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## Economic Commission for Europe

Committee on Economic Cooperation and Integration

Team of Specialists on Innovation and Competitiveness Policies

Sixth session

Geneva, 10–11 October 2013

### Report of the Team of Specialists on Innovation and Competitiveness Policies on its sixth session

#### I. Attendance

1. The Team of Specialists on Innovation and Competitiveness Policies (TOS-ICP) held its sixth session on 10 and 11 October 2013. Around 90 experts representing national government agencies, academic institutions, the private sector and international organisations participated in the session. They came from the following twenty-eight UNECE member States: Armenia, Austria, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Denmark, Finland, France, Georgia, Germany, Kazakhstan, Kyrgyz Republic, Republic of Moldova, Netherlands, Romania, Russian Federation, Spain, Sweden, Switzerland, Tajikistan, Turkey, Ukraine, United Kingdom, United States, Uzbekistan. The following international organizations and agencies participated in the session: European Commission, International Telecommunications Union, United Nations Department of Economic and Social Affairs, World Intellectual Property Rights Organisation, World Trade Organisation.

#### II. Adoption of the agenda and election of officers (agenda item 1)

2. The agenda was adopted as contained in document ECE/CECI/ICP/2013/1.

3. In accordance with the Guidelines on Procedures and Practices for ECE Bodies (E/2013/37 E/ECE/1464, Annex III, Appendix III), the Team elected its Bureau. Mr. Ivan Bortnik (Russian Federation) was elected as Chairperson. Ms. Lyudmila Musina (Ukraine), Ms. Snjezana Ivic-Pavlovski (Croatia), Mr. Dominique Foray (Switzerland), Mr. José Molero Zayas (Spain), and Mr. Charles Wessner (United States) were elected as Vice-Chairpersons.

4. The Team noted that Mr. Krzysztof Gulda (Poland), Mr. Göran Marklund (Sweden), Ms. Aliko Pappa (Greece) and Ms. Daphne Getz (Israel) were unable to remain on the Bureau of the TOS-ICP due to other commitments. The Team expressed its gratitude to the outgoing Chairperson and Vice-Chairpersons for their services to the Bureau, the Team and the United Nations Economic Commission for Europe.

### III. Substantive segment (agenda item 2)

5. The presentation of the UNECE publication, “Innovation Performance Review of Ukraine” took place as the first part of the substantive segment. This final version reflected feedback received during the multi-stakeholder discussion of the draft conclusions and recommendations at the seventh session of the Committee on Economic Cooperation and Integration (ECE/CECI/2012/2). The policy advisory services leading to this publication were carried out by a group of international experts and experts from the UNECE secretariat in close cooperation with national authorities and local experts, responding to a request by the Government of Ukraine.

6. The Ukrainian delegation thanked the UNECE secretariat and its team of experts for carrying out the Innovation Performance Review of Ukraine, which they found to be timely and of high quality. The value of the Review lies not just in summarizing the facts about the current state of innovation in Ukraine, but also in evaluating policies and identifying bottlenecks and challenges to be addressed.

7. It was noted that high costs and economic risks are significant challenges for innovation policy in Ukraine, and innovation in enterprises remains comparatively weak. The review has been very useful in speeding up the adoption of the necessary normative acts and of new improved innovation policies to address these challenges, including changes to the governance of innovation activity and additional support for incubators, business parks and innovation centres. In 2014, the Government will conduct a first assessment of its progress in implementing recommendations from the review. International cooperation will continue to play an important role in developing innovation in Ukraine.

8. The second part of the substantive segment included the Applied Policy Seminar, “Innovation in the Public Sector”. The discussions were organized in three sessions, with a number of presentations by participating experts.<sup>1</sup>

9. The main areas covered in these three sessions were:

- (a) Promoting public sector innovation: main issues and policy challenges;
- (b) National experiences and good practices; and
- (c) Case studies in particular sectors and methods.

10. The first session laid out the main issues and policy challenges. Discussions focused on: the main motivations for the public sector to innovate; the main differences between innovation in the private sector and innovation in the public sector and their implications for policies promoting innovation in the public sector; the need to measure the extent and impact of innovation in the public sector; and the conceptual and data limitations facing this effort.

(a) Among the positive motivations for the public sector to innovate is that it can have a large positive impact on the economy given the large size of the public sector in

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<sup>1</sup> The presentations can be found at <http://www.unece.org/index.php?id=33189>

most economies. Moreover, new developments in information and communication technologies are opening up new opportunities for public service design and delivery.

(b) There are also challenges that create pressures to innovate. Among them are budget pressures creating the need to improve efficiency in order to do more with fewer resources; demand for better quality public services from businesses facing intense competition at home and abroad; and new societal challenges such as population ageing and environmental degradation which require either new or modified public services.

(c) There is also a need for the public sector to innovate in order to respond to changing attitudes and values in society. Citizens increasingly expect to be actively involved in defining and shaping what the public sector is offering them, where in the past they were mere passive recipients of public services.

(d) Among the main differences between innovation in the private sector and innovation in the public sector is that innovation in the private sector is an entrepreneurial activity which carries high risks and high rates of failure, with successful innovation identified through market competition. Public sector innovators, or public “intrapreneurs”, often face constitutional, legal and political constraints which reduce their willingness and ability to bear risks and to tolerate failure.

(e) At the same time, the rewards for innovation are often much more immediate in the private than in the public sector. Ethical considerations are more important for public servants engaging in innovation or “public intrapreneurship”.

(f) For these reasons, innovation in the public sector requires appropriate institutional and organizational structures, including “hold harmless” structures which ensure that failure will not cause unacceptable losses or costs.

(g) Regarding the measurement of innovation in the public sector, current practice relies on a mix of hard data, survey evidence and case studies. The European Commission’s pilot European Public Sector Innovation Scoreboard, the Public Sector Innovation Observatory of the OECD, and the European and United Nations Public Sector Awards were presented.

(h) These initiatives have led to the identification of typical enabling factors, drivers of, and barriers to public sector innovation.

(i) However, in most countries, there is still a lack of data on many public sector innovation activities, and the existing data are often not comparable across countries and over time. Transition economies face particular challenges in terms of data availability and comparability, largely due to methodological differences in data collection. The adoption of international standards remains a work in progress.

11. Participants presented a number of national experiences regarding the promotion of innovation in the public sector. The main points emerging from the discussion included:

(a) There are considerable differences across countries. Some are at relatively early stages where, for instance, information and communication technologies are deployed to improve the delivery of selected public services. Others have embraced new ways of designing public services, and have begun to create systematic innovation programmes, some of them led by dedicated units or entities at high government level.

(b) However, overall innovation in the public sector is still a relatively young field. This is reflected in definitional issues – even at the basic level of defining the boundaries between public and private sectors in some cases. It is also reflected in the fact that public sector innovation has yet to be fully integrated into national innovation policies,

even in the most advanced countries. In addition, most countries have yet to mainstream innovation across all departments and levels of government.

(c) Country experiences show that high-level political backing is essential to drive innovation in the public sector – possibly more so than in the private sector. There is a need for a systemic approach that identifies barriers to innovation and understands the role of incentives in order to make change sustainable. Innovation should be seen as a core activity that requires sustained efforts. Implementation may require changes in multiple areas. Special attention should be paid to the development of the necessary skills.

(d) The experience of leading countries also shows that to unlock the full potential of public sector innovation, the public sector needs to engage end users in both the design and implementation of policies (co-creation and co-production). There is a need to be citizen-centric, and to embrace a culture of transparency and accountability. Co-production of public services should be accompanied also by collaborative forms of governance.

(e) The public sector has an important catalytic role as a creator of platforms that facilitate the emergence of new forms of partnerships, bringing together different actors and translating into policies those experiences that are seen as successful.

(f) It is crucial to redefine tasks in terms of outcomes to be achieved rather than activities to be implemented. Complexity should be overcome by emphasizing the experience of the end user of the public service.

(g) Following closely the experience of the recipients of public services (“customer journey mapping”) can help identify problems, which can then be used as the basis for generating a range of ideas through participatory processes that bring together users and providers of public services.

(h) Given the novel nature of this policy area, it is important to adopt a flexible approach that facilitates policy experimentation. Experimentation is a pragmatic source of learning that may be more fruitful than the elaboration of strategies.

(i) Prototyping and piloting can be used to identify successful initiatives, that can be scaled up and to learn from failures. However, there is a certain degree of inertia in public administration that makes the reallocation of resources difficult.

(j) Good examples of innovation in public services are often seen where the implementing agents and recipients are in closest contact, i.e. at the local and subnational levels.

(k) There was a discussion on the benefits and possible drawbacks of decentralized governments in this regard. The Swiss example, with high degrees of autonomy for cantons and municipalities in both taxation and spending was presented.

(l) Decentralised public sectors may be particularly good at allowing experimentation at low cost, at allowing competition, and at ensuring close contact between implementing agents and customers. Well managed federalist structures can also improve transparency and accountability.

(m) Among the potential drawbacks of decentralisation are high costs of policy coordination and other costs caused by incoherent policies across jurisdictions (an issue which may be more salient for larger than for smaller countries).

(n) International cooperation can make an important contribution to advancing innovation in the public sector. Some of the most important challenges faced by public authorities, such as population ageing or environmental pressures, are common to all

countries. Pooling together policy experiences facilitates the identification and dissemination of good practices.

12. Participants also presented case studies on particular sectors and methods. Discussions focused on the use of new electronic technologies to increase efficiency and to improve design and delivery of public services; on design as a method of innovation; on innovation in government-citizen transactions, procurement, health, and mobility; and on community involvement and citizen participation. Among the main points discussed were the following:

(a) A commitment to e-Government can reduce bureaucracy and administrative costs and can increase the efficiency of government operations and service delivery. It can also improve transparency and accountability.

(b) Introducing e-Government practices throughout government hierarchies and across departments is a complex process which often meets significant resistance from inside government. It is, therefore, critical to have leadership from the very top and adequate resources to drive the innovation agenda, a point which applies also to public sector innovation in general.

(c) Among the challenges of implementing e-Government solutions is a lack of ICT literacy and access to electronic communication devices. In particular, there is an inter-generational “digital divide” which makes it important to train prospective users of e-Government services.

(d) Security aspects of e-Government were also highlighted, particularly in areas such as digital ID cards, digital payment gateways, and electronic access to public buildings.

(e) Public innovation policies should not be set only at the national or regional level, they should also be fine-tuned at the level of cities and municipalities. Studies suggest that improved municipal services can contribute significantly to regional competitiveness.

(f) There is considerable heterogeneity across municipalities, even within the EU-15 region, in the availability and quality of electronically enhanced public services. Strong correlations can be found between human capital development and the development of e-services, as well as between the penetration ratios of smart devices and the availability of e-services.

(g) “Design” was presented as a systematic method for innovation in the public sector, which can create capacities for systematic innovation rather than mere incremental changes. It does so by means of a structured, user-focused process which moves from problem scoping to the visualization of solutions to prototyping and improvement to roll-out at scale.

(h) The most advanced public sector entities are moving beyond e-Government as a tool which delivers efficiency improvements and cost savings, but where citizens are still largely viewed as passive recipients of public services. Instead, the most advanced programmes use electronic means of communication to create platforms for genuine two-way interaction between the public sector and citizens.

(i) Citizen participation holds a number of promises including: delivering public services more efficiently; creating public services which meet the real needs of citizens; monitoring quality more effectively; identifying “chain deficiencies” which may compromise service delivery; and enabling citizens to create their own services based on government inputs (such as open government data).

13. The moderators thanked the speakers. Team members were encouraged to benefit from the outcome of the discussions and the circulated material, available on the website<sup>2</sup>, in their future work.

#### **IV. Review of the work of the Team of Specialists on Innovation and Competitiveness Policies since the fifth session (agenda item 3)**

14. The secretariat briefed the Team members on the outcomes of the activities carried out since the fifth session, which included:

- (a) Policy document: Regional Dimension of Innovation Policies (ECE/CECI/2012/3);
- (b) Innovation Performance Review of Ukraine (ECE/CECI/15);
- (c) Newsletters on Knowledge-based Development;
- (d) Policy Dispatches on Knowledge-based Development;
- (e) Seminar on Information and Communication Technology (ICT) Policy and Legal Issues for the Heads of Ministries and Agencies of Turkmenistan, Ashgabat, 13-14 June 2012;
- (f) Expert Seminar “Financing high-risk projects” and training on financing of innovative enterprises, Minsk, Belarus, 11-13 July 2012;
- (g) Fact-finding mission to Ukraine for the Innovation Performance Review of Ukraine, 9-15 September 2012;
- (h) Workshop on the implementation of the recommendations of the Innovation Performance Review of Kazakhstan, Almaty, Kazakhstan, 11 October 2012;
- (i) Organization of a session on “International experiences on support to innovative companies” within the framework of the annual meeting of the Russian Private Equity and Venture Capital Association, Moscow, Russian Federation, 29 October 2012;
- (j) Joint National Seminar and Stakeholder Meeting on the “Promotion and financing of innovative green technologies”, Bishkek, Kyrgyzstan, 7-9 November 2012, jointly organized with the UNECE Team of Specialists on Public-Private Partnerships;
- (k) Session on Gender Aspects of Innovative Entrepreneurship at the 3rd UNECE Forum of Women Entrepreneurs “Building partnerships to close the entrepreneurship gender gaps in the UNECE region”, Baku, Azerbaijan, 14-15 November 2012;
- (l) Workshop on Promoting Innovation as a Source of International Competitiveness, Minsk, Belarus, 15 November 2012;
- (m) Contribution to the high-level segment of the 65th session of the United Nations Economic Commission for Europe, Geneva, 9-11 April 2013 on the topic “Economic developments and challenges in the ECE region: the role of innovation in creating a dynamic and competitive economy”;

<sup>2</sup> At <http://www.unece.org/index.php?id=33189>.

(n) Contribution to a Seminar on a Methodology for the Development of Regional Innovation Systems in Kazakhstan, Astana, 19 April 2013, organized by the National Agency for Technological Development of Kazakhstan;

(o) National Seminar and Stakeholder Meeting on the Promotion and Financing of Innovative Green Technologies, Ashgabat, Turkmenistan, 15-17 May 2013, jointly organized with the UNECE Team of Specialists on Public-Private Partnerships;

(p) International Conference "Entrepreneurship and Innovation – Making Things Work Better", Dubrovnik, Croatia, 23-24 May 2013, co-organized with the Croatian Ministry of Entrepreneurship and Crafts;

(q) Workshop on the Regional Dimension of Innovation, Minsk, Belarus, 30 May 2013;

(r) Preparatory mission to Armenia for the Innovation Performance Review of Armenia, 9-15 June 2013;

(s) ECOSOC Ministerial Roundtable Breakfast "Making a difference: impact investment and the financing of innovation", 3rd July 2013, Geneva;

(t) Fact-finding mission to Armenia for the Innovation Performance Review of Armenia, 7-16 September 2013.

15. The Chairperson expressed satisfaction as to the outcomes and the work carried out, stating that the TOS-ICP has effectively responded to the needs of countries with economies in transition, in accordance with its mandate. TOS-ICP has been useful, and its policy recommendations, advice and activities have been of great value to member States. Several delegations expressed their appreciation for the work carried out by the Team and the usefulness of the programme of Innovation Performance Reviews in particular, which has prompted concrete policy changes in the countries reviewed.

## **V. Mandate and revision of the Terms of Reference of the Team (agenda item 4)**

16. The Chairperson informed the Team that the UNECE Executive Committee at its 62nd meeting in Geneva on 11 July 2013 had extended the Team's Mandate until the end of 2015 (EXCOM/CONCLU/62).

17. The Team adopted its revised Terms of Reference as included in Annex I.

## **VI. Implementation plan for work in the remainder of 2013 and proposals for the programme of work for the biennium 2014-2015 (agenda item 5)**

18. At its seventh session in December 2012, CECI noted with satisfaction the work carried out by the TOS-ICP and its other Teams of Specialists.

19. The Team adopted the implementation plan for work in the remainder of 2013 and proposals for the programme of work for the biennium 2014-2015 as contained in Annex II.

20. The secretariat will integrate the proposals from Annex II into the draft programme of work of CECI for 2014-2015 to be adopted at the next session of the Committee in February 2014. The programme of work of CECI will be subsequently submitted to the UNECE Executive Committee for approval in accordance with the outcomes of the review of the 2005 ECE reform.

21. The Chairperson encouraged Team members to participate in the planned activities and events. He also reminded the Team that capacity-building activities require support through extrabudgetary funding and in-kind contributions and encouraged the Team to contribute to raising such extrabudgetary support.

## **VII. Other business (agenda item 6)**

22. The Team agreed that its next meeting be held tentatively on 16-17 October 2014, subject to confirmation of room availability. Any changes in these tentative dates will be made in consultation with the Bureau.

## **VIII. Adoption of the Report of the session (agenda item 7)**

23. The Team adopted the Report of the session.



## Annex I

### Team of Specialists on Innovation and Competitiveness Policies

#### Terms of Reference

##### I. Introduction

1. The Programme of Work of the Committee on Economic Cooperation and Integration (CECI) stipulates the establishment of a Team of Specialists to support the implementation of its work in the area of “Strengthening the competitiveness of member States’ economies by promoting the knowledge-based economy and innovation” and taking into account cross-cutting issues related to innovation and competitiveness.

##### II. Mandate

2. The Team of Specialists on Innovation and Competitiveness Policies (TOS-ICP) supports the implementation of the Programme of Work of CECI. The TOS-ICP addresses issues related to the creation of a supportive environment for innovative development and knowledge-based competitiveness in UNECE member States, with a specific focus on transition economies. Its activities aim at facilitating the exchange of experience and lessons learned, as well as of good practices in these areas, among UNECE member States. In its work, the TOS-ICP responds to the needs of Governments, and takes into account the needs of consumers, and the academic and business communities.

##### III. Areas of work

3. To support CECI in achieving its objectives, the TOS-ICP engages in the following activities:

(a) Organizing an international policy dialogue on knowledge-based economic development in the UNECE region with the aim of identifying international good practices and policy recommendations on selected key issues within the mandate of the Team. As part of this policy dialogue, the Team will hold applied policy seminars as part of its annual sessions;

(b) Preparing synopses of good practices and policy recommendations on selected key issues within the Team’s mandate for discussion and endorsement by CECI;

(c) Broadly disseminating the above good practices and policy recommendations;

(d) Subject to the availability of extrabudgetary resources, and on request from Governments, carrying out assessments of national innovation systems and policies (“Innovation Performance Reviews”) with the aim of providing peer-reviewed policy recommendations to improve national innovation performance;

(e) Subject to the availability of extrabudgetary resources, and on request from Governments, providing advice on the implementation of policy reforms in areas within the mandate of the Team;

(f) Subject to the availability of extrabudgetary resources, and in cooperation with Governments of countries with economies in transition, organizing technical assistance and capacity-building activities on issues within the mandate of Team. These activities will be organized on a national and a sub-regional basis.

#### **IV. Membership**

4. The TOS-ICP comprises government experts, as well as experts from relevant research and academic institutions, the business community and NGOs. National experts are nominated by the respective government authorities responsible for cooperation with CECI. In accordance with United Nations procedures, the TOS-ICP is also open for other experts from intergovernmental organizations, national and international business and research institutions and associations who wish to contribute to the implementation of its work plan.

#### **V. Modalities of operation**

5. The TOS-ICP operates in accordance with the Guidelines for the Establishment and Functioning of Teams of Specialists within the UNECE (ECE/EX/2/Rev.1) and the Guidelines on Procedures and Practices for ECE Bodies (E/2013/37 E/ECE/1464, Annex III, Appendix III).

6. The TOS-ICP is established for a period of two years with a possibility of extension if so decided by CECI, and approved by the Executive Committee of the UNECE. CECI may modify the Terms of Reference of the TOS-ICP as required, subject to approval by the Executive Committee of UNECE.

7. Secretariat support to the TOS-ICP is provided by the UNECE secretariat.

8. The TOS-ICP develops its plan of work and reports to the annual session of the Committee on its implementation.

9. Expenses associated with the implementation of the TOS-ICP plan of work are supported through extrabudgetary contributions of member States and other stakeholders, and are to be provided, managed and used in accordance with United Nations rules and regulations.

## Annex II

### **Implementation plan for work in the remainder of 2013 and proposals for the programme of work for the biennium 2014-2015**

1. In accordance with the Programme of work of the Subprogramme on Economic Cooperation and Integration in 2012-2013 (ECE/CECI/2011/2), the following outputs and activities will be delivered:

(a) A document on good practices and policy recommendations for “Aligning Entrepreneurship and Innovation Policies”. This document will be prepared on the basis of the results of the International Conference “Entrepreneurship and Innovation – Making Things Work Better” and will be submitted to the next session of the UNECE Committee on Economic Cooperation and Integration in February 2014;

(b) A document on good practices and policy recommendations on “Innovation in the public sector”. This document will be prepared on the basis of the results of the substantive segment of the sixth session of the TOS-ICP and will be submitted to the next session of the UNECE Committee on Economic Cooperation and Integration in February 2014;

(c) Beginning work, during the fourth quarter of 2013, on a “Guidebook on Innovation in the Public Sector”. This publication will be completed in 2014, subject to decisions made on the overall programme of publications of the ECE;

(d) Completion of the UNDA project “Building the capacity of SPECA countries to adopt and apply innovative green technologies for climate change adaptation”. The Team will continue to contribute to this project together with the UNECE Team of Specialists on Public-Private Partnerships;

(e) Training materials on “Fostering Innovation for Climate Change Adaptation: Options for Central Asia and Azerbaijan”. The training materials will incorporate findings from the above UNDA Project “Building the capacity of SPECA countries to adopt and apply innovative green technologies for climate change adaptation”. The draft training materials will be used and validated at the High-level Policy Seminar on Promoting the Introduction of Green Technologies in Haifa, Israel in December 2013.

(f) The first draft of the “Innovation Performance Review of Armenia,” will be submitted for review at the next session of the UNECE Committee on Economic Cooperation and Integration in February 2014 and will be finalized thereafter;

(g) Joint National Seminar and Stakeholder Meeting on the Promotion and Financing of Innovative Green Technologies, Astana, Kazakhstan, 23-25 October 2013, to be organized in cooperation with the UNECE Team of Specialists on Public-Private Partnerships;

(h) Roundtable on the European Experience in Supporting Innovative Enterprises, to be organized as part of the Novosibirsk Venture Fair, Novosibirsk, Russian Federation, 14-15 November 2013;

(i) A Regional Meeting on the Promotion and Financing of Innovative Green Technologies, Almaty, Kazakhstan, 19-20 November 2013, to be organized jointly with the UNECE Team of Specialists on Public-private Partnerships and in cooperation with the Government of Kazakhstan as an expert segment of the 2013 SPECA Economic Forum;

(j) Workshop on innovation in the public sector, Minsk, Republic of Belarus, 26 November 2013;

(k) High-level Policy Seminar on Promoting the Introduction of Green Technologies, Haifa, Israel, 17-19 December 2013, jointly with the Government of Israel.

2. Proposals for the programme of work in the biennium 2014-2015 include the following outputs and activities:

(a) Good practices and policy recommendations on selected topics under the common theme “Policies for Innovation and Knowledge-based Development in the 21<sup>st</sup> Century”. As in previous biennia, the annual sessions of the Team will include substantive segments facilitating the development of these good practices and policy recommendations through an international policy dialogue.

(b) A Guidebook or Comparative Review under the theme “Policies for Innovation and Knowledge-based Development in the 21st Century” based on the policy discussions to be organized at the annual sessions of TOS-ICP in 2014 and 2015;

(c) National Innovation Performance Reviews, subject to demand from interested countries and the availability of resources. The Team took into consideration the request made by the delegation of Tajikistan to carry out an Innovation Performance Review of Tajikistan;

(d) Capacity-building activities and policy advisory workshops to support the implementation of the recommendations contained in the Innovation Performance Reviews, subject to demand from member States in which reviews have been conducted and subject to the availability of extrabudgetary resources. These activities may include initiatives to identify the impact of the Reviews on policy-making and evaluate the extent to which recommendations have been implemented;

(e) Sub-regional capacity-building and knowledge-sharing conferences and workshops on policies for promoting innovative, knowledge-based development, subject to demand from member States and the availability of extrabudgetary funding;

(f) Contributions to the Newsletter on Knowledge-based Development. In addition, the Team will be invited to make new proposals regarding methods of work and mechanisms to communicate the policy messages resulting from its activities;

3. The topics proposed by team members to be considered in annual sessions, workshops or international conferences included:

(a) Smart specialization strategies, with an emphasis on processes that enable regions to promote structural change and develop comparative advantages;

(b) Evaluation of the impact of innovation policies;

(c) Development of standard indicators for the assessment of innovation, with due regard to existing methodologies and taking into account data availability

(d) Impact of the internationalization of innovation on national and regional innovation policies;

(e) Measures to encourage collaboration between industry, universities and scientific institutions;

(f) Foresight and forecasting of innovation opportunities and priorities, including those focused on green technologies and the policies that support them;

(g) Financing of start-ups and innovative companies, including measures to provide early-stage financing, and policies to encourage angel investors and private- and

state-supported venture capital, with due consideration to the ecosystem in which these companies develop.

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