

PEER REVIEW OF THE UKRAINIAN RESEARCH & INNOVATION SYSTEM

Preliminary Policy Directions and Options

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General Remarks

- Not **FINAL**, not **COMPLETE**, but **PRE-LIMINARY** findings and conclusions
 - Team:**
 - Hans Chang (Chair)
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 - Jelena Angelis
 - Agrita Kiopa
 - Claire Nauwelaers
 - Thorsten Posselt
 - Michael Schlicht
 - Philip Sinclair
 - Laszlo Szilagy
 - Aim is to **DISCUSS, EXCHANGE, REVIEW & REFINE**
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Six Core Messages (1-3)

1. Ukraine needs to innovate its ways to growth. This will require a cross-government effort.
 - » Place science, research and innovation high on the political agenda
 - » Develop a cross-governmental Research and Innovation Strategy
 - » The new Law on Scientific and Technical Activity is an important first step
2. The science community has to increase its internal effectiveness to benefit society and economy.
 - » This requires fundamental change in the way science, research and innovation is oriented and conducted in Ukraine
3. Concentrate resources in priority areas based on the principle of scientific excellence and the principle of relevance in line with the opportunities for an innovation-driven economy in Ukraine





Six Core Messages (4-6)

4. Organisational changes in institutions, funding mechanisms and procedures are necessary and should comply with global standards and good practices
 - » Deploy the new Law on Scientific and Technical Activity in an optimal way
5. Efforts to internationalise and open-up the science and research system are needed
 - » Use the manifold opportunities gained through accession to Horizon 2020
 - » Use the underlying ERA framework for inspiring the reform agenda
6. Secure additional budget to stop the ongoing brain-drain and to make the S&T system more efficient by including strong competitive research funding elements from basic research to market uptake





PRELIMINARY POLICY OPTIONS TO RAISE THE QUALITY AND RELEVANCE OF THE SCIENCE BASE





Summary

- 1) Identify across-government national reform priorities by strongly involving the National Board on the Development of S&T
 - 2) Make the S&T system more efficient through introducing a strong competitive research funding pillar in Ukraine
 - 3) Enhance the reform of NASU to become more responsive to the needs of society and business
 - 4) Stimulate the engagement of universities in academic research
 - 5) Ensure a pool of talent for the future
 - 6) Safeguard that the public S&T budget is steadily increased to attain the 1.7% GERD/GDP rate within the next 10 years.
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Promote Change and Reform by Mandating the National Board on S&T Development

- **Policy Option 1: The National Board on the Development of S&T should work strategically in reforming and re-orienting the system of S&T in Ukraine along jointly defined priorities**
 - 1) Decide 60:40 distribution of R&D funding (institutional vs. competitive R&D funding)
 - 2) Introduce processes to identify national overall and national research priorities by including the business and the civil society sector to transform Ukraine towards an innovation-oriented economy and society
 - 3) The S&T system should be reformed towards “excellent science for innovation”
 - 4) Build-up strategic intelligence and ensure monitoring and evaluation





Raising Quality & Relevance of S&T through Competitive Research Funding

- **Policy Option 2: The National Research Foundation should become a strong change-maker to reform the system of S&T in Ukraine through competitive funding of research projects**
- **Policy Option 3: The National Research Foundation should be internationally supervised**
- **Policy Option 4: All research organisations and universities should be entitled to own discretionary use of acquired third party funding**



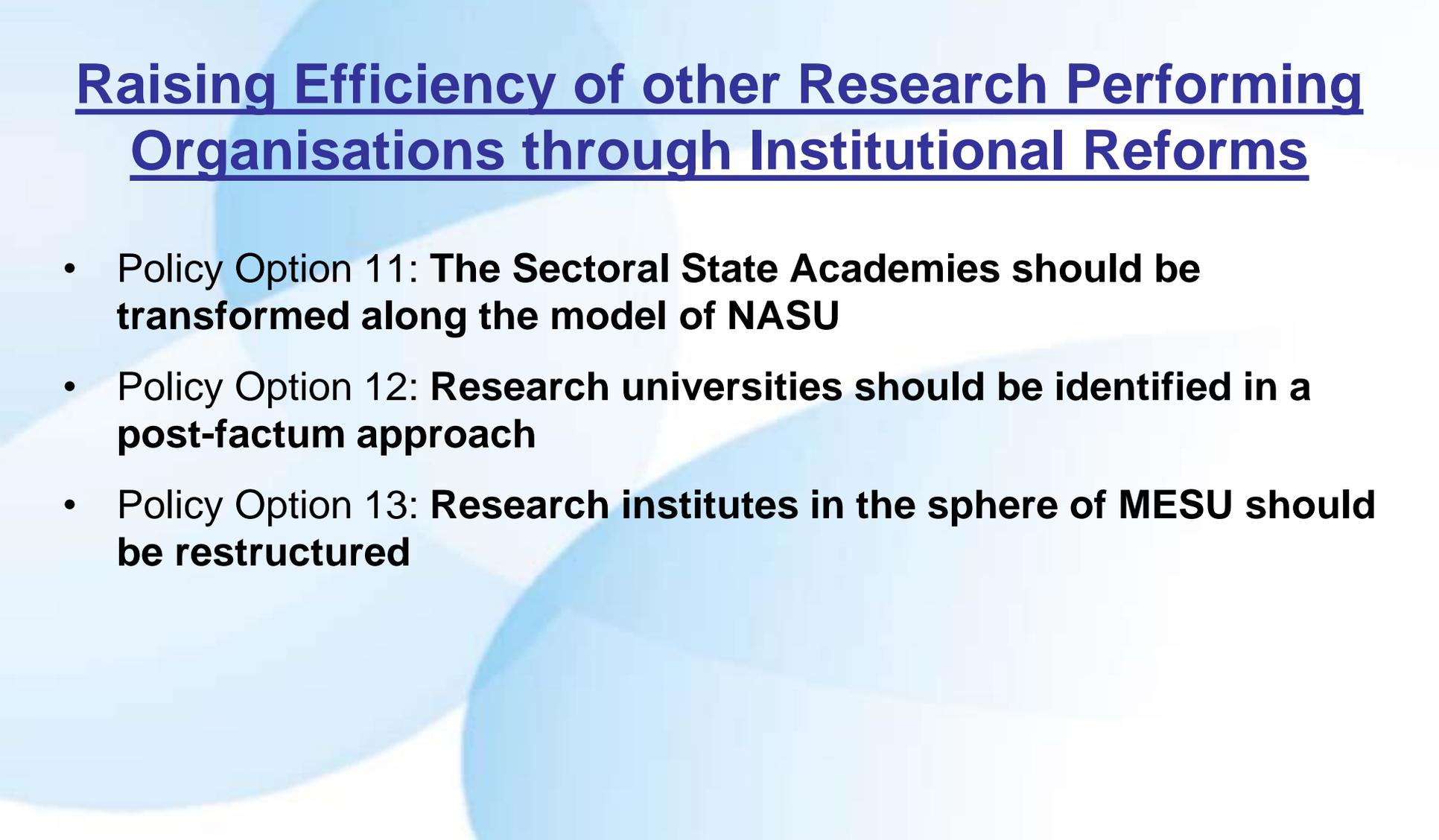


Raising Efficiency of NASU through reforms

- Policy Option 5: **NASU should make explicit its qualitative and quantitative endeavours to support the Ukrainian economy**
 - Policy Option 6: **NASU should make its institutes' organisation more effective through regular independent evaluation exercises**
 - Policy Option 7: **NASU is advised to initiate several science communication activities**
 - Policy Option 8: **NASU should abandon its publishing-house activities**
 - Policy Option 9: **An international public accountancy firm should investigate whether it is possible to distil more money for research activities out of the NASU properties' system**
 - Policy Option 10: **NASU should broaden diversity of its Human Capital**
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Raising Efficiency of other Research Performing Organisations through Institutional Reforms

- **Policy Option 11: The Sectoral State Academies should be transformed along the model of NASU**
 - **Policy Option 12: Research universities should be identified in a post-factum approach**
 - **Policy Option 13: Research institutes in the sphere of MESU should be restructured**
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Develop Talent and Managing Capacity

- **Policy Option 14: Research careers should be stimulated through a mix of policy instruments**
 - 1) Increase salaries of researchers
 - 2) Invest in programmes for exchange of young scientists with other countries
 - 3) Enhance award system for outstanding research(ers)
- **Policy Option 15: The administration of universities and research institutes as well as within MESU should be professionalised (incl. anti-corruption measures)**





**PRELIMINARY POLICY OPTIONS
TO OPEN UP THE R&I SYSTEM
TO THE WORLD AND
TO ENHANCE
INTERNATIONAL COOPERATION**





Summary

- 1) Capitalise association of Ukraine to Horizon 2020 strategically and develop a national ERA Roadmap aligned with national reforms
 - 2) Prioritise international collaboration on domains of strategic importance
 - 3) Establish a supportive policy mix with new structures and incentives to enhance international cooperation and participation in Horizon 2020
 - 4) Cooperate with the scientific diaspora
 - 5) Establish an international peer review system
 - 6) Become a member of COST and increase EUREKA engagement
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Policy Learning and Strategic Decision Making

- **Policy Option 16: The association to Horizon 2020 should be used as a source for policy learning**
 - 1) Ensure participation in EU/ERAC bodies and a good ‘national ERA-governance’
 - 2) Develop a light national ERA roadmap to reflect strategic alignment
- **Policy Option 17: International collaboration efforts should be oriented towards identified national priorities**
 - 1) Align internationalisation policies with national priorities and strategies
 - 2) Shape existing bilateral agreements with EU Member States in a way to stimulate further submissions under Horizon 2020
 - 3) Use international agreements to address horizontal priority concerns





Enhance Research Quality by using International Expertise

- **Policy Option 18: Cooperation with the scientific diaspora should be increased**
 - 1) Engage scientific diaspora in interacting and cooperating with local teams
 - 2) Re-settle back a few outstanding researchers to act as change-makers
- **Policy Option 19: An international peer review system for projects should be introduced**
 - 1) the National Research Foundation (NRF) should increasingly use peer reviewers from outside of Ukraine
 - 2) This would contribute to overcome the relative isolation of certain research communities in Ukraine





Increase Participation in European Research

- **Policy Option 20: Opportunities offered by H2020 should be enhanced through a number of accompanying support measures and initiatives**
 - 1) Launch national programmes to support Horizon 2020 participation
 - 2) Participate in European initiatives such as JPIs or ERA-NETs etc.
 - **Policy Option 21: Ukraine should become a member of COST and provide incentives for increased participation in EUREKA**
 - **Policy Option 22: Travel opportunities should be assured for a wide range of researchers at every level of their career based on their contribution to research advancement**
 - **Policy Option 23: Access to national and international scientific infrastructures should be improved**
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PRELIMINARY POLICY OPTIONS TO BUILD A CONDUCTIVE FRAMEWORK FOR AN INNOVATION-DRIVEN ECONOMY IN UKRAINE





Summary

- 1) Place science, research and innovation high on the national policy agenda
 - 2) Develop a cross-governmental Innovation Strategy with corresponding instruments to facilitate economic growth and wellbeing
 - 3) Raise public awareness of science and innovation
 - 4) Introduce policy monitoring and regularly evaluate support systems
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Putting Innovation High on the Political Agenda

- Policy Option ? : **Across-government cooperation mechanisms around innovation should be established**
 - 1) Establish at ministerial level a Research and Innovation Sub-Committee of the Ukraine Cabinet of Ministers to develop strategic priorities for an innovation-driven economy in Ukraine?
 - 2) Install cross-government innovation and research groups to operationalise an Action Plan?
- Policy Option ? : **Establish a National Innovation Council as a sister organisation of the National Board on S&T Development?**
- Policy Option ? : **Develop a National Innovation Strategy and Action Plan**





Supporting Innovation

- Policy Option 24: **Identify realistic and effective innovation policy instruments**
 - 1) *Supply side*: integrate the commercialisation dimension into research (review of employment contracts; TT and technology parks; start-ups and spin-offs; student placements etc.)
 - 2) *Demand side*: tax incentives; grants; SBRI, innovation manager support schemes
 - 3) *Collaborative research*: grants, mobility schemes, internationalisation vouchers, innovation vouchers; access of SMEs/industry to public research infrastructure, engagement of SMEs/industry in HEI and schools
- Policy Option ? : **Public awareness of science and innovation should be fostered and a culture of innovation nurtured**
- Policy Option ? : **Policies should be monitored and evaluated**





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