

Inhaltsverzeichnis

1. /DFG/ Priority Programme „Integrated TERahertz sySTems Enabling Novel Functionality (INTEREST)" (SPP 2314), Deadline: 22 February 2021	1
2. /BMBF*/ Wissenschaftlich-Technologischen Zusammenarbeit mit Südafrika (SAG-CORE), Deadline 13.11.2020	2
3. /EU*/ Southeast Asia Europe JTI: S&T Joint Call for Proposals: Infectious Diseases (Incl. Covid-19) extended deadline 15 December 2020	3
4. /EU*/ BiodivERsA and Water JPI Joint Call „Conservation and restoration of degraded ecosystems and their biodiversity, including a focus on aquatic systems.", Deadline 07 December 2020	4
5. /EU*/ ERA-Net Smart Energy Systems (JPP ERA-Net SES): Call Announcement on digital transformation for green energy transition ("MICall20").	5
6. /EU*/ European Joint Programme on Rare Diseases (EJP RD) Call for Proposals 2021 Pre-Announcement	5
7. /EU*/ ForestValue Research Programme Joint Call for Proposals 2021 Pre-Announcement.	7
8. /EU*/ ERA MIN Joint Call for Proposals 2021 Pre-Announcement	7
9. /sonstige/ IP Booster: Next Deadline 30 October 2020	8
10. /EU Horizon2020*/ Preventing and fighting extreme wildfires with the integration and demonstration of innovative means, ID: LC-GD-1-1-2020, Deadline: 26.01.2020, 17:00 Brussels time	8
11. /EU Horizon2020*/ Towards Climate-Neutral and Socially Innovative Cities, ID: LC-GD-1-2-2020, Deadline: 26.01.2021 17:00 Brussels time	9
12. /EU Horizon2020*/ Climate-resilient Innovation Packages for EU regions, ID: LC-GD-1-3-2020, Deadline: 26.01.2021, 17:00 Brussels time	10
13. /EU Horizon2020*/ European capacities for citizen deliberation and participation for the Green Deal, ID: LC- GD-10-1-2020, Deadline: 26.01.2021, 17:00 Brussels time	11
14. /EU Horizon2020*/ Behavioural, social and cultural change for the Green Deal, ID: LC-GD-10-2-2020, Deadline: 26.01.2021, 17:00 Brussels time	12
15. /EU Horizon2020*/ Enabling citizens to act on climate change, for sustainable development and environmental protection through education, citizen science, observation initiatives, and civic engagement, ID: LC-GD-10-3-2020, Deadline: 26.01.2021, 17:00 Brussels time	14
16. /EU Horizon2020*/ Innovative land-based and offshore renewable energy technologies and their integration into the energy system, ID: LC-GD-2-1-2020, Deadline: 26.01.2021, 17:00 Brussels time	14
17. /EU Horizon2020*/ Develop and demonstrate a 100 MW electrolyser upscaling the link between renewables and commercial/industrial application, ID: LC-GD-2-2-2020, Deadline: 26.01.2021, 17:00 Brussels time.	15
18. /EU Horizon2020*/ Accelerating the green transition and energy access Partnership with Africa, ID: LC- GD-2-3-200, Deadline: 26.01.2021, 17:00 Brussels time	17
19. /EU Horizon2020*/ Closing the industrial carbon cycle to combat climate change - Industrial feasibility of catalytic routes for sustainable alternatives to fossil resources, ID: LC-GD-3-1-2020, Deadline: 26.01.2021, 17:00 Brussels time	18
20. /EU Horizon2020*/ Demonstration of systemic solutions for the territorial deployment of the circular economy, ID: LC-GD-3-2-2020, Deadline: 26.01.2021, 17:00 Brussels time	18
21. /EU Horizon2020*/ Building and renovating in an energy and resource efficient way, ID: LC-GD-4-1-2020, Deadline: 26.01.2021, 17:00 Brussels time	19
22.	

/EU Horizon2020*/ Green airports and ports as multimodal hubs for sustainable and smart mobility, ID: LC-GD-5-1-2020, Deadline: 26.01.2021, 17:00 Brussels time	20
23. /EU Horizon2020*/ Testing and demonstrating systemic innovations in support of the Farm-to-Fork Strategy, ID: LC-GD-6-1-2020, Deadline: 26.01.2021, 17:00 Brussels time	21
24. /EU Horizon2020*/ Restoring biodiversity and ecosystem services, ID: LC-GD-7-1-2020, Deadline: 26.01.2021, 17:00 Brussels time	22
25. /EU Horizon2020*/ Innovative, systemic zero-pollution solutions to protect health, environment and natural resources from persistent and mobile chemicals, ID: LC-GD-8-1-2020, Deadline: 26.01.2021, 17:00 Brussels time	23
26. /EU Horizon2020*/ Fostering regulatory science to address combined exposures to industrial chemicals and pharmaceuticals: from science to evidence-based policies, ID: LC-GD-8-2-2020, Deadline: 26.01.2021, 17:00 Brussels time	25
27. /EU Horizon2020*/ European Research Infrastructure capacities and services to address European Green Deal challenges, ID: LC-GD-9-1-2020, Deadline: 26.01.2021, 17:00 Brussels time	25
28. /EU Horizon2020*/ Developing end-user products and services for all stakeholders and citizens supporting climate adaptation and mitigation, ID: LC-GD-9-2-2020, Deadline: 26.01.2021, 17:00 Brussels time	26
29. /EU Horizon2020*/ Transparent & Accessible Seas and Oceans: Towards a Digital Twin of the Ocean, ID: LC-GD-9-3-2020, Deadline: 26.01.2021, 17:00 Brussels time	28
30. /EU Horizon2020/ European Researchers' Night, ID: MSCA-NIGHT-2020bis, Deadline: 12.01.2020, 17:00 Brussels time	29

Inhalte

1. /DFG/ Priority Programme „Integrated TERahertz sySTems Enabling Novel Functionality (INTEREST)" (SPP 2314), Deadline: 22 February 2021

The Priority Programme visions to establish a well-defined terahertz community by following a holistic "integration" approach in a dedicated coordinated initiative. The theme "Integrated Tera-hertz Systems" will enable unseen functionalities and applications in the field of terahertz science and applications. It fosters interdisciplinary science by leveraging the best of what historically have been isolated scientific disciplines. It is expected that the novel integrated terahertz systems researched within the frame of INTEREST will melt down the boundaries between different scientific disciplines and enable orders of magnitude better performance.

Following are the research areas, not limited, including few project ideas encompassing from basic research to specific applications, where the theme "integration" is expected to impact maximally.

Area 1: novel physical phenomena, technologies, and devices enabling integrated terahertz systems with few examples such as:

- o heterointegration of III-V with BiCMOS
- o integration of novel materials or material systems (graphene, spintronics, etc.)
- o novel scalable integrated THz arrays

Area 2: novel multi-functional integrated systems with few examples such as:

- o novel THz system partitions and integrated radio transceivers
- o integrated broadband laser-induced THz generation in silicon technologies
- o complete electronic and photonic integration of THz measurement systems on a chip level

Area 3: novel terahertz science and applications based on integrated terahertz systems with few examples such as:

- o integrated THz systems for biomedical applications
- o integrated THz systems for space applications
- o integrated THz systems for communications

The DFG and the United Kingdom's Engineering and Physical Sciences Research Council (EPSRC) encourage collaborations between researchers based in Germany and the UK.

Further information:

https://www.dfg.de/foerderung/info_wissenschaft/ausschreibungen/info_wissenschaft_20_64/index.htm

|
<https://interest-thz.de/>

2. /BMBF*/ Wissenschaftlich-Technologischen Zusammenarbeit mit Südafrika (SAG-CORE), Deadline 13.11.2020

Zuwendungszweck von Vorhaben im Sinne dieser Bekanntmachung ist die Förderung von bilateralen inter- und transdisziplinären Forschungsverbänden, die mit ihrer Forschung an der Schnittstelle von Globalem Wandel zur Gesellschaft post COVID 19 ansetzen.

Ziel der vorliegenden Maßnahme ist es, einen signifikanten Beitrag zur Bewältigung globaler Herausforderungen wie der Auswirkungen der COVID 19 Pandemie auf die nachhaltige sozialökologische Transformation zu leisten. Eine erfolgreiche Umsetzung dieses Ziels beinhaltet folgende konkrete Teilziele:

- Verwertung der Ergebnisse aus den Forschungsverbänden, z. B. durch gemeinsame Publikationen oder Veranstaltungen;
- nachhaltige Vernetzung mit Akteuren aus Politik, Wirtschaft und Nichtregierungsorganisationen, somit eine Zusammenführung von Wissen, Erfahrungen, Forschungsinfrastrukturen und sonstigen Ressourcen von beiden Seiten;
- gemeinsame Anschlussforschungsprojekte, aufbauend auf den bilateral-geförderten Kooperationen.

Es werden bilaterale Forschungs- und Entwicklungsprojekte (als Verbundprojekte) gefördert, die entsprechend dem oben beschriebenen Zuwendungszweck eine hohe Praxisrelevanz aufweisen. Die Verbundvorhaben sollen von -afrikanischen und deutschen Expertinnen und Experten aus Wissenschaft, Wirtschaft, Politik und Zivilgesellschaft gemeinsam getragen werden. Eine länderübergreifende inter- und transdisziplinäre Zusammenarbeit wird erwartet, die eines oder mehrere der nachfolgenden Themen bearbeiten:

- Regulierung gesellschaftlicher Transformationen zur Nachhaltigkeit - post COVID 19
- Wirtschaft und Finanzierung von Transformationen zur Nachhaltigkeit - post COVID 19
- Wohlbefinden, Lebensqualität, Identität sowie soziale und kulturelle Werte im Zusammenhang mit dem Wandel zur Nachhaltigkeit - post COVID 19.

Antragsberechtigt sind Hochschulen, Forschungseinrichtungen sowie Unternehmen der gewerblichen Wirtschaft.

Die Zuwendungen werden als nicht rückzahlbarer Zuschuss im Wege der Projektförderung und in der Regel mit 220 000 Euro sowie in der Regel für eine Laufzeit von bis zu 48 Monaten gewährt.

Das Antragsverfahren ist zweistufig angelegt. Mit der Abwicklung der Fördermaßnahme hat das BMBF derzeit folgenden Projektträger (PT) beauftragt:

DLR Projektträger
Europäische und internationale Zusammenarbeit
Heinrich-Konen-Straße 1
53227 Bonn

Internet: <http://www.internationales-buero.de>

Fachliche Ansprechpartnerin und fachlicher Ansprechpartner beim Internationalen Büro:



Dr. Kerstin Silvestre Garcia
E-Mail: Kerstin.Garcia@dlr.de
Telefon: +49 2 28/38 21-14 80
Telefax: +49 2 28/38 21-14 11

Christian Schache
E-Mail: Christian.Schache@dlr.de
Telefon: +49 2 28/38 21-14 65
Telefax: +49 2 28/38 21-14 11

General Informationen: <https://www.bmbf.de/foerderungen/bekanntmachung-3154.html>

3. /EU*/ Southeast Asia Europe JTI: S&T Joint Call for Proposals: Infectious Diseases (Incl. Covid-19) extended deadline 15 December 2020

There is a long tradition of cooperation on infectious diseases between Europe and Southeast Asia and health related research is a proven strength of both regions. Nonetheless, major obstacles exist to overcome the existing and increasing global health challenges including the need for a deeper understanding of diseases pathology and the socio-economic causes of the diseases and linked effectiveness of health intervention.

There is a strong potential for collaboration in the area of COVID-19 as the whole world is affected by the outbreak situation and require actions, which can contribute tackling the COVID-19 related challenges. Hence, the thematic area of Infectious Diseases may include COVID-19 and related post-crisis research, e.g.:

- Research into preventive measures against the next pandemic or epidemic
- Long term studies e.g. related to population genomics, drugs, vaccines
- Post-crisis research to mitigate the impact (e.g. PTSD or other mental health research)

This list of sub-thematic areas does not exclude the submission of project proposals without a COVID-19 related thematic focus.

Funding will be provided for the duration of a maximum of three years (36 months). In general, funding is limited to a maximum of 150,000€ (Germany) They should start earliest in July 2021.

Proposals may be submitted by public legal RTD (Research and Technology Development) entities, higher education institutions, non-university research establishments, companies (all depending on national regulations).

German Contact:
BMBF / DLR Project Management Agency

International Bureau of BMBF at DLR Project Management Agency

Dr. Adele Clausen



Adele.Clausen@dlr.de
+49 (0)228 38212171

Mr. Hans Westphal
hans.westphal@dlr.de
+49 (0)228 38211473

German Regulations:

https://www.sea-eu-jfs.eu/sites/default/files/2020-06/National%20Regulations_Germany_BMBF_JFS2020.PDF

General Information:

<https://www.sea-eu-jfs.eu/call/extended-deadline2020-st-joint-call-proposals-infectious-diseases-incl-co-vid-19-and>

4. /EU*/ BiodivERsA and Water JPI Joint Call „Conservation and restoration of degraded ecosystems and their biodiversity, including a focus on aquatic systems.“, Deadline 07 December 2020

This call will cover the following three non-exclusive themes:

- Studying the biological and biophysical processes at stake for conservation/restoration, and their interactions
- Assessing trade-offs and synergies between targets, benefits and policies for conservation and restoration
- Knowledge for improving the effectiveness and upscaling of conservation and restoration actions

-
This joint call includes a focus on freshwater aquatic systems but ALL ENVIRONMENTS (I.E. TERRESTRIAL, FRESHWATER AND MARINE) ARE ELIGIBLE.

A two-step application procedure will be used in this call. Proposals (in English only!) must be submitted electronically. Instructions regarding submission, eligibility, and evaluation criteria and other relevant information will be made available in the official call announcement.

The call launch is planned for the 5th of October 2020, with a closing date for pre-proposals on 7 December 2020. The nature of the evaluation at the first step (pre-proposals stage) will depend on the number of pre-proposals received.

General Information:

<https://www.biodiversa.org/1772>

5. - /EU*/ ERA-Net Smart Energy Systems (JPP ERA-Net SES): Call Announcement on digital transformation for green energy transition ("MICall20")

The European Joint Programming Platform ERA-Net Smart Energy Systems (JPP ERA-Net SES) in collaboration with the global Mission Innovation Initiative is pleased to announce the Joint Call 2020 on digital transformation for green energy transition ("MICall20"). The aim is to support transnational research and innovation activities unleashing the potential of digital transformation for a sustainable energy society. The total available budget exceeds ≈ 27 Mio (including funding from the European Commission). The Joint Call 2020 will be launched during the fall 2020.

Aim

By accelerating the implementation, adaption and knowledge creation of digital solutions in energy systems and networks, this call supports the following objectives:

- Advance the green energy transition in all sectors of the energy system while ensuring security of supply
- Shaping new transnational business and investment opportunities by sector coupling and development of new value chains in innovative and cost-effective energy solutions, thereby creating new employment opportunities and contributing to the development of an environmentally sustainable financial growth
- Ensuring social sustainability and coherence with digitalisation in other sectors in the progression of the green energy transition

Overall objectives

Increase the development and uptake of latest digital innovation and solutions in the energy domain facilitate well established open and harmonised marketplaces that better connect the ICT and the energy domain improve knowledge and awareness for policy makers, regulators and utilities on digital solutions

German Contact:

Forschungszentrum Jülich

General Information:

https://www.eranet-smartenergysystems.eu/Calls/EnerDigit_Calls_funding/Joint_Call_2020

6. - /EU*/ European Joint Programme on Rare Diseases (EJP RD) Call for Proposals 2021 Pre-Announcement

"Social sciences and Humanities Research to improve health care implementation and everyday life of people living with a rare disease"

The European Joint Programme on Rare Diseases (EJP RD) has been established to help in coordinating the research efforts of European, Associated and non-European countries in the field of rare diseases and implement the objectives of the International Rare Disease Research Consortium (IRDiRC). Since 2019 it continues the funding effort of ERA-Net E-Rare that has successfully implemented ten Joint Transnational Calls for rare disease research projects between 2006 and 2018.

After the successful implementation of two Joint Transnational Calls (JTCs 2019 and 2020) focusing on basic and preclinical research, this year EJP RD fosters research projects on Social Sciences and Humanities (SSH) which are of major importance to better understand and improve healthcare implementation and everyday life of people living with a rare disease.

The following list of health-related Social sciences and Humanities (SSH) disciplines is used for definition (taken from the European Commission (EC) that was adapted from the UNESCO International Standard Classification of Education (ISCED 2011)):

Social sciences, business and law:

- Social and behavioural sciences: economics, management, sociology, anthropology, demography, geography, psychology, neuropsychology, cognitive science, human rights, law, political sciences, communication, and social studies of science and technology.
- Education science: educational research
- Governance: public and institutional administration, social and health economic and systems, policy, and social policy

Humanities and the arts:

- Humanities: cultural studies, linguistics, philosophy, ethics, and history.

CONSORTIUM MAKEUP

Projects shall involve a group of rare diseases or a single rare disease following the European definition i.e. a disease affecting not more than five in 10.000 persons in the European Community, EC associated states and Canada.

Consortia need to include clinical expertise and SSH expertise in their proposals. Partnering different groups, from different structures will allow a broader understanding of the cost of care, optimal care, and ultimately benefit patients.

Moreover, patient involvement is strongly encouraged for patient-centred successful applications.

The maximum duration of the project is three years.

Only transnational projects will be funded. Each consortium submitting a proposal must involve at least three principal investigator partners from at least three different countries that are joining this Call JTC 2021. No more than two eligible partners from the same country can be present in each consortium (further national limits may apply).

PRELIMINARY TIMETABLE

There will be a two-stage submission procedure for joint applications: pre-proposals and full proposals. The call is scheduled to open in December, with a pre-proposal submission deadline in February.

General Information:

<https://www.ejprarediseases.org/index.php/early-announcement-jtc2021/>

7. /EU*/ ForestValue Research Programme Joint Call for Proposals 2021 Pre-Announcement

The 2nd Joint Call of the ForestValue Research Programme will support basic and applied research and is focussed on solutions how forests and forest-based activities could best contribute to reaching the Sustainable Development Goals. This joint transnational call will address the whole forest-based value chain and will produce knowledge to support the best possible use of forests and forest resources as well as to provide multiple benefits for society and the economy. The precise topics are to be defined by the participating funders; however, the topics will be broad and crosscutting and the call will aim to encourage and make best use of cross-sectoral, coherent and integrated perspective (nexus approach).

The ForestValue Research Programme announces the upcoming call for joint European research projects with an indicative total public funding budget of over 7 million €. Projects are supposed to start late 2021/early 2022. The call for proposals is expected to open in January 2021.

General Information:

<https://forestvalue.org/joint-call-2021/>

8. - /EU*/ ERA MIN Joint Call for Proposals 2021 Pre-Announcement

The EU Co-funded ERA-MIN Joint Call 2021 will be the first joint call of the ERA-NET Cofund ERA-MIN3, to be officially launched on the 15th of January 2021, and will count with an indicative budget of €18 Million.

The scope of the 2021 Call is needs-driven research addressing three segments of non-fuel, non-food raw materials: metallic materials; construction materials; industrial minerals.

The five main call topics are:

Topic 1. Supply of raw materials from exploration and mining

Topic 2. Circular Design

Topic 3. Processing, Production and Remanufacturing

Topic 4. Recycling and Re-use of End-of-Life Products

Topic 5: Cross-cutting topics.

General Information:

<https://www.era-min.eu/news/1st-pre-announcement-eu-co-funded-era-min-joint-call-2021>

https://www.era-min.eu/sites/default/files/docs/1st_pre-announcement_era-min_joint_call_2021.pdf

9. /sonstige/ IP Booster: Next Deadline 30 October 2020

The European Commission is funding a service to provide specialised, professional IP advice to European Universities and Public Research Organisations. Are you:

- o Generating high-quality research, and eager to improve its impact on the market?
- o Trying to better address IP issues associated with commercialisation?
- o Searching for experts who can help you develop a successful intellectual property strategy?

The European Commission's IP Booster is a free service designed to help you address these challenges. Its carefully selected IP, technology and business strategy experts can examine your research and guide your teams to develop the best intellectual property strategies for your organisation. The IP Booster can help you:

- Determine what type and what amount of IP protection you need for your project's intellectual assets, and whether you need to acquire rights to third party IPRs
- Design a patent landscape so that you can clearly identify which commercialisation pathways are best for your research
- Conduct a thorough due diligence assessing the quantity and quality of IP assets generated by your project and estimate their future value
- Prepare your project's patent, design and trademark applications
- Provide advice and support in negotiating technology transfer agreements

To receive the IP Booster support, you'll need to apply using the IP Booster service website. Find out more about the application process and the services here and download an application form here. The next cut-off date is 30 October 2020.

More Information:

https://iprhelpdesk.eu/news/european-commissions-ip-booster-next-deadline-30-october-2020?pk_campaign=Newsle

10. /EU Horizon2020*/ Preventing and fighting extreme wildfires with the integration and demonstration of innovative means, ID: LC-GD-1-1-2020, Deadline: 26.01.2021, 17:00 Brussels time

Wildfires are among the first contributors to climate change, with up to 20% of total global greenhouse gas emissions per year. Furthermore, the large surfaces burnt cannot absorb so much CO₂ any longer, reducing the climate change mitigation potential of carbon sinks. Extreme wildfires are now observed more frequently in higher altitudes and latitudes and further contribute to accelerating climate change by increased black carbon fall-out on ice/snow and by melting of underlying permafrost.

In addition, large wildfires degrade air quality through the direct emissions of toxic pollutants affecting first responders and local residents, while populations in regions far away from the wildfires can be exposed to other pollutants as the air is transported, with short- and long-term impact on human health.

Climate change, certain forestry practices, ecosystem degradation and rural depopulation increase the depth and breadth of wildfires in the EU. Climate change is predicted to increase fire risk, with longer fire

seasons, more frequent fire events, new fire-prone regions and more severe fire behaviour. The burnt area in southern Europe during the 21st century would sharply increase. The number of people living near wildland and exposed to high-to-extreme fire danger levels for at least 10 days per year would grow by 15 million with 3°C warming, compared to now. Furthermore, global warming could result in a substantial shift northwards of European ecological domains, making the recovery or re-establishment of non-adapted ecosystems more difficult after a fire. Extreme wildfire events as in Southern Europe in 2017-2018 and in California, Brazil and Australia in 2019, are likely to become common throughout the whole of Europe.

The topic will be implemented through two distinct sub-topics. Proposals should address only one of the following subtopics:

Subtopic 1 (Innovation Actions): Actions funded under this call will speed up the pan-European adaptation process to extreme wildfires by advancing and applying research and innovation, including demonstration pilot sites, while making best use of existing data (e.g. remote sensing, in-situ or community-based data), technologies (e.g. Big Data and Artificial Intelligence) and services (as Copernicus, Galileo and EGNOS). Innovative means and methods should be developed, integrated and demonstrated in different environments across Europe (including EU Outermost regions) and tailored to geographical and socio-economic conditions, with different types of fuels (e.g. forest/bush /peat fire threats), landscapes and biodiversity values (e.g. coastal/alpine/agriculture/rural/Wild-Urban Interface/islands) and scales (e.g. local/regional /national/cross-border/EU/international).

The approach should be systemic: encompassing different climate scenarios, biogeographical/socio-economic contexts, traditional practices and new means for faster and smarter management of all interconnected fire management phases, i.e. prevention and preparedness (including forecasting and landscape management for impact mitigation, adapting tree species composition and forest management practices), detection and response (including fire containment, extinction, potential evacuation and recovery) and post-fire restoration and adaptation to climate change.

Subtopic 2 (Coordination and Support Action): This action aims to ensure that the demonstration of innovative and integrated approaches fulfils the expected impacts, by coordinating and supporting the Innovation Action projects funded under this topic.

Further information:

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/lc-gd-1-1-2020;freeTextSearchKeyword=;typeCodes=1;statusCodes=31094501,31094502,31094503;programCode=H2020;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=H2020-LC-GD-20-LC-GD-2020;sortQuery=submissionStatus;orderBy=asc;onlyTenders=false;topicListKey=callTopicSearchTableState>

11. /EU Horizon2020*/ Towards Climate-Neutral and Socially Innovative Cities, ID: LC-GD-1-2-2020, Deadline: 26.01.2021 17:00 Brussels time

This purpose of this topic is to develop a one-stop shop platform providing the necessary technical, regulatory, financial and socio-economic expertise as well as assistance to cities for developing and implementing their climate action plans, and related social innovation action plans. The project can involve research organisations, academia, industry including social entrepreneurs, the financial sector including impact financiers, investors, philanthropists, NGOs, national and local authorities and citizens. The project should also be responsible for the management of competitive calls addressed to third parties

to fulfil the objectives of this action. The platform should facilitate the coordination of ongoing European activities in the area of climate neutrality for cities and should be sustainable, scalable and self-financed beyond the life of the action. Where relevant, the action should take into due account and build on existing platforms, experience already matured by the Covenant of Mayors initiative and methodologies, analysis and processes developed by the Joint Research Centre of the European Commission as well as based on the principles and standards of the Join, Boost, Sustain Declaration.

The proposal should address all of the following four activities:

Activity 1: Climate action plans and Green Deal innovation

Activity 2: Investment project preparation and finance

Activity 3: Social innovation and citizens' engagement

Activity 4: Research and Innovation for climate-neutral transformation of cities

This action aims at a rapid, full-scale deployment of systemic and integrated climate actions at city or district level in order to reach climate neutrality by 2030. It should integrate a package of measures covering all sectors such as health promotion, water, food, energy, industry, housing (private housing and public buildings such as schools and other critical infrastructures), transport (including connected mobility and modal shift) and other sectors considered essential for climate neutrality, with digital, circularity as well as nature-based solutions as critical enablers, while respecting the do no significant harm (DNSH) principle in the specific city context and the set timeline.

Cities and/or local communities participating in the pilots are expected to engage the necessary resources and commit to the deployment of their action plan and the achievement of the expected impacts stated below.

Further information:

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/lc-gd-1-2-2020;freeTextSearchKeyword=;typeCodes=1;statusCodes=31094501,31094502,31094503;programCode=H2020;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=H2020-LC-GD-20-LC-GD-2020;sortQuery=submissionStatus;orderBy=asc;onlyTenders=false;topicListKey=callTopicSearchTableState>

12. /EU Horizon2020*/ Climate-resilient Innovation Packages for EU regions, ID: LC-GD-1-3-2020, Deadline: 26.01.2021, 17:00 Brussels time

Every additional half-degree of global warming may inflict a new order of magnitude of harmful consequences on planetary health as well as economic and social cohesion. The failure of economic, financial and industrial policies to sufficiently mitigate and adapt to climate change is more than ever a primary concern for societies worldwide. Europe's commitment to accelerate efforts regarding climate change adaptation and to reach climate neutrality and resilience by 2050 is emphasised in the European Green Deal and will be further supported by the European economic recovery plan from the COVID-19 pandemic. In some regions and communities, incremental adaptation will not be sufficient to mitigate the impacts of climate change on socio-ecological systems. They need radical and transformative ways of reducing climate vulnerability and building resilience. Some solutions for regional adaptation have been developed and successfully tested at small scale, ranging from innovative technologies to nature-based solutions, new business models, as well as governance and social innovations. Now, the challenge is to scale up and demonstrate at large scale systemic solutions to trigger behavioural change and new ways of decision-making, while accounting for local and regional contexts. Multidisciplinary approaches that

integrate technological, digital, business, governance, environmental dimensions with social innovation are needed for the development of adaptation pathways consistent with European Green Deal targets, and tailored to support the regions and communities most exposed to climate change impacts.

The planned Horizon Europe Mission on Adaptation to Climate Change, including Societal Transformation will test, evaluate and scale-up a range of adaptation solutions with the aim to trigger societal transformations among key community systems (i.e., health; primary production including agriculture, forestry, fisheries and aquaculture; water; environment, including biodiversity; and infrastructure including clean energy and transport) that are central to resilience building and sustainable growth. Therefore, the actions funded under this call topic will serve as early facilitators in pre-identifying and upscaling the most promising cross-sectoral solutions at a regional scale.

Proposals should address only one of the following sub-topics:

- 1) Innovation Packages for transformational adaptation of European regions and communities (Innovation Actions)
- 2) Support the design, testing and upscale of Innovation Packages (Coordination and Support Action)

Further Information:

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/lc-gd-1-3-2020;freeTextSearchKeyword=;typeCodes=1;statusCodes=31094501,31094502,31094503;programCode=H2020;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=H2020-LC-GD-20-LC-GD-2020;sortQuery=submissionStatus;orderBy=asc;onlyTenders=false;topicListKey=callTopicSearchTableState;chTableState>

13. /EU Horizon2020*/ European capacities for citizen deliberation and participation for the Green Deal, ID: LC-GD-10-1-2020, Deadline: 26.01.2021, 17:00 Brussels time

All areas of the European Green Deal, from climate action to zero pollution, require citizens' active support at all stages of the transitions. Workable solutions, accepted and taken-up at scale, can only be found through the active participation of all concerned. This is particularly the case of complex issues with diverging views or interests at stake, such as the rural-urban gap, attitudes to the bio-economy, water management, the choice of energy sources, etc. Such issues can best be addressed through participatory processes involving citizens from different cross-sections of society across Europe, including by engaging them throughout the innovation life cycle as social innovators. The Conference on the Future of Europe has further heightened awareness of the need for participatory processes and raised expectations in this respect. Strong expectations of citizen participation have also been raised in the context of Horizon Europe preparation, in particular for Horizon Europe Missions, which will be highly relevant to the European Green Deal.

Such processes may include a large spectrum of co-creation activities and events based on dialogue and information exchange, including but not limited to virtual ones. Modalities of participatory processes differ according to goals and expected outcomes, from harnessing diversity of knowledge, expectations and views in order to improve knowledge quality and enrich the inputs to policy discussions; up to creating 'mini-publics' in order to extend the arenas of public discussion and improve the representativeness of policy decisions. For these processes to be effective, participants should be equipped with appropriate tools and information, they should be strongly connected to decision-making bodies - examples span from simple feedback mechanisms to participatory budgeting - and they should be empowered to reflect, deliberate and propose change at a systemic level.

This topic covers citizen deliberation and participation. Actions should establish transnational networks of experts, researchers, practitioners and relevant civil society organisations specialised in deliberative democracy and civic participation across Europe, including professionals in the field of public engagement. Experts on gender equality and climate justice should also be included. They should share good practice, tools and resources and implement participatory and deliberation processes on priority issues in order to deliver on the Green Deal, both at the level of local communities and at wider scale. They should establish connection across the diverse participation and deliberation processes across regions and countries up to the European level. They should build on already existing experience and tools, notably open access ones stemming from EU-funded projects such as the RRI Tools platform.

Actions should include several deliberative processes, each of them implemented in a significant number of Member States or associated countries and complemented by a European online multilingual deliberative platform. Specific topics for deliberation should be co-decided with the European Commission services involved in implementing the Green Deal. They should support major EU actions where public participation is key, including but not limited to Horizon Europe Missions, in close cooperation with the respective mission boards, and other R&I initiatives.

A balanced overall coverage of EU and Associated Countries should be sought. Vulnerable and marginalised categories of the population, minorities and various age groups, including both youth and the elder generation, as well as urban, peri-urban and rural areas, should be considered in analysis and included in deliberations. Gender balance should be ensured and gendered issues should receive specific consideration.

Actions should design methodologies for each individual exercise, relying on comparative analysis of international practice and involving people or groups concerned. Depending on their specific objectives, they may either ensure consistency across Member States/Associated Countries for transnational comparability, or select a range of different methodologies to compare their effectiveness.

Further information:

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/lc-gd-10-1-2020;freeTextSearchKeyword=;typeCodes=1;statusCodes=31094501,31094502,31094503;programCode=mCode=H2020;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=H2020-LC-GD-10-1-2020-LC-GD-2020;sortQuery=submissionStatus;orderBy=asc;onlyTenders=false;topicListKey=callTopicSearchTableState>

14. /EU Horizon2020*/ Behavioural, social and cultural change for the Green Deal, ID: LC-GD-10-2-2020, Deadline: 26.01.2021, 17:00 Brussels time

All areas of the European Green Deal, from climate action to zero pollution, require considerable changes in societal practices and in the behaviour of individuals, communities, and public and private organisations. These changes concern, for example, mobility behaviour, minimising traffic-related emissions and energy/resource consumption, protecting or restoring biodiversity, etc. including changes achieved through collective and participatory processes or a sense of environmental citizenship and climate justice.

Several foci of behaviour and mind-set are at play in interconnected ways: concerns for: personal health and well-being; for the planet; for decent work; for fairness and solidarity, etc. Ways of combining

individual, collective socio-economic and environmental benefits should be sought wherever possible. Disadvantaged and vulnerable social groups and groups and communities most affected by the transition need special attention. Their existing practices, for example, may combine environmentally friendly, circular habits with practices that are detrimental to both their own health and to the environment (from dietary choices, mobility and travel behaviour to inappropriate use, reuse and disposing of materials), but to which they see no feasible alternatives. Similarly, differences of perception (in different regions of the EU, among different social groups, across genders and various age groups) of the urgency of the climate change and other environmental issues, on the most appropriate measures needed and hence also on the urgency of related behaviour change, need focused attention. Other categories of actors have to face challenging dilemmas, such as economic agents bearing major additional costs, adaptations or even phasing out of their activities due to Green Deal requirements. In such cases, individual change should be addressed in the context of the collective benefits and cost-sharing arrangements of the Green Deal and it should be associated to broader structural measures to support affected groups. Addressing these issues requires research and experimentation on behavioural, social and cultural change across Europe, founded on transdisciplinary expertise and strong ethical and methodological standards. Moreover, these actions should be accompanied with comparative research and feedback to ensure continuous monitoring and learning, foresee robust impact evaluation methods and take account of possible trade-offs, unintended consequences or rebound effects.

Actions should address behavioural change at individual and collective levels, including public and private organisations, as well as broader changes in social practices related to the European Green Deal. Actions should establish transnational and transdisciplinary networks of experts, researchers, practitioners and relevant civil society organisations on behavioural, social and cultural change. They should jointly analyse social practices and behavioural change processes, including enabling as well as inhibiting factors, share good practice, tools and resources and implement relevant experimentation on priority issues to deliver on the European Green Deal. They should build on existing experience, notably stemming from EU-funded projects.

Actions should include several experimental studies, each implemented in at least four Member States and/or Associated Countries. Specific topics for case studies should be co-decided with the European Commission services involved in implementing the European Green Deal. They should support major EU actions where such change is key, including - but not limited to - Horizon Europe Missions, in close cooperation with the respective mission boards, and other R&I initiatives.

Vulnerable and marginalised people, minorities and various age groups, including both youth and the older generation, as well as various skill and income groups and urban, peri-urban and rural areas, should be considered in analysis and included in experimentation, with methods and tools adapted to the target groups. Gendered issues should receive specific consideration. Change at the workplace and future of work related issues should also be addressed, including teleworking, as well as change in and by collective entities such as the behaviour of businesses and social partners and their shift towards sustainable business models, the behaviour of public services and other organisations - in the context of broader political, social and economic or financial dynamics, where relevant.

Further information:

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/lc-gd-10-2-2020;freeTextSearchKeyword=;typeCodes=1;statusCodes=31094501,31094502,31094503;programCode=mCode=H2020;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=H2020-LC-GD-2020-LC-GD-2020;sortQuery=submissionStatus;orderBy=asc;onlyTenders=false;topicListKey=callTopicSearchTableState>

15. /EU Horizon2020*/ Enabling citizens to act on climate change, for sustainable development and environmental protection through education, citizen science, observation initiatives, and civic engagement, ID: LC-GD-10-3-2020, Deadline: 26.01.2021, 17:00 Brussels time

The active role of citizens and their direct involvement is essential to address climate change and other human actions harming the environment on land, air and sea. Changes in citizen's and consumer's behaviours towards more sustainable patterns can happen through education, awareness raising, citizen science, observation and monitoring of their environmental impacts, civic engagement and social innovation. It is essential to directly involve citizens and communities in contributing to climate action and protecting the environment, thereby encouraging them to change their personal behaviour and their mindsets, reducing their carbon and environmental footprint and taking action at the individual and collective level. This would lead to a more sustainable lifestyle and relationship to the environment.

A strong emphasis is placed on strengthening environmental awareness of the young generation through education and other forms of youth engagement. Pupils and students have the potential to become ambassadors for climate action, sustainable development and environmental protection by sharing their knowledge, experience and engagement with their families, local communities, public and private decision makers, as well as through communication and the use of social media. As recommended in the European Green Deal Communication, schools, training institutions and universities are well positioned to engage with pupils, parents and the wider community on the changes needed for a successful transition to a green economy. A European competence framework is needed to help develop and assess knowledge, skills and attitudes on climate change and sustainable development. Related demonstration activities on for example nature-based solutions, biodiversity conservation, waste management, sustainable energy production and consumption, marine science, etc. will support the testing and the implementation of the framework.

Actions under this topic should address one the following two subtopics:

Subtopic 1: Enabling citizens to act on climate change and for sustainable development through education

Subtopic 2: Enabling citizens to act on climate change and for sustainable development through better monitoring and observing of the environment and their environmental impacts

Further information:

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/lc-gd-10-3-2020;freeTextSearchKeyword=;typeCodes=1;statusCodes=31094501,31094502,31094503;programCode=mCode=H2020;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=H2020-LC-GD-10-3-2020;sortQuery=submissionStatus;orderBy=asc;onlyTenders=false;topicListKey=callTopicSearchTableState>

16. /EU Horizon2020*/ Innovative land-based and offshore renewable energy technologies and their integration into the energy system, ID: LC-GD-2-1-2020, Deadline: 26.01.2021, 17:00 Brussels time

The European Green Deal expects to transform Europe into a fair and prosperous society with a modern, resource-efficient and competitive economy with no net emissions of greenhouse gases in 2050. To

decarbonise Europe, land-based and offshore renewables must become the main energy source, while keeping the stability and resilience of the European Energy System. Research and Innovation is still needed to be able to achieve a full system transformation and to realize the ambition of other EU policies like the Clean Planet for all, the SET-Plan, and the New Circular Economy Strategy and to contribute to the Sustainable Development Goals of the United Nations (in particular SDG 7 Affordable and Clean Energy and SDG 9 Industry, Innovation and Infrastructure).

Given that the topic contains two subtopics, the specific challenge for the first one, about the development of land-based renewable energy technologies and their integration into the energy system, includes in particular the following:

Renewable energy-based systems for district heating and cooling (DHC) and for cogeneration of heat and power (CHP) can play a key role in energy system integration, and make a significant contribution to the decarbonisation of the energy system. The Energy System Integration Communication points as one of the solutions towards an acceleration of smart, highly-efficient, renewables-based district heating and cooling networks. Renewable energy-based DHC and CHP systems that are at the same time robust, reliable and flexible to respond to peak demands require effective and efficient combinations of different renewable energy sources in the same system. This is because for example solar thermal technologies are challenged by sunshine hours, bioenergy by biomass availability and geothermal heating by geology, hydrology and land availability. Research and innovation are necessary to develop the renewable energy-based DHC and CHP systems of the future that are secure, cost-effective, affordable and robust to renewable energy fluctuations. These innovative approaches will have to take into account the specific conditions of the different geographical regions of Europe. Digital solutions can be an important enabler for the operation of multi-source DHC and CHP networks.

Proposals should address one of the following two subtopics and clearly indicate which subtopic is addressed:

Subtopic 1 (Research and Innovation action): Development of land-based renewable energy technologies and their integration into the energy system

Subtopic 2 (Innovation Action): Demonstration of innovative technologies to enable future large scale deployment of offshore renewable energy

Further information:

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/lc-gd-2-1-2020;freeTextSearchKeyword=;typeCodes=1;statusCodes=31094501,31094502,31094503;programCode=H2020;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=H2020-LC-GD-20-LC-GD-2020;sortQuery=submissionStatus;orderBy=asc;onlyTenders=false;topicListKey=callTopicSearchTableState>

https://ec.europa.eu/energy/sites/ener/files/energy_system_integration_strategy_.pdf

17. /EU Horizon2020*/ Develop and demonstrate a 100 MW electrolyser upscaling the link between renewables and commercial/industrial application, ID: LC-GD-2-2-2020, Deadline: 26.01.2021, 17:00 Brussels time

The European long term decarbonisation strategy (LTS) "A Clean Planet for All" published by the European Commission in November 2018 refers to the potential key role of hydrogen in decarbonising hard-to-abate sectors, such as industry, cement, steel, and also contributing to decarbonisation of heavy duty and long distance transport. To help achieve the climate neutrality objective, hydrogen needs to be

produced at large scale, mainly through electrolysis powered by renewable electricity. The LTS scenarios achieving climate neutrality envisage an installed electrolyser capacity ranging between 400 and 511 GW by 2050 in the EU. However today the technology is only available at multi-MW scale (a 20 MW electrolyser project is being implemented through the co-funding of the Fuel Cells and Hydrogen Joint Undertaking, under the call 2018). In order to reach the GW scale, an important milestone would be the development and demonstration of a 100MW electrolyser.

The challenge for this topic is to develop larger modules than the state of the art, with reduced balance of plant, managing efficiently the input power, the output hydrogen and oxygen streams, as well as the heat flows, while ensuring the reliability of the system and reducing the footprint through a more compact design. It is expected that the development of bigger modules will help create economies of scale, thus leading to further cost reductions.

The scope of this project is to install and operate a 100 MW electrolyser to produce renewable hydrogen, as energy carrier or as a feedstock. Specific activities are:

The main activity will consist of:

- o Development, installation and operation a 100 MW electrolyser for managing and using efficiently renewable energy, water, Hydrogen and Oxygen flows;
- o Demonstrate the increased usage and economic impact of RES mix, addressing potential curtailment issues in Demand Response operation (if grid connected) or island mode functioning (if dedicated to hydrogen production);
- o Operation of an electrolyser system in real life conditions in an industrial or port environment, for example feeding a mobility hub, a fertiliser production plant, a synthetic fuel production plant, a refinery, biorefinery or other industries, or injecting in natural gas transmission/distribution grid;
- o Investigate possibility to make use of rejected heat or vented Oxygen;
- o Operating pressure should be suitable for the application & any buffering / compression requirements.

Other activities will consist of economic, safety, social/societal impact and environmental assessments:

- o Demonstration of the future economic viability of the technology depending on cost of electricity and hours of operation of the electrolyser. The effect of intermittent generation on the cost-effectiveness of large electrolysers should be taken into account;
- o Reduce footprint and address potential health and safety issues;
- o Evaluation of the environmental performance of the system, notably in terms of GHG emissions reduction in line with the methodology of the Renewable Energy Directive II and in terms of water consumption;
- o Evaluation of other ecological and societal benefits along the value chain;

The project should help develop a European value chain by building on technology and business concepts developed by European companies.

Further information:

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/lc-gd-2-2-2020;freeTextSearchKeyword=;typeCodes=1;statusCodes=31094501,31094502,31094503;programCode=H2020;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=H2020-LC-GD-20-LC-GD-2020;sortQuery=submissionStatus;orderBy=asc;onlyTenders=false;topicListKey=callTopicSearchTableState>

18. /EU Horizon2020*/ Accelerating the green transition and energy access Partnership with Africa, ID: LC-GD-2-3-200, Deadline: 26.01.2021, 17:00 Brussels time

This action responds to the Joint Communication for a Comprehensive Strategy with Africa[1] adopted on 9/3/2020, which highlights that innovation is key to enable African countries to pursue sustainable pathways to development through a low-carbon, climate resilient and green growth trajectory, leapfrogging fossil fuel technologies. It will contribute to the present R&I Partnership on Climate Change and Sustainable Energy of the EU/AU High-Level Policy Dialogue[2] on Science, Technology and Innovation that is expected to strongly contribute to Action 1 of the Comprehensive Strategy with Africa. The African continent has an enormous renewable energy potential which just began to be harnessed successfully. The adoption of innovative, affordable and efficient renewable energy solutions will support Africa in achieving sustainable development growth and economic transformation.

Experience has shown that existing innovative solutions and technologies generated for developed markets need to be adapted and tailored to, and demonstrated in, the multi-faceted context of Africa. The goal is to bring not only economic, but also environmental, social and health benefits. To facilitate market uptake and sustained deployment of technologies, R&I policies need to be coupled with capacity building and appropriate financing solutions. Additional considerations of affordability, suitable distribution channels as well as meaningful engagement with civil society in the implementation of research projects are also key for the success of potential technological solutions. The involvement of private and/or public European and African investors to sustainable energy solutions is key to the sustainable economic development of Africa with benefits to both continents.

Significant efforts are being made (including with the support of the European Commission) to address the development of innovative solutions through research and innovation actions. However, demonstrations of the value of these solutions are still needed.

Actions should demonstrate innovative sustainable energy solutions that consider climate adaptation and mitigation potential compared to other technologies/solutions in the African social, economic and environmental contexts. The solutions may address:

- o development of renewable energy sources, including solutions for off-grid communities, and their integration into the existing energy system, considering the generation of renewable energy, the transmission, and the use of storage/battery systems.
- o energy efficiency

o

Solutions should consider both urbanised and rural contexts in Africa, and the ongoing water-energy-food nexus action, with the aim of providing sustainable energy access (electricity/cooking) and/or creating improved health, economic wealth and jobs (productive use of energy/energy efficiency).

Further information:

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/lc-gd-2-3-2020;freeTextSearchKeyword=;typeCodes=1;statusCodes=31094501,31094502,31094503;programCode=H2020;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=H2020-LC-GD-20-LC-GD-2020;sortQuery=submissionStatus;orderBy=asc;onlyTenders=false;topicListKey=callTopicSearchTableState>

19. /EU Horizon2020*/ Closing the industrial carbon cycle to combat climate change - Industrial feasibility of catalytic routes for sustainable alternatives to fossil resources, ID: LC-GD-3-1-2020, Deadline: 26.01.2021, 17:00 Brussels time

Greening of industrial and energy production, storage and distribution by use of CO₂ emissions from industrial processes.

The challenge is to sustainably convert CO₂ emissions from industrial processes into synthetic fuels and chemicals utilising renewable energy driven processes with novel, highly optimised and energy efficient catalytic systems. This has the potential e.g. to reduce by over 30 % the current ~665 Mt of CO₂ emissions per annum related to the Energy Intensive Industries in Europe. However, it is necessary to demonstrate the industrial and economic feasibility of producing synthetic fuels and chemicals by scaling-up the developed technologies to reach industrial production levels and validate the industrial exploitability and circularity.

Scope:

- o Develop and deploy highly innovative and recyclable catalytic material systems to facilitate the production of synthetic fuels and chemicals from industrial flue gas emissions: mainly CO₂ (but also CO and H₂), aiming at 50 % increase in the overall efficiency compared to the State-of-the-Art;
- o Develop innovative, renewable energy driven, catalytic processes, to produce synthetic fuels and chemicals, at a sufficiently large scale to demonstrate its cost effectiveness, while reducing the use of critical raw materials;
- o Demonstrate the full value chain for industrial production (including SMEs) of synthetic fuels and chemicals, whilst reducing greenhouse gas emissions;
- o Address financial, regulatory, environmental, land and raw material (including critical raw materials) constraints, as well as public acceptance issues and socio-economic impact related to the proposed technological pathways.

Further information:

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/lc-gd-3-1-2020;freeTextSearchKeyword=;typeCodes=1;statusCodes=31094501,31094502,31094503;programCode=H2020;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=H2020-LC-GD-20-LC-GD-2020;sortQuery=submissionStatus;orderBy=asc;onlyTenders=false;topicListKey=callTopicSearchTableState>

20. /EU Horizon2020*/ Demonstration of systemic solutions for the territorial deployment of the circular economy, ID: LC-GD-3-2-2020, Deadline: 26.01.2021, 17:00 Brussels time

Boosting circularity is part of the policy response to address systemic crisis such as climate change, pollution, waste generation, and biodiversity loss. Circular economy can play an important role in the EU's recovery from the adverse socio-economic and environment impacts of the COVID-19 crisis, by providing systemic solutions for sustainable growth and economic recovery. As indicated in the European Green Deal Communication, with increasing global consumption and growing pressure on resources there is an urgent need to decouple economic growth from resource use and to ensure a swift transition to climate-neutral and circular solutions. Europe also needs to increase its resilience in the face of uncertainty in the supply of critical raw materials and to increase the security of its value chains such as for example the new Circular Economy Action Plan key product value chains: batteries and vehicles, electronics and ICT, packaging, plastics, textiles, construction and buildings, food, water and nutrients. A

circular economy which is sustainable, regenerative, inclusive and just can help our economies to function within the boundaries of our planet by restoring natural systems, reducing GHG emissions and minimising loss of natural capital and biodiversity. It can also connect environmental policies with social justice through just transition ensuring environmental sustainability, jobs and social inclusion. Where relevant, attention should also be paid to occupational health and safety aspects and potential challenges of the transition towards a circular economy. It is essential that the transition to a sustainable, resource-efficient and circular economic model also delivers on social objectives and contributes to sustainable human development.

The circular economy concept should be a central component in local and regional economies, which have a suitable scale for closing resource loops, creating sustainable circular ecosystems and designing participatory community-based innovation schemes. An increasing number of cities, regions, industries and businesses are engaged in testing and improving circularity in their territories, economic sectors, value chains and services. Nevertheless, the concrete implementation of systemic solutions for the territorial deployment of the circular economy still needs to be demonstrated and replicated effectively in other areas. In particular, a major challenge is how to effectively apply the circular economy concept beyond traditional resource recovery in waste and water sectors. The EU added value can be obtained through the demonstration of territorial systemic circular solutions in one territory and their replication in other areas in Europe. This process of demonstration and replication of circular systemic solutions will multiply the local contribution to achieving the policy targets of the European Green Deal, the Circular Economy Action Plan, the Bioeconomy Strategy and the European Industrial Strategy.

Further information:

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/lc-gd-3-2-2020;freeTextSearchKeyword=;typeCodes=1;statusCodes=31094501,31094502,31094503;programCode=H2020;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=H2020-LC-GD-20-LC-GD-2020;sortQuery=submissionStatus;orderBy=asc;onlyTenders=false;topicListKey=callTopicSearchTableState>

21. /EU Horizon2020*/ Building and renovating in an energy and resource efficient way, ID: LC-GD-4-1-2020, Deadline: 26.01.2021, 17:00 Brussels time

With rising focus on the building sector (e.g. the 'renovation wave' initiative of the European Green Deal) in view of the full decarbonisation by 2050, the built environment remains a strategic domain for R&I. The priority is the design and construction of new or retrofitting of existing buildings as zero-emission/zero-pollution, positive energy-houses in sustainable green neighbourhoods. There are two major components in this transition. Firstly, a transition in designing and constructing buildings to reduce their embodied emissions and to increase the energy efficiency of their operation; the same applies to retrofitting existing buildings to increase their efficiency. Secondly, a transition to energy positive buildings (producing electricity, covering their heating and cooling needs and contributing to the energy grid stability) with sustainable, renewable energy technologies. These two components are closely linked, since greater building efficiency can reduce demand for heating and cooling and allow a greater range of zero emission technologies to become viable. It also means, reducing demand through effective building designs, including those that are adapted to their local environments (bioclimatic architecture conditions) and use. Spreading such building concept allows the creation of green neighbourhood "living labs" (including social housing and non-residential buildings such as hospitals, schools, public buildings, commercial buildings, etc.) with additional urban functionalities (e.g. shared EV charging facilities).

Proposals are expected to deliver at least two (residential and non-residential, new and/or retrofitted) large-scale, real-life demonstrations of promising technology, process and social innovations, in different regions of Europe. The demonstrations should address the following aspects:

- o Scalable design of green, positive energy neighbourhoods well embedded in the spatial, economic, technical, environmental, regulatory and social context of the demonstration sites
- o Energy and resource efficient, seamless industrial construction/renovation workflows from design to eventual offsite manufacturing, installation and post-construction monitoring
- o Sustainable and highly energy-efficient building designs adapted to local environments and climatic conditions, including active-passive solutions
- o Sustainable, innovative zero-emission and more cost and energy efficient, renewable energy generation in the buildings combined with urban service facilities (e.g. charging facilities) and heating-ventilation-air conditioning (HVAC) solutions
- o Energy storage systems (e.g. using second life batteries from electric vehicles) with bidirectional charging functionalities, that do not limit the use of living space (e.g. neighbourhood optimized storage including management systems for optimal integration, flexibility and interoperability with the grid)
- o Highly energy-efficient building operation at reduced maintenance costs and long-term performance with the help of digital technologies to optimise energy generation, consumption, storage and flexibility at neighbourhood scale, as well as digital solutions to increase the usability, energy efficiency and secure operation of building systems and appliances, ensuring optimal comfort for users and a healthier living environment
- o Citizen awareness raising activities linked to green neighbourhood "living labs" (led by "green schools" where relevant), to facilitate social innovation, promote education and training for sustainability, conducive to competences and positive behaviour/good habits for a resource efficient and environmentally respectful energy use
- o Coordination on standards and regulatory aspects to ensure operational efficiency of buildings and HVAC technologies also addressing the design-built performance gap

Further information:

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/lc-gd-4-1-2020;freeTextSearchKeyword=;typeCodes=1;statusCodes=31094501,31094502,31094503;programCode=H2020;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=H2020-LC-GD-20-LC-GD-2020;sortQuery=submissionStatus;orderBy=asc;onlyTenders=false;topicListKey=callTopicSearchTableState>

22. /EU Horizon2020*/ Green airports and ports as multimodal hubs for sustainable and smart mobility, ID: LC-GD-5-1-2020, Deadline: 26.01.2021, 17:00 Brussels time

A clear commitment of the European Green Deal is that "transport should become drastically less polluting", highlighting in particular the urgent need to reduce greenhouse gas emissions (GHG) in aviation and waterborne transport. In aviation, traffic volumes are expected to increase significantly by 2050 and the sector is already generating 14% of the EU GHG emissions from transport. At the same time, waterborne transport accounts for approximately 90% of global trade and 13% of EU transport GHG emissions, while also experiencing continuous growth. In this context, airports, maritime and inland ports play a major role, both as inter-connection points in the respective transport networks, but also as major multimodal nodes, logistics hubs and commercial sites, linking with other transport modes, hinterland connections and integrated with cities. As such, green airports and ports, as multimodal hubs in the post COVID-19 era for sustainable and smart mobility have a great potential to immediately contribute to start

driving the transition towards GHG-neutral aviation, shipping and wider multimodal mobility already by 2025. This topic therefore addresses innovative concepts and solutions for airports and ports, in order to urgently reduce transport GHG emissions and increase their contribution to mitigating climate change.

Building on best practices (technological, non-technological and social), as well as ongoing projects and planned initiatives in European airports and ports, actions should address the activities EITHER under area A) Green Airports

Actions should perform large-scale, real-life high TRL (6 or above) demonstrations of green airports, addressing all of the following four headings, collectively describing the various airport aspects to be considered: 1) Transport, 2) Terminal, 3) Energy and 4) Cross-cutting aspects.

OR under area
B) Green Ports.

Proposals should clearly indicate which area they are covering.

Further information:

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/lc-gd-5-1-2020;freeTextSearchKeyword=;typeCodes=1;statusCodes=31094501,31094502,31094503;programCode=H2020;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=H2020-LC-GD-20-LC-GD-2020;sortQuery=submissionStatus;orderBy=asc;onlyTenders=false;topicListKey=callTopicSearchTableState>

23. /EU Horizon2020*/ Testing and demonstrating systemic innovations in support of the Farm-to-Fork Strategy, ID: LC-GD-6-1-2020, Deadline: 26.01.2021, 17:00 Brussels time

European food is recognised as being safe, nutritious and of high quality. It should now also become the global standard for sustainability. Although the transition to more sustainable systems is in its infancy, it remains a big challenge to feed a fast-growing world population and steer food systems within a safe and just operating space - encompassing planetary health, economic viability and social welfare, and including human health. Many current production practices and consumption patterns still result in air, water and soil pollution, contribute to the loss of biodiversity and to climate change, challenge animal welfare and consume excessive amounts of natural resources, including water and energy, while an important part of food is wasted. At the same time, unbalanced diets contribute to obesity and other nutrition-related, non-communicable diseases.

The Farm to Fork Strategy, which is at the heart of the European Green Deal, aims to address the challenges and accelerate the transition to sustainable food systems, to ensure that the economic, social and environmental foundations of food and nutrition security are not compromised for current and future generations. It places emphasis on enabling a "just transition" for all actors of the food systems, in which also social inequalities are reduced, food poverty is addressed, and a fair income for all actors is ensured. It requires and builds on innovative solutions that can be scaled up, such as agro-ecological and organic practices, alternative sources of protein (e.g. plant-based, ocean-based, insect-based, etc.), sustainable food from the oceans and aquaculture, and personalised advice relating to sustainable healthy diets. Concerted efforts are needed to test, demonstrate and scale-up innovative systemic solutions to achieve the Farm to Fork targets and objectives in this decade.

A range of activities will support the deployment and scaling up of innovations that contribute to the

objectives of the Farm-to-Fork Strategy. Proposals will test, pilot and demonstrate innovative systemic solutions (TRL 5-7) to one of the following six subtopics, corresponding to urgent and pressing food systems' challenges:

- o Subtopic A. [2021] Achieving climate neutral farms by reducing GHG emissions and by increasing farm-based carbon sequestration and storage (IA)
- o Subtopic B. [2021] Achieving climate neutral food businesses by mitigating climate change, reducing energy use and increasing energy efficiency in processing, distribution, conservation and preparation of food (IA)
- o Subtopic C. [2021] Reducing the dependence on hazardous pesticides; reducing the losses of nutrients from fertilisers, towards zero pollution of water, soil and air and ultimately fertiliser use Proposals have to address all challenges (those related to pesticides, and to fertilisers, and to losses of nutrients) specified under Subtopic C.] (IA)
- o Subtopic D. [2021] Reducing the dependence on the use of antimicrobials in animal production and in aquaculture (IA)
- o Subtopic E. [2021] Reducing food losses and waste at every stage of the food chain including consumption, while also avoiding unsustainable packaging (IA)
- o Subtopic F. [2021] Shifting to sustainable healthy diets[12], sourced from land, inland water and sea, and accessible to all EU citizens, including the most deprived and vulnerable groups (IA)

Further information:

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/lc-gd-6-1-2020;freeTextSearchKeyword=;typeCodes=1;statusCodes=31094501,31094502,31094503;programCode=H2020;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=H2020-LC-GD-20-LC-GD-2020;sortQuery=submissionStatus;orderBy=asc;onlyTenders=false;topicListKey=callTopicSearchTableState;chTableState>

24. /EU Horizon2020*/ Restoring biodiversity and ecosystem services, ID: LC-GD-7-1-2020, Deadline: 26.01.2021, 17:00 Brussels time

Resilient, healthy ecosystems are natural carbon stocks and sinks. They can remove CO₂ from the atmosphere and support adaptation to climate change and disaster risk reduction. In addition to delivering a wide range of other services (oxygen source, improved health and well-being, recreation, water retention and purification, air quality, nutrient cycling or pollination), ecosystems are essential in a wide range of sectors which impact the everyday life of Europe's citizens (food, feed, fibre or fuel provision across the bioeconomy). However, biodiversity is being lost and ecosystems are degrading at an alarming rate. Pressures on biodiversity are increasing at a faster rate than the efforts to protect it. The integrity of terrestrial and aquatic ecosystems, and their capacity to deliver a wide range of essential services to people, will be further undermined by the effects of unavoidable climate change. There is therefore a need to strengthen their resilience against environmental and climate stressors while integrating the local socio-economic specificities of their surrounding environment.

While solutions for the restoration of biodiversity and ecosystem services are available now, they are neither up-scaled nor integrated enough in today's governance, investment or policy support landscapes. Research and demonstration on how to scale up technical and non-technical approaches for the spatial and social-economic integration of restoration impacts is therefore needed. The environmental emergency highlights the limits of current management approaches and calls for investment in innovative, sustainable and effective restoration including through mobilising innovative funding and cross-sectoral collaborations that could trigger transformational change. Moreover, the global biodiversity post-2020

framework seeks voluntary commitments by business and stakeholders to invest in biodiversity and new approaches to speed up actions in the framework of the UN decade for restoration.

From increased social awareness to more engagement with the private sector, there is a distinct need to build trans-disciplinary collaborations at all scales and across relevant ecosystem types. Win-win solutions and multi-purpose usage that support local biodiversity while delivering specific services and socio-economic benefits are sought. Hence, this topic seeks answers on how to frame transformational change which supports a just transition - to show how investing in nature restoration can explicitly help vulnerable regions and communities to improve their resilience to social and environmental shocks, when rapid changes in climate and environment, economies and social conditions occur.

Actions should:

- o provide large-scale demonstrators of how systemic upscaling and replication of best practice ecosystem restoration can be deployed at regional, national and cross-border levels, focusing on degraded terrestrial, freshwater, coastal or marine ecosystems, responding to relevant restoration goals enhancing biodiversity;
- o in line with the EU Biodiversity Strategy for 2030, restore degraded ecosystems, in particular those with high potential to capture and store carbon and to prevent and reduce the impact of natural disasters, and, where relevant, to contribute to the achievement of favourable status for species and habitats of the Birds and Habitats Directives inside and outside the Natura 2000 network of protected areas;
- o adapt, integrate and demonstrate innovative methods (technological, non-technological, social and governance, including sustainable financing) on upscaling ecosystem restoration, also in regions and for communities in transition;
- o support the development of specific demand and supply chains in restoring ecosystems on land or at sea - recognising that conditions at sea can considerably differ from the ones on land (including freshwater), that speed of change and disturbance might differ, and that solutions to reverse biodiversity decline are context-specific;
- o demonstrate and test how restoration activities and socio-ecological management of ecosystems enable sustainable, climate-neutral and climate-resilient, inclusive, transformative approaches, including across the bioeconomy (agriculture, forestry, marine and innovative bio-based sectors) and as investments in disaster risk reduction.

Further information:

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/lc-gd-7-1-2020;freeTextSearchKeyword=;typeCodes=1;statusCodes=31094501,31094502,31094503;programCode=H2020;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=H2020-LC-GD-20-LC-GD-2020;sortQuery=submissionStatus;orderBy=asc;onlyTenders=false;topicListKey=callTopicSearchTableState>

25. /EU Horizon2020*/ Innovative, systemic zero-pollution solutions to protect health, environment and natural resources from persistent and mobile chemicals, ID: LC-GD-8-1-2020, Deadline: 26.01.2021, 17:00 Brussels time

A recent Eurobarometer survey (2020) showed that a large majority of respondents are worried about the impact on their health of chemicals present in everyday products. There is also solid scientific evidence substantiating health and environmental concerns related to chemicals. The European Green Deal includes a commitment to a zero-pollution ambition for a toxic-free environment. In this context, it

specifically mentions the need to rapidly address the risks posed by hazardous chemicals and, more specifically, very persistent chemicals.

Pollution from persistent and mobile chemicals is often a systemic problem, as it is driven by factors closely related to the prevailing ways of production and consumption and is reinforced by missing appropriate technical solutions, including (bio)remediation and monitoring techniques for the environment (including the marine environment). These chemicals also pose challenges for regulatory authorities to develop or enforce effective policies.

An example of these very persistent chemicals is per- and polyfluoroalkyl substances (PFAS), a group of thousands of manmade chemicals that are widely used in various consumer and industrial products (e.g. water- and stain repellent textiles, fire-fighting foams, plastics, food contact materials and cosmetics) and to which citizens and the environment are exposed. They are an increasing concern as they are persistent in the environment, very mobile, toxic and can bioaccumulate. For these reasons, they are found everywhere in the environment and their concentration increases over time, creating additional risks for human health and ecosystems. There are examples of contamination by PFAS of water and soil in most EU countries, which are costly or in some cases impossible to remediate. The overall costs to society from PFAS alone as an example are estimated by one source to be \approx 52-84bn across Europe (Nordic Council of Ministers, 2019), which is likely to be an underestimate, as it includes only a limited range of health effects (high cholesterol, impaired immune system, and cancer). Some studies have shown negative effects of PFAS on the immune system, including a reduced response to vaccines. Similar effects are known also in connection to other kinds of persistent chemicals. This is of concern considering the current COVID-19 pandemic.

Scope:

Taking into account latest policy needs and developments, this call topic aims at establishing new knowledge, exploring the feasibility of new or improved technologies and demonstrating innovative solutions to protect health, environment and natural resources from persistent and mobile chemicals. Selected projects are expected to advance our knowledge on health impacts and environmental effects and to address and preferably prevent a specific pollution problem involving contamination of environmental resources (such as soil, sediments, air, food and drinking water). The solutions developed should lead to cost-effective prevention, monitoring and to, as a last resort, mitigation or elimination of the issues (e.g. mitigation or remediation efforts in particularly affected geographic areas). They should also lead to better understanding of environmental fate and help proactively prevent negative impacts from persistent and mobile chemicals (and, where relevant, their precursors) on humans and the environment. The projects may include appropriate technologies, business, governance and social innovation aspects and the demonstration of innovative solutions in a relevant environment (TRL 4-6). In particular, projects may consider analytical methods and monitoring, enabling to quantify entire groups of persistent and mobile chemicals in food, soil or drinking water. This would allow achieving a higher level of consumer protection, as such grouping methods are essential for regulating groups of harmful substances that have similar structures.

Further information:

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/lc-gd-8-1-2020;freeTextSearchKeyword=;typeCodes=1;statusCodes=31094501,31094502,31094503;programCode=H2020;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=H2020-LC-GD-20-LC-GD-2020;sortQuery=submissionStatus;orderBy=asc;onlyTenders=false;topicListKey=callTopicSearchTableState>

26. /EU Horizon2020*/ Fostering regulatory science to address combined exposures to industrial chemicals and pharmaceuticals: from science to evidence-based policies, ID: LC-GD-8-2-2020, Deadline: 26.01.2021, 17:00 Brussels time

Under 'Towards a zero-pollution ambition for a toxic free environment', the European Green Deal will propose a new Chemicals Strategy for Sustainability, aiming at better protection of both humans and the environment against hazardous chemicals. In addition, there is growing concern about the occurrence of pharmaceuticals in the environment.

Humans, wildlife and domestic animals are exposed to combinations of different chemicals via air, water (including the marine environment), food and feed, consumer products, materials and goods. The scientific understanding of combination effects has progressed in recent years and approaches for risk assessment and management of unintentional mixtures and combined exposures to chemicals are available.

In parallel with the development and implementation of regulatory approaches, there is a need to improve the scientific knowledge base. Current knowledge shows that exposures to combinations of chemicals pose risks to ecosystems and human health that may not be sufficiently managed under existing regulations. There is a need to advance regulatory science to provide policy-makers and risk assessors with validated and practically applicable approaches, methods and tools and to study the effectiveness and efficiency of different policy approaches. The effects of exposure of humans and the environment to combinations of chemicals should also be further explored.

This topic calls for applied research studies, demonstrating how new tools and methodological approaches from regulatory science that are workable in a regulatory context and are based on the latest scientific evidence, can be applied to identify, quantify and prevent harmful co-exposures to industrial chemicals and pharmaceuticals.

Further information:

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/lc-gd-8-2-2020;freeTextSearchKeyword=;typeCodes=1;statusCodes=31094501,31094502,31094503;programCode=H2020;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=H2020-LC-GD-20-LC-GD-2020;sortQuery=submissionStatus;orderBy=asc;onlyTenders=false;topicListKey=callTopicSearchTableState>

27. /EU Horizon2020*/ European Research Infrastructure capacities and services to address European Green Deal challenges, ID: LC-GD-9-1-2020, Deadline: 26.01.2021, 17:00 Brussels time

The urgency and the scale of Green Deal challenges require the mobilisation and advancement of world-class scientific capacities and resources such as those offered by European Research Infrastructures. They will contribute to the transition towards a climate neutral Europe, targeting at least 50% emissions reduction by 2030. As a pilot under Horizon 2020, activities will focus on the provision of research and innovation services for breakthrough research in two priority areas: energy storage and advanced climate/environment observation and monitoring. Expected impacts range from answering short-term needs of thematic European Green Deal objectives to longer-term perspective including Horizon Europe.

Energy storage:

In order to boost the advancement of knowledge and technology in the field of energy storage, European researchers need effective and customised access to the best research infrastructures. The aim of this action is to bring together, integrate on European scale, and open up key national and regional research infrastructures to European researchers from both academia and industry, as well as to develop any missing services, which better fit specific needs for research and technological developments.

Advanced climate/environment observation:

European research infrastructures such as ICOS, ACTRIS and IAGOS are key enablers of the knowledge necessary to conceive, develop and assess European policies to address climate change and air pollution. They are essential to observe, understand and predict complex processes of the atmosphere, the concentration and flux of (long-lived) greenhouse gases, the interaction of short-lived atmospheric constituents and air pollutants. They provide sustained long-term, high quality and interoperable data, also used to calibrate satellites, validate or constrain climate models, weather forecasts, air pollution forecasts etc.

Proposals will address one of the following sub-topics:

- (a) Support Europe leadership in clean energy storage technologies
- (b) Enhancing European research infrastructures for greenhouse gases observation in and around cities
- (c) Enhancing observations for air quality and citizens' health in urban areas

Further information:

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/lc-gd-9-1-2020;freeTextSearchKeyword=;typeCodes=1;statusCodes=31094501,31094502,31094503;programCode=H2020;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=H2020-LC-GD-20-LC-GD-2020;sortQuery=submissionStatus;orderBy=asc;onlyTenders=false;topicListKey=callTopicSearchTableState>

28. /EU Horizon2020*/ Developing end-user products and services for all stakeholders and citizens supporting climate adaptation and mitigation, ID: LC-GD-9-2-2020, Deadline: 26.01.2021, 17:00 Brussels time

The science underpinning the European Green Deal has outlined what is at stake in terms of the impacts of climate change, the need to adapt to them, and the need to pursue decarbonisation pathways towards net zero. However, the challenges of mitigation and adaptation will ultimately be met by business and investors, government, and citizens. These actors therefore need to be empowered with solutions that are in keeping with scale of the challenge. As today's planning decisions affect our emissions and resilience for decades ahead, decision-makers need to know which modes of production, consumption and lifestyle are compatible with climate-resilience and pathways achieving climate neutrality by 2050. Climate change adaptation and mitigation solutions still fail, to a large extent, to incorporate social and behavioural factors that would increase efficiency towards our climate goals, and overcome barriers preventing achieving those goals.

Scientific research has provided a vast variety of information on the climate system, the impacts of climate change at different scales and options for adaptation as well as integrated assessments of mitigation pathways. However, actions are needed for relevant and practical climate adaptation and mitigation

solutions and information to reach the end users, help them in building the climate-neutral future they want and address environmental challenges posed by climate change. Actions are also needed to support the use of climate information in risk management and planning across sectors and regions.

Scope:

This action should contribute to informing citizens and decision-makers about the impacts of climate change in the decades to come, identify adaptation options, and illustrate what pathways towards climate neutrality entail in terms of production, consumption, planning and lifestyle, incorporating behavioural factors. In particular, the last mile of the climate service delivery should be tackled for the most relevant sectors, in order to deliver solutions towards meeting the decarbonisation goals of the European Green Deal as well as adaptation options for dealing with climate change impacts.

The projects under this topic should cover some of the following aspects:

- o Building on existing services and frameworks, such as Copernicus, GEOSS, EMODnet and ESA actions. This includes addressing the downstream part of the value chain and engage with end users and stakeholders, customising of data and exploitation platforms, the use, scale-up and replication of existing service models, brokerage of knowledge and dissemination to the public;
- o Build robust knowledge on how the climate is changing at a scale meeting the user's needs, and what impacts are to be expected at sectoral and regional levels in Europe. Identification of barriers to the predictive potential of climate adaptation models should be addressed, including by blending the latest information from climate models, downscaling products, observations, user or citizen knowledge or other intelligent ways of filtering relevant information for users;
- o Synthesising/exploiting this knowledge in a way that bridges the gap between the expert tools already used by scientists, and the needs of stakeholders who are making decisions today that will both, affect and be affected by climate change and its impacts;
- o Making the above findings accessible to the public, going beyond existing tools in both scientific robustness and user relevance;
- o Demonstrating the climate services in a near-to-operational environment with the provision of guidance services and measuring the results through key performance indicators defined with users and stakeholders;
- o Multiplying the outreach through scaling up and replication to a number of players in the business and public sector, as well as in less represented areas in Europe and beyond. This includes the development of appropriate business models and knowledge brokerage activities as well as activities to tackle other relevant barriers, such as quality assurance and standards, institutional barriers, capacity building.

Actions under this topic should more specifically focus on one of the following aspects:

- o Converting the mitigation pathways that are compatible with EU climate goals and adaptation strategies for potential impacts to 2050 and beyond into clear information about how climate change impacts will evolve and how production, consumption, infrastructure and lifestyle needs to change. Including consideration of co-benefits and trade-offs, and insights into the drivers and barriers for these changes, and how barriers can be overcome;
- o Contributing to delivering the next-generation of climate services, in collaboration with the commercial sector, through addressing part or all of the downstream part of the value chain, focusing on sectoral and geographical gaps, providing actionable information to non-specialists for adapting to extreme climate events and new climatic conditions through tools, platforms (e.g. GEOSS & Copernicus) and/or mobile applications.

Further information:

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/lc-gd-9-2-2020;freeTextSearchKeyword=;typeCodes=1;statusCodes=31094501,31094502,31094503;programCode=H2020;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=H2020-LC-GD-20-LC-GD-2020;sortQuery=submissionStatus;orderBy=asc;onlyTenders=false;topicListKey=callTopicSearchTableStatechTableState>

29. /EU Horizon2020*/ Transparent & Accessible Seas and Oceans: Towards a Digital Twin of the Ocean, ID: LC-GD-9-3-2020, Deadline: 26.01.2021, 17:00 Brussels time

Fit for purpose and sustained ocean and sea observations are essential for understanding and forecasting ocean behaviour. Measures to protect marine social-ecological systems and support the blue economy are based on these insights and forecasts. 10-20 years ago, marine data from these observations were difficult to find, only accessible through long and sometimes costly negotiations and hard to put together to create a complete picture because of different standards, nomenclature and baselines.

For the past two decades, the European Union invested in policies and infrastructures to enable this sustainability and fitness for purpose. Its Member States, together with neighbours, have created an unrivalled marine data, modelling and forecasting infrastructure, essentially based on EMODNet - the European Marine Observation and Data Network - gathering in-situ and reference ocean data in Europe and the Copernicus marine environment monitoring service (CMEMS) providing European and global operational ocean forecasting and ocean climate services based on the assimilation of these in-situ ocean observation into numerical ocean models. They are supported by European Research Infrastructures and by major R&D projects to deploy ocean observatories at sea and collect marine data (e.g. Eurofleets+, EuroArgo, Jerico, Danubius, EMBRC, EMSO, ICOS, LifeWatch, etc). Cooperation and the principles of free and open access, interoperability, and "measure once, use many times", were largely promoted, as well as the added-value demonstrated through Copernicus, the European Research Framework Programmes FP7 and Horizon 2020, Blue Cloud and EMODnet activities.

The Digital Twin of the Ocean concept is to make a step further by integrating all European assets related to seas and oceans (data, models, physical ocean observatories at sea) with digital technologies (cloud, super HPC capacities, AI and data analytics) into a digital component that represents a consistent high-resolution, multi-dimensional and (nearly) real-time description of the ocean. It will contribute to the Commission's Green Deal and Digital Package commitments to develop a very high precision digital model of the Earth (Destination Earth initiative).

AI and analytics, thematic or sectorial models and computing power will transform data into knowledge. They will facilitate co-creation and inter-disciplinary approaches between natural sciences, humanities and social sciences for the co-construction of methods, expertise and applications to support decision making. This digital view of the ocean will enable a multi-angle perception of the ocean: its physics, chemistry, geology, biology as well as the environmental and socio-economic impact of human activity.

Scope:

Proposals for such a development should demonstrate their usefulness with regard to Green Deal priorities (e.g. impact of ocean climate scenarios on aquaculture and fisheries, impact of sea-level rise and extreme waves on coastal risks, pollution monitoring and scenarios for mitigation and remediation strategies, and maritime spatial planning). It needs to fulfil all of the following criteria: deliver break-through in accuracy and realism, represent optimal synergy between observations and models; fully integrate downstream impact sectors of the socio-economic areas addressed in their test case; include a rigorous handling of quality and confidence information.

Proposals should address:

- o The development of an ocean digital twin at high resolution including the ocean model representation and the integration of all available datasets into a single digital framework compatible of Destination Earth infrastructure and technologies (cloud, euroHPC, AI-ready standards, datacubes, ...). It should build on existing infrastructures and relevant Horizon 2020 and R&D projects to achieve this integration at short-term (e.g. CMEMS, BlueCloud, EMODNet, portals from ERICs, IMMERSE, ESA Ocean Science Cluster);
- o The configuration of it as a simulation environment built on a consistent multi-variable multi-dimensional description of the ocean consistent from estuaries to the coast and to open ocean, from the surface to the seabed and allowing a digital exploration in time and space of the ocean physics and biodiversity according to different scenarios. It should provide an integrated, timely and persistent description of the ocean including at least physics, biogeochemistry, geology and human activities;
- o The integration of data from existing or new automated sensors and autonomous mobile and fixed platforms, additional structured and unstructured data, alternative sources such as private companies data, citizen science or historic data collected before the digital age (chemical, physical, biological and ecological) and delivered through EMODnet and Copernicus;
- o The implementation of data and model outputs in state-of-art standards and formats (INSPIRE, FAIR, ontologies, ...) compliant with their exploitation by applications and appropriate user interfaces based on big data and artificial intelligence technologies;
- o The development of what-if scenarios to validate the representativeness of the digital ocean simulator in "real conditions of use" by configuring different ocean conditions and exploiting AI/data analytics tools, on concrete cases in local or regional sea basins.

Further information:

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/lc-gd-9-3-2020;freeTextSearchKeyword=;typeCodes=1;statusCodes=31094501,31094502,31094503;programCode=H2020;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=H2020-LC-GD-20-LC-GD-2020;sortQuery=submissionStatus;orderBy=asc;onlyTenders=false;topicListKey=callTopicSearchTableState>

30. /EU Horizon2020/ European Researchers' Night, ID: MSCA-NIGHT-2020bis, Deadline: 12.01.2020, 17:00 Brussels time

The European Researchers' Night aims to bring researchers closer to the general public and to increase awareness of research and innovation activities, with a view to supporting the public recognition of researchers, creating an understanding of the impact of researchers' work on citizen's daily life, and encouraging young people to embark on research careers.

The European Researchers' Night takes place yearly, typically starting on the last Friday of the month of September. Supported main events can last up to two full days: they can start on Friday and continue the following day. Pre-events can also be organised prior to the main event in September. It is the occasion for a Europe-wide public and media event for the promotion of research careers, in particular towards young people and their families.

The European Researchers' Night targets the general public, addressing and attracting people regardless of the level of their scientific background, with a special focus on families, pupils and students, and notably those who do not have easy access to, and thus are less inclined to engage in, STEAM or research activities.



Activities can combine education aspects with entertainment, especially when addressing young audiences. They can take various forms, e.g. hands-on experiments, science shows, simulations, debates, games, competitions, quizzes, etc. Where appropriate, engagement with educational institutions should be sought in order to encourage formal and informal science education with the aim to improve the scientific knowledge base. Activities should promote the European dimension, gender balance and inclusion in research and innovation.

One of the political priorities of the European Commission is the European Green Deal for the European Union and its citizens, with an aim to tackle climate and environmental-related challenges. Applicants are therefore encouraged to include activities relating to the European Green Deal in their events.

Further information:

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/msca-night-2020bis;freeTextSearchKeyword=;typeCodes=1;statusCodes=31094501,31094502,31094503;programCode=H2020;programDivisionCode=31047830;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=Default;sortQuery=submissionStatus;orderBy=asc;onlyTenders=false;topicListKey=topicSearchTablePageState>