international research actions (funding of International Organisations and of entities from third countries);

- enhancing instruments for strategic focusing (joint calls for proposals).

5. To boost innovation by:

- increasing the participation of industry and SMEs;

- providing adapted instruments for promoting innovation;

- stipulating an appropriate legal framework for exploitation and dissemination of results.

4. POLICY OPTIONS

In order to achieve these objectives, two independent sets of options tackling the two main policy issues have been developed.

A: Scope of the rules. As the future EU initiatives for promoting research and innovation are intended to be merged into the Horizon 2020 FP, the question is whether it would be convenient to keep separate sets of rules for the different actions (current situation), or to have – where possible – a single set of rules under the Horizon 2020 FP.

B: Content of the rules, namely whether or not it would be convenient to modify the current provisions in order to meet the policy objectives specified above.

4.1. Policy issue: Scope of the rules

4.1.1. Policy option A1 – 'Business-as-usual' option (keeping the same scope in the RfP respectively for EU and Euratom)

Under this option, different sets of rules governing participation in different research and innovation actions will be kept: each set of rules will be set out in a 'tailor-made' regulation, thus allowing for a maximum level of flexibility.

4.1.2. Policy option A2 – Adopting a single set of RfP implementing the Horizon 2020 FPs and setting basic common principles while allowing flexibility.

Under this option, where possible a single set of common rules would regulate the key common aspects of all actions of the future FPs, such as excellence, funding rates or eligibility of costs. This set of rules would be adopted in two different legislative acts, one for the EU and one for Euratom FPs.

4.2. Policy issue: Content of the rules

4.2.1. Policy option B1 – 'Business-as-usual' option (keeping the same content in the RfP for future FPs)

This option envisages continuation of the current practice; introducing no changes to the conditions and procedures for participation and keeping the EU financial contribution based on the reimbursement of eligible costs according to the current reimbursement rates. Other forms of financing (flat rates, scales of unit, lump sums, etc.) would be applied marginally.

4.2.2. Policy option B2 – Modifying the RfP for the future FPs

Under this option a number of changes would be implemented in the legal framework defined by the RfP. These changes would include:

– **Implementing provisions for pre-commercial public procurement and** public procurement of innovative solutions **as well as prizes;**

– **Adapting the current model of international cooperation;**

– **Modifying the rules regarding exploitation and dissemination**;

– **Extending the GF.**

– As regards the **main funding model**, three potential sub-options were identified and analysed:

– **Option B2a – Keeping the cost-based funding with simplification of the cost eligibility criteria.** This would mean continuation of the reimbursement of actual costs (with limited use of flat rates and lump sums) but applying **simplified cost eligibility criteria** allowing for broad acceptance of usual accounting practices of the beneficiaries. A single reimbursement rate per project would bring further simplification and higher flexibility in project implementation.

– **Option B2b – Output/results based funding (specific lump sum for the whole project)** would mean a radical change from the FP7 cost reimbursement system towards a system **granting project-specific lump sums for entire projects**[4]. In this scenario, the lump sums would be global amounts agreed during the negotiation phase based on the estimated beneficiaries' inputs (costs) for the project. Payment of the EU financial contribution would be made against delivery of the agreed

[4] Point 3.3 of the Communication COM(2010) 187.

output/results. This sub-option would entail less detailed cost reporting and financial controls but would require a closer technical assessment of the outputs/results.

– **Option B2c – Combination of sub-option 1 with a unique flat rate for indirect costs calculated on basis of direct costs as a general rule** would build on sub-option B2a adding as a general rule a flat rate for indirect costs. The possibility of reporting real indirect costs would be limited solely to non-profit participants with a full cost accounting system whose methodology for calculating indirect costs would have been approved ex-ante by the Commission. Thus, in addition to the simplification value of option B2a, it would reduce the recurrent errors due to the indirect costs calculation since this calculation would be based either on a certified methodology or on the flat rate and would simplify and increase assurance both for beneficiaries and for the Commission.

5. ANALYSIS OF IMPACTS

The RfP are complementary to the Horizon 2020 FPs, as the objectives of the Research and Innovation policies and the resources for their funding are provided for in the latter. For this reason the societal, economic and environmental impacts of the future frameworks and their European added value are presented in the Impact Assessments of the FPs.

Policy implications of harmonisation

Policy option A1 would keep the status quo. In contrast, policy option A2, introducing a harmonised approach, would represent a simplification for beneficiaries, particularly those currently participating in different actions. It would also reduce duplication of efforts for customisation of IT tools, documents, etc., as well as the complexity of the applicable rules. However, extensive harmonisation of the rules might lead to lack of flexibility. It could discourage industry participation in JTIs or deter the setting up of 'Article 185 Initiatives'. Therefore, the possibility for JTIs and for Article 185 TFEU initiatives to apply additional rules or duly justified derogations has to be envisaged also under this option. As for the CIP and the EIT, their success is largely based on the flexibility of their rules. Therefore, the balance between harmonisation and flexibility would need to be carefully established.

Implications of modifications of the legal framework defined by the RfP

Policy option B2 would introduce a number of modifications of the legal framework, as described in Point 4.2.2. The impacts of this option would be as follows:

Pre-commercial procurement would lead to innovative solutions that could subsequently be commercialised on a larger scale. Public procurement of innovative solutions would provide funding for public procurers to purchase innovative products/services already developed, boosting their commercialisation. These two instruments would provide a supplementary system and support the transfer of research results to the market. Together with inducement prizes they would expand the innovative potential of the FPs. The modification of the rules on exploitation and dissemination generalising the principle of open access to research publications would also contribute to this aim.

Adaptation of the current mode of international cooperation would make it possible to focus more on countries which have not yet developed an advanced science and technology base but

whose engagement in EU research projects is desirable, and would also put a stronger emphasis on reciprocity.

Regarding the scope of the GF, as the actions of JTIs, Article 185 Initiatives, the CIP and the EIT are financed by the EU to a large extent and since the nature and structure of the participants is largely congruent with the FP7 population, the same protection level should be ensured.

Administrative costs and simplification effect for participants

A single set of rules would reduce the administrative burden for entities participating in different actions as it would lower learning costs. It has been estimated that entities acting as coordinators for the first time in any type of action bear an administrative cost related to their participation 11.4% higher than coordinators already familiar with the rules. In addition, the extension of the GF would reduce costs for beneficiaries and improve sound financial management for the Commission. Other modifications of the legal framework (excluding the main funding model) would have a limited impact on administrative cost and simplification.

As regards the main funding model, the impact on the costs for beneficiaries in 'typical **average FP7 projects**' is presented in the table below. These figures are estimations resulting from the survey on administrative costs for FP7 projects.

	Option B1 (baseline)	**Option B2**					
		Option B2a		***Option B2b***		***Option B2c***	
Small-scale Collaborative project (9 partners)	277.000	249.000	*-10%*	208.000	*-25%*	232.000	*-16%*
Large-scale Collaborative project (20 partners)	885.000	777.000	*-12%*	588.000	*-34%*	699.000	*-21%*
SMEs project (9 partners)	303.000	265.000	*-13%*	205.000	*-32%*	257.000	*-15%*
Marie Curie Individual Fellowship (1 partner)	18.000	18.000	*0%*	18.000	*0%*	18.000	*0%*
ERC grant (mono-beneficiary) (1 partner)	36.000	32.000	*-11%*	22.000	*-39%*	29.000	*-19%*

However, **when considering a radical change towards output-based funding as the main funding model, other aspects have to be taken into account**. Firstly, such a change would require major organisational changes in the Commission and the other implementing bodies, building up new skills and changing the distribution of professional profiles of staff. Secondly, time-to-grant could be affected negatively, because of the more complex and detailed negotiations for fixing project-specific lump sums and the measurable output against which they would be paid. Thirdly, the focus on output may become a disincentive to high-risk high-gain proposals for which the potential output cannot be specified and guaranteed ex-ante.

6. COMPARING THE OPTIONS

Based on the above analysis, supported by a number of ex-post evaluations, studies, statistical data, workshops with experts and external stakeholders, etc., we have summarised below the expected impact of the two sets of options.

Comparative table of the impacts on the policy objectives and other decisional considerations	Policy Options					
	Policy issue: Scope of the rules		**Policy issue: Content of the rules**			
	Option A1 **Business-as-usual**	Option A2 **Single set of rules**	Option B1: **Business as usual**	Option B2: **Modifying the rules**		
				Option B2a ***Simplified cost-based funding***	Option B2b ***Output /result based funding***	Option B2c ***Simplified cost-based funding with indirect costs flat rate***
Policy objectives						
1.1 Simplify funding provisions	○	✓✓	○✓	✓	✓	✓✓
1.2 Reduce administrative burden	○	✓	○	✓	✓✓	✓
2. Harmonisation	✗✗	✓✓	✗✗	○	○	✓
3. Protection of EU against risks of participants´ insolvency	○	✓	○	○/✓	○	✓
4. Impact on international cooperation	○	○	○	○/✓		
5.1 Economic impact on businesses including SMEs	○	✓	○	✓	○/✓	✓
5.2 Impact on innovation results	○	✓	○	○/✓		
Other Impacts						
Expectations of policymakers	✗✗	✓✓	✗✗	✓	✗	✓
Stakeholders´ opinion	✗✗	✓✓	✗✗	✓	✗✗	✓
Impact on cost of implementation	○	✓	○	✓	✓✓	✓
Impact on stability of rules	✓	✗	✓	✓	✗✗	✓

Symbols: (✗) negative impact; (✓) positive impact; (○) no impact, (✗✗/✓✓) significant impact

As regards choices presented for **policy issue 1, option A2 is the preferred option** as it introduces a harmonised approach resulting in coherent rules, simplification for beneficiaries, fewer IT tools and documents. It would also present benefits regarding reduction of the administrative burden. The flexibility concerns for this option will be addressed by making the rules more general, with the possibility of specific derogations in particular for the European Institute of Innovation and Technology, given that the specific character of its actions and the typology of its beneficiaries require an appropriate level of flexibility.

As regards choices presented for **policy issue 2,** option B2 envisages a set of modifications and instruments suited to adequately addressing the current problems and to achieving the proposed objectives. Regarding the modification of the main funding model, although option B2b seems to offer the perspective of larger savings in administrative costs in financial terms, **option B2c is the preferred option**. This sub-option grants beneficiaries a high degree of

legal certainty, reinforces sound financial management and avoids risks of unforeseen administrative burdens and bottlenecks. It is also the preferred option expressed by most stakeholders.

From the above analysis **it appears clearly that the objectives of the initiative and expectations of stakeholders will be met in the most effective manner by a combination of options A2 and B2c**. This is fully in line with the principle of proportionality, as regards the choice of the legislative act as well as the content of the individual measures envisaged.

7. MONITORING AND EVALUATION

In order to implement Horizon 2020 successfully it is vital to put in place a comprehensive monitoring and evaluation system, with a focus on efficiency and effectiveness.

The system will be based on a harmonised strategy to ensure evaluation coverage of all of Horizon 2020 and define a detailed timetable for evaluation work. There will be, notably, a comprehensive Interim Evaluation in 2017 and a full-scale Ex-Post Evaluation in 2023.

Monitoring and evaluation will be based on a broad portfolio of analytical work to be carried out for all activities included in Horizon 2020. Common templates, methodologies and indicators will be adopted, as far as possible, so as to promote comparability and coherence, and to facilitate an aggregated overview. A key element in the monitoring and evaluation approach will be a data archive, integrating information on a broad range of activities with a specific focus on outputs and outcomes.

Transparency is a central aspect of an overall strategy for full accountability. The evaluation and monitoring system will in particular provide both annual Monitoring and Evaluation Reports. A dedicated evaluation and monitoring website will present all relevant material.