

Science, Technology and Innovation Policy Program

The **Science, Technology and Innovation Policy Program** of ARC Fund is involved in public debates on the challenges faced by research and innovation stakeholders. It mobilizes actors from civil society, business, university and research organizations, as well as policy and decision-makers, towards a shared understanding of forthcoming transformations and challenges in technological developments and innovations, and steers them towards a shared vision for the integration of responsible research and innovation principles into science and policy-making. In 2017, the program focused on:

- **Advancing responsible research and innovation (RRI).** In close partnership with the Bulgarian Ministry of Education and Science and the National Science Fund, ARC Fund led a review of the status of current RRI-related policies, practices and activities and sought to engage those actors and collaboratively develop Outlooks to strengthen RRI-related activities.
- **Social innovation and public engagement with science and research.** Building on its commitment to RRI, ARC Fund continued engaging citizens in improving the connection and collaboration between science and society and in developing a more inclusive, responsive and responsible research and innovation system. Based on the results of several consultative workshops with citizens across the EU, ARC Fund developed the policy report *Citizens' Views of Engagement in Research-Related Activities* and made important contributions to the preparation of a *Social Innovation Atlas*.
- **Building research and project management capacities in the Danube macro-region.** ARC Fund took part in a regional partnership that offered training and mutual learning opportunities to policy makers and policy delivery organizations involved in research infrastructure (RI) financing, as well as to experts and professionals from RI-operating parent organizations. ARC Fund also designed a methodology for the analysis of national capacities in innovation and research project management. It is a tool towards the elaboration of a regional strategy for research and innovation projects management capacity building which offers recommendations to national and regional decision-makers.
- **ARC Fund successfully completed the largest project it had coordinated – *Public Participation in Developing a Common Framework for the Assessment and Management of Sustainable Innovation (CASI)*.** It mobilized hundreds of citizens across Europe to participate in visioning workshops on the impact of science and science policy on the scenarios for a sustainable future.

Advancing Responsible Research and Innovation

Responsible research and innovation (RRI) is a key concept and policy framework. ARC Fund is involved as a partner in one of the major RRI-focused initiatives, funded under *Horizon 2020 RRI-Practice*. It seeks to produce practical insights for participating and partnering organizations, academic insights for scholars and practitioners of "science with and for society", as well as policy-related insights for the European Commission. ARC Fund partners with the Bulgarian Ministry of Education and Science and the National Science Fund to review the current status of RRI and based on it – to develop Outlooks to strengthen RRI-related activities.

At a policy workshop in early 2017 hosted by ARC Fund, civil society organizations, academia, industry and policy-makers presented their understanding and practice of responsibility in research and innovation. The RRI concept and the developments and challenges to RRI in Bulgaria were also discussed. The event showcased diverse knowledge and attitudes to RRI, contributed to rethinking its scope and dimensions, and identified the need for further institutional engagement with some of the underlying RRI principles.

Studies within the engaged organizations were also conducted on how they



National Policy Workshop: Responsible Research and Innovation, 23 February 2017

prioritize RRI. In September 2017, representatives of the involved research funding, research policy and research conducting organizations met in Berlin

to present and discuss different organizational approaches to RRI, with a special focus on barriers, drivers and best practices for RRI implementation.

Citizen Engagement with Science and Research

Citizen engagement is one of the key pillars of RRI. In 2017, ARC Fund continued engaging citizens for improving the relation between science and society and developing a more inclusive, responsive and responsible research and innovation system. As a follow-up of a citizen panel meeting within the [PROSO initiative](#), in February 2017 ARC Fund organized a second meeting with the same citizens in order to get their views and feedback on the conclusions and suggestions for policy measures aiming to improve

citizen engagement in R&I. The results from this and from 4 other EU countries' citizens' meetings were analyzed and presented in the [Synthesis Report on citizens' views of engagement in research-related activities](#).

Research results (including research on engagement of third sector organizations (TSOs) were presented to international experts and researchers in various fields at a [Multi-Actor Conference in Brussels in June 2017](#). Based on the discussions,



National citizen panel meeting in Plovdiv, 11 February 2017



Multi-Actor Conference on Engaging Society for Responsible Research and Innovation in Brussels, 19 June 2017

a Policy Guide was developed, outlining the barriers to public engagement as identified by the PROSO initiative and recommending policy measures to address them. The proposed measures incorporated the perspective of various stakeholders, citizens and TSOs.

ARC Fund hosted various participatory events giving citizens as an opportunity to become legitimate actors in formulating R&I priorities at the EU and national level. The CIMULACT initiative puts citizens at the core of the R&I agenda-setting processes through the organization of an EU-wide online and face-to-face consultation processes with laypeople. In 2017, ARC Fund developed [23 research topics](#) which can serve policy makers at all levels of governance in identifying research pri-



orities of importance to citizens in their constituencies.

CIMULACT's consultations and efforts to provide a link between citizens' aspirations, hopes and concerns for the future

and the R&I agenda-setting processes were recognized in the [Horizon2020 Work Program 2018 – 2020](#) (p. 40)). The policy implications of CIMULACT results were synthesized in a series of [policy briefs](#).

Sustainable Innovation

In 2017, ARC Fund focused on promoting sustainable innovation as part of the public policy discourse and on building awareness among academics, SMEs and policy influencers. Drawing on its experience in technology assessment, ARC Fund hosted a session within the framework of the Third European Conference on Technology Assessment in Cork, Ireland. Discussions focused on participative methods as both an attribute of sustainable innovation and a means for introducing innovative aspects in the public debates on the topic.

ARC Fund and its long-time partner Technologica hosted a stakeholder

meeting at the Faculty of Economics and Business Administration of Sofia University to discuss the practical implications of sustainable innovation. The new framework for the assessment and management of sustainable innovation CASI-F was introduced and practical examples of how it could be used by different stakeholder groups were presented. The framework is a versatile instrument which has both business and policy applications.

In 2017, ARC Fund successfully completed [the CASI project](#) whose key results and deliverables are publicly available on its website.

STI Cooperation in the Black Sea Region

Throughout 2017, ARC Fund advanced its involvement in the STI cooperation in the Black Sea Region, contributing to policy dialogues on STI between the EU and Black Sea countries. ARC Fund hosted a workshop in Sofia and co-organized an event in Tbilisi to discuss the societal relevance of social, sustainable, frugal and inclusive innovations, as well as their scientific and technological basis. The forums also aimed to raise awareness on the benefits of these types of innovation and to

arrive at policy-relevant messages that address them.

At a workshop in Sofia, gathering representatives of companies, social enterprises, civil society organizations and universities from Armenia, Azerbaijan, Austria, Bulgaria, Georgia, Germany, Moldova, Romania, Russia, Turkey and Ukraine, successful practices from these Black Sea countries were presented and drivers, barriers, challenges and opportunities for social, sustainable and frugal



Promotion of Social, Sustainable and Frugal Innovation in the Black Sea Region Workshop, Sofia, November 2017

innovations were discussed. Participants formulated policy-relevant messages focusing on the necessity to shift from innovation as a global phenomenon to local innovation, and to introduce funding and support schemes for the latter, to map and promote successful practices, to involve local communities in designing innovative solutions, and to facilitate collaboration between innovators, researchers, business, policy-makers and the local communities.

The workshop “Policy guidelines for social, sustainable and inclusive innovation: the Black Sea region experience” took place in Tbilisi in December 2017. The results from the workshop in Sofia were presented, helping to advance practitioner-generated knowledge on social, sustainable and frugal innovations to a more policy-oriented audience from public authorities, NGOs, business, universities and agencies from the Black Sea region.

Improving Management Capacity for Scientific Excellence

In 2017, ARC Fund started an initiative in collaboration with 11 partners from Central Europe and the Western Balkans on the promotion of excellence in research, social and technological innovation project management to address some critical shortages, analyze current opportunity gaps and elaborate strategic recommendations towards building better capacity and human resource resilience in the Danube region.

As the initiative leader, ARC Fund designed a methodology for the analysis of national capacities in innovation and

research project management. The effort involved collecting good practices, identifying national stakeholders and performing an inquiry on the available management capacities and the challenges at the different levels of governance. An online survey was also conducted among more than a thousand experts and young project managers in the Danube region. ARC Fund and its partners will further elaborate a regional strategy for building project management capacity in the area of research and innovation.

Transforming Household Energy Consumption Culture

Reducing energy consumption and carbon footprint are among the greatest contemporary challenges. ARC Fund is partner in the multi-national [ENERGISE](#) initiative aiming to propose and test several innovative approaches to changing the ways in which households use energy across Europe.

In 2017, ARC Fund took part in the elaboration of a conceptual framework for energy-related practices taking into account social norms and routines and factors such as income, education, family status and gender. The framework draws the conclusion that current public policy measures to reduce energy consumption are likely to fail if the culture and patterns of energy use in households remain unchanged.

ARC Fund also conducted a review of existing sustainable energy consumption initiatives in European countries and explored the ways in which households decrease their energy consumption and negative impact on the environment at home and in 10 European countries, adding to a database of 1068 initiatives accessible to the public on the ENER-GISE website.

The mapping of energy saving initiatives in Bulgaria revealed that Bulgarian households rarely change their practices and behavior in order to reduce energy consumption. The only such efforts are the retrofitting of multi-story residential buildings under EU-funded national or municipal programs and the purchase of energy efficient domestic appliances.

Developing Research Infrastructures

In January 2017, ARC Fund launched an effort to address the challenge of insufficient capacity to conduct ex-ante reviews, monitoring and impact-oriented assessments of research infrastructures (RI) in the Danube region as part of a regional partnership providing training and other learning opportunities to policy makers and policy delivery organizations involved in RI financing, as well as to experts and professionals from RI-operating parent organizations.

ARC Fund contributed to the design of training activities, focusing on two main

tasks: 1) training of RI program owners, financing authorities and policy delivery organizations, RI operators and potential RI reviewers; and 2) registry of RI reviewers. The organization also elaborated a methodology for stakeholder needs assessment and drew a report providing a comprehensive overview of the RI development framework in Bulgaria.

The report provided a thorough review of the key issues in the national RI policy and practice, and featured an assessment of the national RI planning, monitoring and evaluation efforts.



Participants of the Strategic Dialogue Workshop in Vienna

Social Innovation as a Driver of Social Change

Social innovation is a key research area of ARC Fund. In 2017, the organization took part in a number of policy and foresight workshops within the Social Innovation – Driving Force of Social Change (SI-DRIVE) initiative aiming to extend knowledge of social innovation into a new paradigm of innovation and to perform global mapping of social innovation in different social contexts. Each of the workshops focused on a policy field such as education, energy and the environment relevant to the current grand societal challenges.



ARC Fund was also involved in the drafting of a *Social Innovation Atlas (SI-Atlas)*, detailing the proliferation and acceptance of social innovations across Eastern Europe, and providing a critical review of the interplay between social innovation

and sustainability. The Atlas gives a global overview of the rich variety of social innovation in different world regions and policy fields and promotes the importance of social innovation in addressing globally the social, economic, political and environmental challenges of the 21st century.



Organizational-level interventions reducing the negative effects of restructuring on employees in large company establishments in the EU

In 2017, ARC Consulting (part of ARC Fund Group) partnered with Eurofound – European Foundation for the Improvement of Living and Working Conditions in a research initiative entitled “Provision of qualitative research study on organizational-level interventions reducing the negative effects of restructuring on employees in large company establishments in the EU” as part of the 2017 European Restructuring Monitor (ERM) annual report prepared by Eurofound. ARC Fund was involved in validating

and expanding literature-based good practice components for the implementation of effective workplace restructuring through in-depth qualitative interviews with relevant experts and stakeholders in Bulgaria. It also drew up a case study on a successful Bulgarian company-level intervention aimed at

ameliorating the negative effects of restructuring for remaining workers. The case study helped analyze the content, design, organization-specific factors and contextual issues that influence such interventions and improve existing guidelines for practitioners and policy-makers.