



Thematic Research and Innovation Agendas and Science Inspired Public Policies Portugal

A policy brief prepared for the e-workshop “**Science for policymaking in Portugal**”



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The purpose

As of 2017, several [Thematic Research and Innovation Agendas](#)¹ were issued under the Fundação para a Ciência e a Tecnologia (FCT) technical coordination, engaging experts from R&D institutions and companies to identify challenges and opportunities for the Portuguese scientific and technological system. The Agendas are expected to contribute to the development of research and innovation activities in the medium and long-term, while finding answers to the problems or needs of different sectors and clusters.

The inclusive and dynamic process underlying these agendas broadly involved national experts from the academia, research centers, companies, public organizations and civil society. A cross cutting dialogue among these actors was triggered, leading to the identification of emerging and promising areas for Research and Innovation in Portugal. Fostering a collective reflection - across a wide set of thematic areas and types of stakeholders - on the knowledge base supporting the scientific, technological and socioeconomic development of the country was a key challenge. A methodological approach was developed to enable this close interaction and the debate within each Thematic Agenda.

Insofar Thematic R&I Agendas have been completed in the following areas:

- Agri-Food , Forestry and Biodiversity
- Climate Change
- Space and Earth Observation
- Culture and Culture Heritage
- Circular Economy
- Social Inclusion and Citizenship
- Industry and Manufacture
- Ocean
- Health, Clinical and Translational Research
- Labor, Automation and Job Qualification
- Tourism, Leisure and Hospitality

The selected themes for each Agenda are far from disciplinary and address multi-dimensional areas and challenges beyond a strict science and technology scope. In particular, the Agendas do show reflections and recommendations with impacts on public policies interfacing with these themes, namely economical, societal, environmental and public health issues.

¹ The agendas are in Portuguese, with an executive summary in English

The Thematic R&I Agendas are structured as follows:

- (i) Vision and challenges;
- (ii) The relevance of the theme for Portugal;
- (iii) The context of international strategies;
- (iv) R&I on the thematic area and related public policies in Portugal;
- (v) Research questions within the Agenda;
- (vi) Opportunities for Innovation within the Agenda;
- (vii) Critical factors; and
- (viii) Conclusions (including foreseen impacts on society and economic development).

The insertion of a section focusing on the public policies focused on a thematic area, in Portugal, is grounded on the need to ensure the analysis of the mutual interactions involving the scientific and technological progress within the thematic area and the public policy-making settings with broad implications, beyond science.

The process - Experts and stakeholders engagement

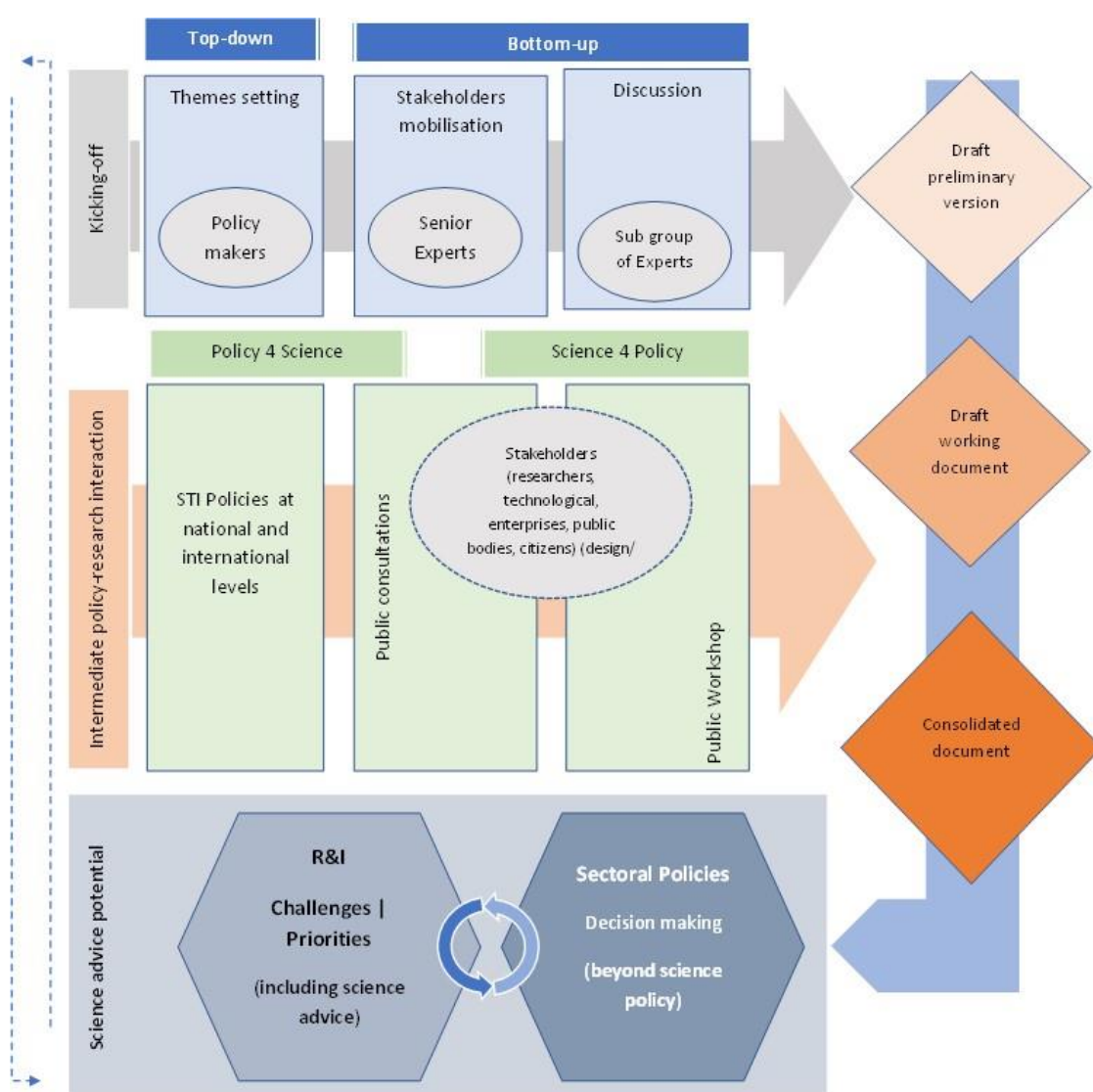
The methodology was designed to optimize the participation of experts in the thematic area through a bottom-up approach. The FCT invited the certified national R&D units, that are currently acknowledged with high scientific quality, to indicate one or two senior experts to participate in this exercise. Most of these research units – only indirectly involved in the process - are associated to universities.

In the early launching of the process, a broad public consultation on the main rationale of the Agendas took place, followed by a specific consultation to public bodies involved in the design or the implementation of policies. This consultation addressed two structuring questions: which main research contents and innovations were acknowledged in the last 10 years as pivotal in each governmental area/ which emerging areas are critical for future research and innovation.

The discussion process involved circa 400 researchers and experts overall, ensuring a considerable critical mass, and led to the drafting of the Agendas by more restrict groups. Conversely, a public Workshop was held in a more mature moment of each Agenda, involving the whole spectrum of stakeholders – which was widely attended, namely by policy makers. Again, the bottom-up character of this exercise, and the relevant interaction between researchers and policy actors were highlighted.

A consolidated version of the document was circulated within the large panel of experts for final validation, ensuring the required appropriation of the strategic R&I long term priorities. These Agendas were elaborated with a view to be regularly revisited through new discussions with stakeholders, in a process intended to be dynamic and open. The intermediate interactions between policy and R&I activities can be observed in the diagram below.

The R&I Agendas Process - Diagram



Source: FCT

Potential impacts on public policies (beyond specific science policy)

Each Thematic Agenda mainly focused on the observed evolution on the R&I state of art, and on identifying emerging trends and new research and innovation questions. Moreover, beyond an “inside-out” approach, these Agendas also seek an “outside-in” dynamic, while considering and integrating in the R&I agendas, where applicable, a debate on various challenges and problems across diverse sectors in the remit of related public policies.

Besides the R&I recommendations, the framework conditions for the development of R&I - like barriers and hinders - were also largely invoked, addressing likewise relevant issues for policy to consider.

It is thus expected that the body of recommendations and priorities provided by the agendas may nurture the design of appropriate goals and instruments in the scope of the related policy areas. In fact, some agendas may deliver policy implications, through implicit or even explicit science advice components. Prime examples (see Box) are the interactions with other components of public policy while preparing new instruments, such as: i) at the

national level (PNEC, *Plano Nacional Energia e Clima 2021-2030*), National Energy and Climate Plan, one of the most relevant and cross cutting public policy instruments, where the pertinent agendas are often mentioned, as regards R&I dimensions); ii) or at the regional level (invoked very often by CCDRs, – Regional Development Coordination Bodies within Smart Specialization Strategies renewal in the scope of the next Cohesion Policy programming period,); iii) or as strategic guidelines to support decisions such as joining new international partnerships - namely European

**Box - Examples of impact of Thematic R&I Agendas in Public Policy instruments
(beyond S&T policy)**

Case 1 - PNEC – *Plano Nacional de Energia e Clima* (National Energy and Climate Plan)

The PNEC is a key policy national instrument of utmost relevance. It sets 2030 targets for a 45-55% reduction in total GHG emissions compared to 2005 levels. The PNEC intends as well to put Portugal on a path to achieving the goals set in the Roadmap for Carbon Neutrality 2050 (RNC2050).

Portugal is committed to actively boost renewable energy sources and new low-carbon technological solutions for the de-carbonization of the economy towards PNEC's goals for 2030. For this purpose, the promotion of research, innovation and demonstration activities supporting the implementation of this plan is rather essential for its success, taking into account the various national competences as well as cooperation and ongoing activities in the scope of the European Union.

This relevant policy instrument in the areas of Climate and Energy very often addresses the Thematic Agendas and fully acknowledges the significance and impact on energy transition and on climate action of several R&I strategic recommendations - as inserted in the Agendas "Agri-food, Forest and Biodiversity", "Climate Change", "Circular Economy", "Industry and Manufacture", "Ocean", "Sustainable Energy Systems", among others.

Case 2 - PAEC – *Plano Nacional de Economia Circular* (National Circular Economy Plan)

The PAEC foresaw in 2018 the development of an R&I Agenda where opportunities in the area of circular economy could be identified, enhancing the knowledge inspired policies to promote the efficient and productive use of resources.

The preliminary version of the PAEC (in 2018, under the Environment Ministry) already explicitly encouraged synergies with proposals or recommendations from the R&I Agenda (then still in an early drafting stage, under the Ministry of Science and Technology and Higher Education) – valuing the expected bottom-up approach stemming from the wide experience of experts in various domains of the national economic system, namely higher education institutions, technology centers and companies.

Exploration of synergies between scientific advice (induced by the R&I agenda in the scope of science policy) and environmental public policy did occur in this case, allowing for some degree of cross fertilization starting at an early stage of the policy making processes.

Case 3 - *Estratégia Turismo 2027* (National Strategy for Tourism)

This strategy was prior to the R&I Agenda and established leveraging knowledge basis and knowledge transfer from HEIs and Research Centers to the touristic fabric, and boosting innovation, as a strategic pillar. Several perspectives of the sectoral strategy were taken into account in the discussions of the R&I Agenda, in a more "outside-in" dynamic. However, cross fertilization synergies are likely to have occurred.