



Resolution 2402 (2021)¹

Research policies and environment protection

Parliamentary Assembly

1. The United Nations 2030 Agenda for Sustainable Development commits all countries to taking “urgent action to combat climate change and its impacts” (Goal 13) while the Paris Agreement calls on them to cut greenhouse gas emissions to reach climate neutrality by the second half of the century. The Parliamentary Assembly is concerned that, despite the significant results achieved, current policies and the level of effort of Council of Europe member States remain below what is required to achieve this result.
2. Climate change, as well as the progressive depletion of resources that are being overexploited, risks triggering tragic consequences for hundreds of millions of people, especially the most vulnerable, and undermining social cohesion, democratic stability and peace in all regions of the world. Research can provide the innovative solutions that are necessary to counter both the impoverishment of the planet and the problem of climate change, and to ensure the sustainable development of our societies.
3. Economic systems will have to change radically if the planet is to be saved. There is a need to rethink an economic model that relies too heavily on (over)consumption, to have the courage to take a stand against planned obsolescence of goods and to review consumption habits; clean transport systems must be developed, living spaces reorganised and less energy-intensive homes built. Through individual behaviour and lifestyle choices, it is possible to help contain the demand for energy.
4. The growth of the world’s population, social and economic development, which must benefit all, and the new horizons that progress opens up, with the deployment of technologies and activities that create huge demands for energy (such as the expansion of the digital world, artificial intelligence and the plans to conquer space), make it highly unlikely that there will be a decline in energy consumption. Reducing the carbon footprint of human activities therefore necessarily requires decarbonised energy production, so more research needs to be carried out on the energy sources of the future.
5. Moreover, the resources that humankind has at its disposal are limited and the way those resources are used today is not sustainable. Another key focus of research, therefore, is the circular economy. It is important to learn to reuse and recycle the resources on which existing economic systems rely so heavily, including those required for energy transition, without which development would come to a halt.
6. In order to steer the research effort, it is important to objectively assess all the constraints – economic, social, environmental and temporal – that are apt to make certain paths hazardous and to properly weigh up the consequences of our strategic choices. The impact of fossil fuels is disastrous but there is also damage caused by the extraction of the rare metals and minerals that are indispensable for the development of renewable energy production and storage technologies. Research must be directed at minimising and, if possible, avoiding this damage and any environmental impact that renewable energy production may have, such as visual and noise pollution or the presence of substances that may be hazardous to health.
7. Because of the large-scale deployment of renewable energy, future demand for essential raw materials is expected to increase significantly. We should not underestimate the risks to which European countries would expose themselves by becoming dependent on the countries that produce these rare minerals, whose

1. *Assembly debate* on 29 September 2021 (28th sitting) (see [Doc. 15357](#), report of the Committee on Culture, Science, Education and Media, rapporteur: Mr Olivier Becht). *Text adopted by the Assembly* on 29 September 2021 (28th sitting). See also [Recommendation 2215 \(2021\)](#).



widespread use (in the absence of their full recycling) can only lead to increased prices, scarcity and exhaustion. A similar risk arises from the quasi-monopolies that one or a few countries may hold in the processing of these rare minerals and/or in manufacturing components that are essential to European countries' industrial production. Failure to take due account of these risks will only make those countries weaker.

8. In order to ensure the competitive edge and sovereignty of European industry, Council of Europe member States must ensure a secure, sustainable and responsibly sourced supply of raw materials, but also make choices to increase their autonomy with regards to critical raw materials, and maximise the value of the resources and materials available to them; reusing and recycling can reduce the risk of scarcity and also help to preserve countries' economic independence, or even sovereignty.

9. In a world of interdependencies, technological responses to current problems are perforce multisectoral. Interdependency and complexity lead to, and make indispensable, co-operation on cross-cutting areas and issues between researchers and others in research and development. In addition, policy solutions (and hence plans) necessarily involve several levels, from local to international, both in their development and in their implementation.

10. Citizens' active participation and engagement are cornerstones to building the green economy; citizen involvement in decision making from the outset is both a democratic requirement and a condition for achieving the desired results: citizens are the drivers of the paradigm shift, and the ones who bring it about through their action. If the ecological transition is to succeed, a collective effort is needed; behavioural economics should make it possible for citizens to co-design the technical solutions and innovations of tomorrow.

11. The United Nations Sustainable Development Goals point the way. Policy action must not be diverted from the path of sustainable development, because time is running out. In the view of the Assembly, the process of making market-ready technologies available for sale and upscaling them needs to be supported. At the same time, it is important to dedicate more resources to researching and developing new solutions, while making the best use of existing funding mechanisms and considering new forms of funding.

12. Public finances are under severe strain due to the economic impact of the Covid-19 pandemic and the urgent need to address the social distress that this pandemic has caused among the more vulnerable sections of the population, in Europe and elsewhere. The Assembly considers, however, that when seeking to rebuild our societies and economic systems, it is to tomorrow's world that attention should be directed, not yesterday's. To some extent, the crisis is an opportunity for change, one that we cannot afford to miss. Research and innovation for the green economy must be among the "beneficiaries" of national post-crisis recovery plans.

13. Accordingly, the Assembly calls on Council of Europe member States to review their research, innovation and development policies, in order to give the highest priority to the green economy, and more specifically energy transition and the circular economy, so as to bring economic development into line with the goal of achieving carbon neutrality by 2050. In this context, the Assembly calls on member States to:

13.1. develop specific research programmes on:

13.1.1. renewable energies, without forgetting the specific constraints that may hinder large-scale deployment of the relevant technologies, and in particular the importance of developing storage technologies, and the imperative need to upgrade the electricity grid and ensure the security and resilience of the energy production and distribution system, which also require significant research efforts;

13.1.2. the circular economy, including notably the recycling (if not replacement) of critical materials needed for energy-transition technologies and for waste-heat recovery and carbon capture and storage (or reuse) technologies;

13.2. maintain fundamental research projects that may lead to the discovery and harnessing of new sources of sustainable, abundant and cheap energy, and ensure that any progress in this direction is discussed within the scientific community;

13.3. take due account of the geopolitical risk, as well as economic, social and environmental constraints, because, alongside sustainable development issues, there is also the question of markets and strategic autonomy, or even national sovereignty;

13.4. encourage, including through funding, collaboration and pooling of research efforts at national level, having regard to public-public, public-private and private-private co-operation and synergies;

- 13.5. promote co-operation between universities and large companies and foster through incentives the creation of consortia among large companies to work together with publicly funded scientific institutions;
- 13.6. develop a technology watch activity in strategic areas to identify innovative projects and support their development and transition to the commercialisation stage;
- 13.7. put in place funding mechanisms that can be activated with a degree of flexibility and speed; direct research funds towards long-term innovation demands and provide incentives for the creation of research-industry partnerships, with more funding for collaborative projects between research laboratories and industry projects on strategic matters;
- 13.8. consider new forms of research funding and, in this context:
 - 13.8.1. consider the possibility of issuing public debt securities, “green bonds” accessible to the general public and designed to fund strategic research in the fields of energy transition and the circular economy;
 - 13.8.2. consider supporting the establishment of a national online platform with a selection of innovative projects to which a State would undertake to provide financial support and which would be open to participatory financing;
- 13.9. strengthen the European dimension of their research policies, and – when possible – encourage and support participation in the European programmes through tools such as better information, advice and assistance in completing the required steps and procedures, as well as financial incentives;
- 13.10. define core areas where it is crucial to widen co-operation between European countries, but also between Europe and other regions of the world, and design the research framework accordingly, to foster mutually beneficial co-operation and strategic international partnerships, for example to ensure complementarity and greater efficiency in terms of research efforts.