The Joint Consultative Group (JCG) under the ‘Agreement for Scientific and Technological Cooperation between the European Community and the Government of the United States of America (S&T Agreement) met in Brussels on 12 October 2022. It was co-chaired by Signe Ratso, Acting Director-General for Research and Innovation, European Commission, and Monica Medina; Assistant Secretary for Oceans and International Environmental and Scientific Affairs, U.S. Department of State, and with the participation of Joanna Drake, Deputy Director-General for Research and Innovation, European Commission, and Brian Glynn, Managing Director of the European External Action Service.

The meeting was attended by U.S. representatives from the Department of State (DoS), White House Office of Science and Technology Policy (OSTP), the National Science Foundation (NSF), the Center for Diseases Control and Prevention (CDC), the National Oceanic and Atmospheric Administration (NOAA), the Federal Aviation Administration (FAA), the Department of Energy (DOE), the Department of Transportation (DOT), the National Institute of Standard and Technology (NIST), and the U.S. Mission to the EU. On the EU side, the Directorates General for Research and Innovation (R&I), Joint Research Centre (JRC), Mobility and Transport (MOVE), Education, Youth, Sport and Culture (EAC) participated. Representatives from the EU Member States attended as observers.

The meeting took place in a positive context for EU-U.S. Research and Innovation (R&I) relations following up on the conclusions of the EU-U.S. Summit of 2021, which called for reinforced cooperation on R&I particularly in the areas of health, energy, oceans and through the recently established Trade and Technology Council.

The EU and the U.S. are key strategic partners in terms of R&I policies, cooperation initiatives and transatlantic links between R&I stakeholders. As outlined in the conclusions of the last Summit, the EU and the U.S. are committed to: (i) end the COVID-19 pandemic, prepare for future global health challenges, and drive forward a sustainable global recovery; (ii) protect our planet and foster green growth; (iii) strengthen trade, investment and technological cooperation; and (iv) build a more democratic, peaceful and secure world. Research and Innovation cooperation is key tool to realise these objectives.

The two sides recognised that the current S&T Agreement, which is due to expire on 14 October 2023, has provided an excellent framework for constructive dialogue and cooperation, and indicated that they are working on necessary authorization for an extension of the S&T Agreement without any amendments for an additional period of five years in accordance with their respective rules and procedures.

The discussion in the JCG covered a wide spectrum of R&I domains and resulted in the following considerations about the direction of future cooperation on multilateral and bilateral levels:

**Multilateral and horizontal initiatives**
Both sides recognized the importance of international scientific collaboration to address pressing challenges in health, climate, energy, and environment, and the conditions of freedom, independence, openness, reciprocity, and transparency under which international collaboration flourishes. The two sides recalled the importance of the **Multilateral Dialogue on Principles and Values**. The EU side particularly appreciated the active involvement of the U.S. in the dialogue, notably in the co-design and co-organisation of the workshop on Ethics and Research Integrity planned for 9 December. Both sides highlighted the “G7 Common Values and Principles on Research Security and Research Integrity” as an important document to underpin discussions on research integrity with international partners, and to promote shared values and a commitment to improving equity, diversity and inclusion in the conduct of science and the benefits from scientific research.

**Mission Innovation** - The two sides continue to work closely together on Mission Innovation. Both sides sit on the Steering Committee in leadership positions and recognize the importance of the organization that is catalysing a decade of action and investment in research, development and demonstration to make clean energy affordable, attractive and accessible for all. This would accelerate progress towards the Paris Agreement goals and pathways to net zero. The two sides recognize the success of the recent Global Clean Energy Action Forum, which included the annual Mission Innovation ministerial meeting. Both sides welcomed the first joint meeting of the Clean Energy Ministerial and Mission Innovation under the GCEAF and intend to turn ambition into action, through missions and campaigns and through joined stewardship of Breakthrough Agenda. They acknowledged that going forward, to take greater and bolder action, innovators should work hand-in-hand with the deployers of clean energy.

**All Atlantic Ocean Research and Innovation Alliances (AAORIA)** – Both sides recognized the strategic importance of the AAORIA Ministerial Declaration, which was signed in Washington D.C. in July 2022 setting an ambitious agenda for the AAORIA, as well as the continued relevance of the Galway Declaration for North Atlantic cooperation. They expressed the intention to work together with a wider range of partners through AAORIA to promote openness, develop a common roadmap for the implementation of the AAORIA Declaration, and build closer bilateral cooperation and synergetic opportunities in shared priorities areas such as Digital Technologies for the Ocean, Ocean ecosystems and Marine Protected Areas, and Marine Pollution. Both sides also intend to explore reinforcing cooperation on polar and in particular Arctic research. They highlighted their interest in relevant national and international initiatives, such as the Atlantic-Arctic ‘lighthouse’ of Mission Restore our Ocean and Waters by 2030, and related program support mechanisms, such as the Convergence Accelerator, and both sides have a shared interest in linking knowledge exchange among local communities.

**Trade and Technology Council (TTC)** - Both sides recognized the importance of the ongoing cooperation in the context of the TTC. They welcome the work of the EU’s Joint Research Centre and the U.S. Department of Energy’s Argonne National Laboratory, in the TTC Working Group 2 work stream on ‘E-mobility and interoperability with Smart Grids’, which aims to deliver the first technical recommendations for government-funded implementation of charging infrastructures supportive of the May 2022 TTC joint statement.

**Ukraine** - Fully condemning Russia’s military aggression against Ukraine, the two sides exchanged information on the various support initiatives and intend to coordinate efforts with a view to ensuring that R&I plays a role in the key political and operational frameworks on Ukraine’s reconstruction and recovery. The EU side informed that Ukraine is fully associated to Horizon Europe and Euratom programmes and can participate and get access to funds in all part of these programmes without any costs as no financial contribution will be collected from
Ukraine (at least for the years 2021 and 2022). Both sides intend to seek opportunities to deepen their cooperation in this area. Sustained attention is needed to support the Ukrainian researchers who continue their work in Ukraine, as well as those who are temporarily displaced, so as to avert further brain drain.”

Bilateral thematic cooperation

Both sides intend to advance joint work in the follow areas:

**Cancer Research** - Both sides recognised the great potential for transatlantic cooperation in the field of cancer research and the need to seek synergies between the U.S. Cancer Moonshot initiative and the EU Mission on Cancer and the Europe’s Beating Cancer Plan. They also intend to coordinate efforts on cancer research and innovation, notably on: 1) Research on paediatric and rare adult cancers, focusing on a better understanding of both its development and progression (knowledge, methods, data, innovation, standards); 2) Investigator-driven, patient-centred clinical trials on refractory cancers (diagnosis, treatment, and care interventions); and 3) Research to improve screening and early detection, focusing on lung, prostate, and gastric cancer.

**New Climate-Health Nexus** - At the September 2022 International Society for Environmental Epidemiology (ISEE) conference, a session on Climate Change and Health was organized by the National Institutes of Health (NIH), National Institute of Environmental Health Sciences (NIEHS), with participation from the Centers for Disease Control and Prevention (CDC), Environmental Protection Agency (EPA), and the European Commission. Discussions between US and EU participants/policymakers addressed shared research priorities. Following up on this event, such transatlantic discussions will continue to further refine areas of common interest and research priorities, notably research on the impacts of climate change and planetary health on communicable and non-communicable diseases, as well as injuries.

Engaging in an expanded dialogue between the Directorate-General for Research and Innovation (DG RTD) and NIH, CDC, National Science Foundation (NSF), National Oceanic and Atmospheric Administration (NOAA), and other relevant U.S. agencies to promote the exchange of knowledge and expertise through ongoing initiatives from Horizon Europe and U.S. programs is of interest. This exchange will take advantage of the work to be developed by the recently launched Horizon Europe cluster of projects on climate change and health, the new NIH Strategic Framework on climate change and health, and additional relevant guidance from other agencies.

Moving forward, both sides intend to reinforce cooperation related to research on the impact of climate change and associated environmental factors on health, including: heat related illness; health implications of climate-related emergencies; and the relationship between climate change and air and water pollution, cancer, cardiovascular disease, mental health conditions, and autoimmune disorders, including among children.

Both sides encourage U.S. and EU researchers to continue to work together through ongoing initiatives such as the health-related projects under the Commission’s Horizon Europe framework programme and relevant U.S. agency research programs.

**Climate neutrality in aviation** – Both sides acknowledged the importance of investing in R&I to reach climate neutrality in aviation. As a starting point, coordinated activities would be pursued on Sustainable Aviation Fuels (SAF), and addressing the non-CO2 climate impact of aviation.
On SAF, the focus would be on: i) sharing information on research projects and type of technologies, ii) exchange of information on existing and planned SAF projects (including feedstocks and technologies being used), iii) exchange of information on projected future supply of SAF accounting for economics and demand from other transport modes, iv) cooperation in supporting development of SAF supply chains in other world regions, v) exchange on hydrogen supply for the aviation industry (to produce SAF or as direct burn), and vi) exchange on infrastructure requirements for aircraft powered by SAF, hydrogen, and electricity. Workshops are intended to be organised on financing of SAF projects. The EU side welcomed the participation of U.S. entities in the new RLSCF Alliance (Renewable and Low-Carbon Fuels Value Chain Industrial Alliance) that focuses on boosting production and supply of renewable and low-carbon fuels in the aviation and waterborne sectors. EU-U.S. exchanges are intended to complement the current work of the Committee on Aviation Environmental Protection (CAEP) within the International Civil Aviation Organization (ICAO).

On Non-CO₂ climate impact of aviation, both sides intend to work on exchanging information and promoting links between ongoing projects, including on contrails and on aviation induced clouds, and examine the North-Atlantic Track System (NATS) as a way to collaborate on this issue.

Modelling for transition pathways – Both sides expressed interest in developing bilateral modelling capability by increasing the compatibility and inter-comparability of their data and models. This work is intended to include integrating prediction and impacts models and integrated assessment models. The two sides intend to organise a working group to simulate carbon-neutral pathways, including for infrastructures, and through climate modelling, with a view to assess the efficiency of our deployed climate change solutions and policies in reducing the rate of regional and global climate change. A joint roadmap is intended to outline goals, timelines, and actions for this collaboration. In addition, both sides discussed collaboration on the next editions of the Global Energy and Climate Outlook (GECO) reports, coordinated by the Joint Research Centre, to provide a quantitative global picture of how the energy sector evolves through the interaction of socio-economic development, technological innovation, and climate policies.

Transport research - Building on the Implementing Arrangement of 2013, both sides intend to step up the longstanding cooperation through a series of joint Transport Research Symposia with high visibility, political and strategic relevance for both sides. The symposia would promote common understanding, sharing of experience and best practices, efficiencies, and transatlantic cooperation within the international transport research community, while accelerating transport-sector innovations in Europe and the United States. Collaborations at the level of on-going research and innovation projects from both sides of the Atlantic would equally be promoted. The symposia are intended to be co-organised by the European Commission (Directorate General for Research and Innovation, and Directorate General for Mobility and Transport) and on the US side, by the US DoT-OSTR (Office of Research, Development, and Technology in the Office of the Assistant Secretary of Research and Technology) and the Transportation Research Board (TRB). The symposia would be hosted alternately by the EC and the US on an annual basis.

Earth Observation - The two sides welcomed the results of the 11th EU-U.S. dialogue on civil space cooperation on 28/29 June 2022 in Washington DC where it was decided to support transatlantic cooperation on climate with space based data to jointly address the climate crisis including through a possible Working Group on Green House Gas (GHG) monitoring. Building on this and other ongoing initiative such as GEO and SAON, the two sides intend to step up collaboration and ambition on atmospheric observations and monitoring, in particular with view
to informing climate change related policies, in collaboration with WMO, GCOS and in the frame of international data networks (ICOS, IAGOS, BSRN, GCOS, GRUAN, GSRN). Observation-based dataset development and user-oriented services would be developed the frame of the relevant GEO initiatives. Improved collaboration on global ocean carbon observing system is envisaged by joint initiatives under GOOS and G7 GFOI, in collaboration with EU ICOS, the Canadian action to develop a North Atlantic Carbon Observatory, and the JPI-Oceans Action. Opportunities for improved collaboration on Carbon Dioxide Removal (CDR) research and observations would also be sought through ongoing H2020 and Horizon Europe projects on this topic.

**Circular Economy** - Both sides presented the scope of their activities in the field of circular economy. They recognised the circular economy as an important area for mutually beneficial cooperation and agreed to continue dialogue related to robust and available data sets, alignment on standards, and harmonization of lifecycle assessment methodologies. There was also agreement that the bio-economy and circular economy are complementary and interconnected areas of research, both of which rely on data and lifecycle assessment. Active areas of R&D, which may be particularly impactful to a future circular economy, include plastic recycling and redesign, bio-based chemical and material production with a focus on end-of-life, reuse and remanufacturing, and critical materials supply chains. Both sides acknowledged that although the funding cycles of the involved institutions are currently out of sync for the development of a co-funding opportunity, the urgency of the need for circular economy solutions across all material classes, and the subsequent potential to mitigate climate change, warrant a timelier approach to collaboration. Both sides considered that it was important for U.S. and EU experts to collaborate on an analysis of challenges and research gaps to be tackled by future work programs of the institutions involved, and on prioritization of research efforts across the U.S. and the EU for mutual benefit. Two types of activities are intended to be pursued in the very near term: sharing of information on past projects and plans for the near future; and to facilitate collaboration and partnership in already established consortia across the Atlantic with an eye towards future co-created and co-funded opportunities.

**Science in Society** - The two sides recognized the paramount importance of science for effective, democratic policymaking and commit to making their science for policy systems more resilient and better prepared for challenges ahead. The two sides intend to explore a series of joint U.S. – EU workshops to strengthen and develop new strategies and structures that promote evidence-based/evidence-informed decision-making, share leading practices on engaging with citizens in the science-for-policy process, compare efforts for research-backed knowledge to advance better, more equitable policy outcomes for all, and seek to open new avenues for U.S.-EU collaboration on science-for-policy activities.

**Researchers’ mobility, training, and career development** - The two sides recognised the importance of encouraging enhanced transatlantic mobility of researchers and research collaboration on training and career development. They presented on their respective activities that promote exchanges and other collaborative international research experiences across a broad range of scientific disciplines, including quantum information science and technology. Both sides were open to promoting awareness of transatlantic research opportunities, particularly to scholars from traditionally excluded communities. They intend to further dialogue to explore reciprocal researcher mobility efforts, and discuss opportunities for a possible co-funding arrangement to enhance U.S. participation in MSCA.

Next steps and next meeting
The two sides decided to continue dialogue on a regular basis to deliver on all the themes mentioned, and aim at holding the next meeting of the Joint Consultative Group in 12 to 18 months to review progress and set the direction of further cooperation.