



Horizon 2020

The European Green Deal Call

analysis and assessment

Planned opening date: 22 September 2020

Deadline: 26 January 2021

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The EU Green Deal Call (Background, what the call aims to do, how it is structured, timeline)

The more recent political guidelines of the European Commission for the period 2019 to 2024 identify new, challenging priorities and changes for a future, wealthier Europe. The EC clearly states that Europe must lead the transition to a climate-neutral and healthy planet and a new digital World. The two most important frameworks “*The European Green Deal*” and “*A Europe fit for the digital age*” represent the effort that society must make in order to move towards a greener Europe supported by a more integrated approach to the establishment of a digital society.

Furthermore, it is now clear that lessons must be learnt as a result of the COVID-19 crisis in order to foster an increased European preparedness and level of resilience to possible future events. In what will be a major transition, water, energy and mobility will assume an essential role as enablers and engines of the economy, social stability and the sustainable growth of our society.

The Call covers a variety of aspects and sectors, such as: energy, industry, transportation, agriculture and food, security, health and government, as well as means for mobilising public involvement, awareness and lifestyle change, habits, use and consumption of products and services. The Call aims to drive a rapid transition to a circular, green and clean industry: a growth engine that will not leave any industrial sector behind, and it will be another tool for Europe recovery from the Covid-19 crisis and the development of strength, capacity and resilience.

Projects are expected to deliver tangible and visible results relatively quickly and show how research and innovation can provide concrete solutions for the Green Deal main priorities.

This is why the call will support

- **pilot applications, demonstration projects and innovative products**
- **innovation for better governance of the green and digital transition**
- **social and value chain innovation**

In addition to technological development and demonstration, the call encourages experimentation and social innovation for new ways to engage civil society and empower citizens.

In relation to the current pandemic, the call will contribute to the green and digital recovery and to increasing societal resilience for example in agriculture, biodiversity acceleration of renewables, clean transport and modernisation towards a clean and circular industry.

The program will support research and innovation projects that will offer solutions to address the challenges of climate, environmental protection, natural resources and the biodiversity in Europe and beyond in a total amount of about one billion Euro.

The call contains 11 areas:

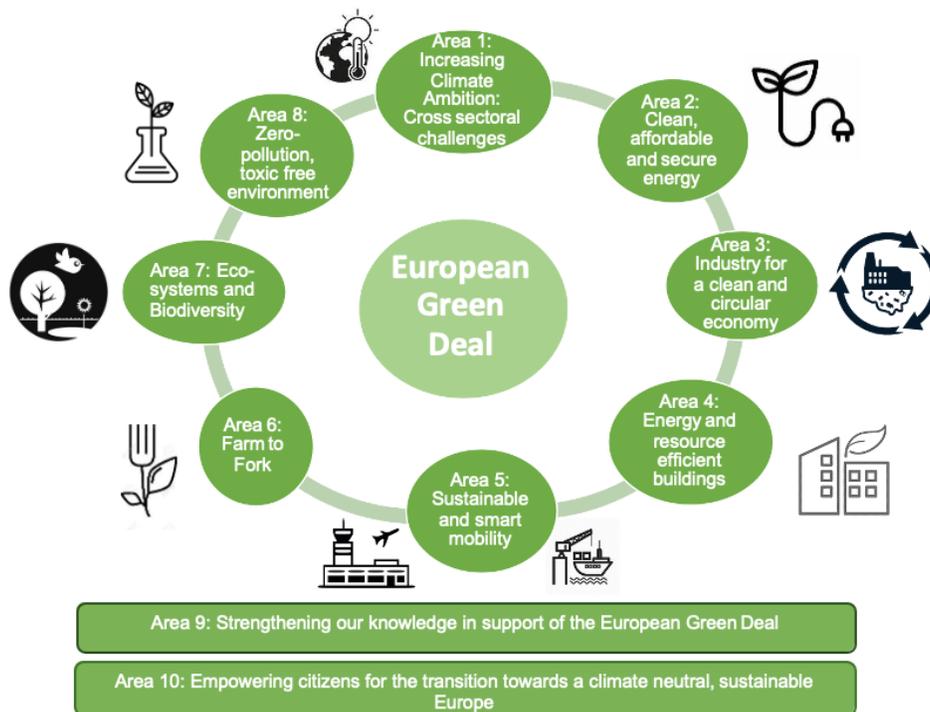
Eight thematic areas reflecting the key work streams of the European Green Deal. In each area, one or more topics addresses the challenges outlined in the respective stream. Topics target specific, high-impact technological and societal innovations that can help advance the sustainable transition relatively quickly.

Two horizontal areas (strengthening knowledge; empowering citizens) that cut across the eight thematic areas and offer a longer-term perspective in achieving the transformations set out in the European Green Deal.

Timeline

- **mid-September 2020**
Formal adoption of Green Deal call as amendment to Horizon 2020 work programme 2018-2020
- **22nd September 2020**
opening of the call
- **12-14 October 2020**
Opportunity to find potential project partners at the **WE EU Green Deal Call Brokerage event**
- **26st January 2021**
Deadline for submitting project proposals

The EU Green Deal Structure



The WE Brokerage event for the EU Green Deal Call of Horizon 2020.

This is an online event from 12th to 17th October 2020 that will introduce the Green Deal call for proposals, present insights and expectations from the European Commission whilst offering a unique international networking experience to forge the winning partnerships of the future.

The programme will include presentations from the European Commission and will provide a unique opportunity to pitch ideas and expertise in front of leading research organisations and cutting-edge innovators from across the industry.

We will also host the first edition of Water Projects Europe that is a new series of events of Water Europe made to foster collaboration between R&I projects working on specific topics. This edition will be dedicated to Industrial Water Reuse.

Water Europe, with the collaboration of the VLTs, WGs and Members, has been working in the past 18 months to support the EC in the development of the EU Green Deal Call and have a recognised role for the water sector in the agenda of this last call of Horizon 2020.

Water Europe assessed the final topics of the EU Green Deal Call and selected a number of call identifiers that are water related and can offer tangible opportunities for forging a new project proposals, listed in the next para.

It is worth to highlight that the EU Green Deal Call:

- **represents a conceptual and practical bridge** from Horizon 2020 and the next R&I FP Horizon Europe on the main priority of the new European Commission and **introduces a clear a systemic approach**. This means that the projects proposals are expected to provide **systemic solutions and innovations**, by **thinking out of the silos and contribute to achieve circularity**.
- Consortia should also be able to show **systemic capacities** through the integration of different partners.
- **Water related project proposals can be developed in 7 areas out of the 10 of the call.**
- **Water Oriented Living Labs** strategy and conceptual approach fits the **areas 1,3, and 6**.
- The call topics can include, **for the same call identifier, a combination of RIA, IA, and CSA**.
- The total budget is around **1 billion Euro**
- For each topic we provide the related available budget for the RIA, IA or the CSA, and the estimated number of approved projects.
- The governing rules of this call are the same of Horizon 2020.

Areas and topics fitting the water sector (for project proposals)

The full call can be found by clicking on the call identifier

AREA	TOPIC	CALL IDENTIFIER	ACTION	SUGGESTED PROJECT PROPOSAL TOPICS
1 Increasing Climate Ambition: Cross sectoral challenges	Towards Climate-Neutral and Socially Innovative Cities	LC-GD-1-2-2020	RIA	<ul style="list-style-type: none"> • Climate action plans and Green Deal innovation; • Investment project preparation and finance; • Social innovation and citizens' engagement; • Research and Innovation for climate-neutral transformation of cities <p>Urban WOLLS</p>
	Climate-resilient Innovation Packages for EU regions	LC-GD-1-3-2020	IA CSA	<p>Innovation Packages for transformational adaptation of European regions and communities - enable rapid and far-reaching change through the development of region-specific portfolios of R&I solutions</p> <p>WOLLS</p>
3 Industry for a clean and circular economy	Demonstration of systemic solutions for the territorial deployment of the circular economy	LC-GD-3-2-2020	IA	<p>Develop and demonstrate science, technology, governance, economic, social and environmental systemic solutions to increase the circularity in key economic</p> <p>WOLLS</p>
6 Farm to Fork	Testing and demonstrating systemic innovations in support of the Farm-to-Fork Strategy	LC-GD-6-1-2020	IA	<ul style="list-style-type: none"> • Reduce pesticides; fertilizers and pollution from nutrient loss; • Reduce dependence on antimicrobials in animal production and in aquaculture; • Reduce food loss & waste at every stage of the food chain including consumption;
7 Ecosystems and Biodiversity	Restoring biodiversity and ecosystem services	LC-GD-7-1-2020	RIA	<p>Test, demonstrate and promote systemic solutions for upscaling the restoration of biodiversity and ecosystem services</p> <ul style="list-style-type: none"> • Up-scaling of large-scale and urgent restoration actions on the ground, to prepare resilient ecosystems and their services at sea and on land.... • Nature-based solutions are adapted, integrated and demonstrated.....

				<ul style="list-style-type: none"> Value created for communities affected by transformative change through the restoration of their degraded terrestrial and marine environment; Restore degraded ecosystems at sea and on land at large scale..... Showcase in practice how to maximize synergies and avoid trade-offs between priorities for restoring biodiversity..... Support the development of specific demand and supply chains in restoring ecosystems; <p>Urban Industrial Rural WOLLS</p>
8 Zero-pollution, toxic free environment	<u>Innovative, systemic zero-pollution solutions to protect health, environment and natural resources from persistent and mobile chemicals</u>	<u>LC-GD-8-1-2020</u>	RIA	Provide solutions and support decision making for addressing large-scale diffuse contamination of water and soil with persistent and mobile chemicals (including for combinations of pollutants) in an integrated manner;
9 Strengthening our knowledge in support of the EGD	<u>Developing end-user products and services for all stakeholders and citizens supporting climate adaptation and mitigation</u>	<u>LC-GD-9-2-2020</u>	RIA	Providing detailed information, relevant to real-world decision-makers, and informing citizens about the impacts of climate change in the decades to come, identifying adaptation options, and illustrating pathways towards climate neutrality , incorporating behavioural factors
10 Empowering citizens for the transition towards a climate neutral, sustainable Europe	<u>Enabling citizens to act on climate change, for sustainable development and environmental protection through education, citizen science, observation initiatives, and civic engagement</u>	<u>LC-GD-10-3-2020</u>	IA	Strengthening environmental awareness of the young generation through education and other forms of youth engagement

THE CALL TOPICS FULL DESCRIPTION

Area 1: Increasing Climate Ambition: Cross sectoral challenges

CALL IDENTIFIER	TOPIC	Budget in M€		Type of Action
		Total	Project	
LC-GD-1-2-2020	Towards Climate-Neutral and Socially Innovative Cities	53	53 *	RIA

The proposal should address all of the following four activities:

Activity 1: Climate action plans and Green Deal innovation:

- Develop a science-based set of indicators enabling the assessment of the climate, environmental and socio-economic impact of cities' climate neutral action plan, as well as its replication and scaling potential, in terms of greenhouse gas emissions reduction within the framework of the European Green Deal
- Develop innovative urban greening assessment methodologies for planning and monitoring GHG emissions reduction to meet the Green Deal ambitious targets.
- Provide harmonised specifications for inter-operable and comparable evidence repositories for cities, documenting action plan approaches and impacts;
- Support cities in identifying and possibly overcoming regulatory, institutional, governance, financing, public acceptance and other barriers preventing progress and coordinated pathways towards climate neutrality;
- Design, in close collaboration with the cities and the European Commission, a concept for a climate-neutral city contract corresponding to climate action plans that includes the application process and assessment criteria. Particular attention should be paid to citizens' engagement, social innovation and social entrepreneurship, environmental, economic and health benefits, and Just Transition mechanisms.
- Support cities in innovating their local governance and, where appropriate, building capacity to implement systemic and integrated climate-neutral policies, also building on existing experiences developed by local networks;
- Coordinate the group of cities committing to the climate-neutral city contract, ensuring an operational customer-driven link of this action with the cities as final users. Facilitating the sharing of experience and good practices and mutual learning between cities regarding setting up and mainstreaming co-creation processes engaging all relevant actors for the framing, deployment and assessment of their vision, strategy, and an action plan to reach climate neutrality while ensuring shared ownership.

Activity 2: Investment project preparation and finance:

- Provide information and consulting services to cities on preparing and financing investment projects for the transition to climate neutrality. This should take into account and build on the good practices developed by global, European and national initiatives and programmes such as Horizon 2020, ELTIS, ELENA, CIVITAS, EIP on Smart Cities and Communities (EIP-SCC) Marketplace, EIT Climate KIC, Intelligent Cities Challenge (ICC), European City Facility, JPI Urban Europe, Positive Energy Districts, Green City Accord, the European Green Capital award. Financial solutions should include, but should not be restricted to, those provided by InvestEU,

EIB, EBRD and the European Structural and Investment Fund. Collaboration with national development banks as well as commercial banks is also encouraged.

Activity 3: Social innovation and citizens' engagement:

- Support cities and local communities in testing solutions (including new technologies, non-technological, and social innovations) that stem from European R&I. This should entail a matching of cities' and local communities' needs to R&I results through various means, e.g., matchmaking and brokerage hubs;
- Combine existing results of European R&I with social innovation, and take advantage of the digital transformation and digital infrastructure to co-create and test solutions with local communities, including changes in social practices and behaviour;
- Provide support to cities for reinforcing not only communication but also citizens' engagement activities involving also marginalised or vulnerable to exclusion citizens. This should include sharing and using good practices on social innovation as well as enabling cities and local communities to exchange experiences and learn from each other when testing and implementing solutions, connecting more innovators and researchers and making them aware of citizens' needs, and, through all these channels, helping cities move closer to climate neutrality.

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

- Once the services of the platform are made available, open calls for proposals will be launched to support large scale pilots for the deployment in lead cities or districts of systemic solutions combining, as appropriate, technological, nature-based, social, cultural, regulatory and financial innovation and new business and governance models to underpin the climate transition, taking stock of existing best practices and already available solutions. These calls should be evaluated by external, independent experts in a fair and transparent process.
- In order to facilitate the upscaling of these solutions and their replicability, the pilots will also support for each lead city and/or district, activities dedicated to the twinning with and mentoring of at least 2 other cities and/or districts from different EU Member States or H2020 associated countries facing structural disadvantages or with a size smaller than 50 000 inhabitants, which are willing to develop their proper climate action plan and implement it in a subsequent phase beyond the life of the current action.

CALL IDENTIFIER	TOPIC	Budget in M€		Type of Action
		Total	Project	
LC-GD-1-3-2020	Climate-resilient Innovation Packages for EU regions	45	1. 10-15 2. 2-3	1. IA 2. CSA

1) Innovation Packages for transformational adaptation of European regions and communities (Innovation Actions)

The actions should aim at **enabling rapid and far-reaching change** through the development of region-specific portfolios of R&I solutions, mature enough for demonstration, which may include nature-based solutions, innovative technologies, financing, insurance and governance models, awareness and behavioural change. The innovation packages should cover the key community systems and comprise the adaptation solutions and pathways deemed essential for climate and social resilience in the specific regional contexts and the set timeline. While accounting for disparities in adaptive capacities and rates of change across countries, regions and communities, the innovation packages should:

- propose and implement multiscale and multisectoral regional adaptation pathways based on transformative and no-regret measures, in line with national and regional climate objectives, hence ensuring a just transition and environmental justice,
- implement and test innovations in key systems demonstrating their contribution to improving resilience in the region and/or community
- prioritise the key systems that most urgently need to be protected from climate impacts and risks, and which would significantly improve the resilience of the region or community,
- prioritise vulnerable European regions or communities with the highest exposure, the highest vulnerability and/or least adaptive capacity to climate change impacts,
- integrate systemic risk analyses and management, considering multihazards and cascading effects, as well as interdependencies between key systems,
- make use of operational climate services (e.g. Copernicus Climate Change Service, Copernicus Emergency Management Service) available for public institutions and key sectors,
- stimulate wide citizen and stakeholder engagement and ensure ownership of the solutions through co-creation processes,
- take stock of existing good practises and solutions already available from other programmes, such as Horizon 2020, EIT KICs, LIFE+ Programme, Structural Funds programmes the EIB, the EBRD and at national, regional, local and private level.

Expected size of proposals: The Commission considers that IA proposals requesting a contribution from the EU of between EUR 10 to 15 million would allow the specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

2) Support the design, testing and upscale of Innovation Packages (Coordination and Support Action)

The action should support the implementation and wide dissemination of the solutions developed and tested under sub-topic 1.

In particular this action area should include:

- Citizens and regions engagement
 - ensure the wide deployment and integration of Innovation Packages through educational and training activities across relevant sectors and involving diverse groups and covering all categories of population,
 - ensure that targeted regions and communities are involved and benefit from the Innovation Packages through early multi-stakeholder dialogue and citizens engagement and surveys.

- engage with pan-European regional and cities networks and partnerships from the beginning, e.g. European Committee of the Regions, EU Urban Agenda Partnership on Climate Change Adaptation, Covenant of Mayors for Climate and Energy, European Institute for Innovation and Technology Knowledge Communities (EIT KICs), etc.
- support regions and communities in identifying and possibly overcoming institutional, regulatory and financial barriers preventing the implementation of Innovation Packages; including testing of innovative public-private partnerships prioritizing greater citizen involvement throughout the process.
- Monitoring and assessment:
 - develop a set of indicators^[5], in collaboration with the activities carried out under area 1, which consider regional specificities and
 - enable the monitoring and assessment of Innovation Packages,
 - identify cases of maladaptation at regional level and analyse the root causes of failures in practice; formulate region-specific recommendations to address these root causes,
 - address issues of replicability across scale and sustainability over time for the cross-sectoral solutions and regional pathways,
- Portfolio of Solutions
 - support the preparation of the portfolio of solutions, through in-depth diagnosis and prioritization of actions, in close cooperation with regional actors,
 - support the regions in identifying, mapping and leveraging EU and national funding and financing programmes to support the deployment of the Innovation Packages,
 - foster an enabling environment for the demonstration projects implemented under subtopic 1, including digital services; citizen engagement, education and capacity building; business and insurance models, resource leveraging; innovative coordination approaches, etc.
 - develop a fully functioning and free-access online platform or upgrade existing knowledge-exchange platforms with user-friendly information on Innovation Packages covering all relevant aspects (financial, social, technological and regulatory) and priority areas (health, agriculture, water, environment including biodiversity, and infrastructure including energy, etc.).

Area 2: Clean, affordable and secure energy

CALL IDENTIFIER	TOPIC	Budget in M€		Type of Action
		Total	Project	
LC-GD-2-1-2020	Innovative land-based and offshore renewable energy technologies and their integration into the energy system	Subtopic 1: 18 Subtopic 2: 68	Subtopic 1: 3-6 Subtopic 2: 25-30	Subtopic 1: RIA Subtopic 2: IA

Subtopic 1: Development of land-based renewable energy technologies and their integration into the energy Detection & Response

1. Develop innovative solutions for either district heating and/or cooling systems or CHP, which allow satisfying a significant or possibly total share of the energy demand
 2. Combine at least two or more renewable energy sources and/or two or more renewable energy technologies.
 3. Daily/seasonal availability of the renewable energy sources have to be properly taken into account.
 4. Projects should assess the sustainability of the proposed solutions in environmental, social and economic terms.
 5. For DHC systems, the integration of sources of otherwise wasted excess heat or cold as well as the interfacing with existing heating or cooling distribution networks can be considered.
- For CHP solutions, the minimum capacity in terms of power supply should be 2,5

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

1. Demonstrate all potential impacts on the future roll-out of large-scale, sea critical, offshore renewable energy innovations, considering the efficiency, reliability, sustainability and circularity that is needed in all areas of the offshore renewable energy system.
2. Offshore renewable energy power generating systems: innovative integrated offshore (floating) wind, wave, tidal and/or solar systems, on a floating or fixed-bottom substructure, considering the varied subsea and metocean conditions.

And/or

3. Grid infrastructure: real life demonstration of innovative Direct Current (DC), AC/DC hybrid technologies and systems as a supporting step towards large offshore DC, AC/DC hybrid grids (e.g. multi-vendor Multi-Terminal HVDC (MT HVDC) systems, grid
4. forming converter, HVDC diode rectifiers, Modular Multilevel Converters (MMC), DC Circuit Breaker (DCCB); DC/DC converter and DC/power hub) and their control and management systems

Projects may also include:

5. Power to X /storage systems to maximise the use of offshore resources and increase the system resilience.

Proposals should address:

6. Industrial design and manufacturing processes, circularity, scalability, installation methods, transport, operation & maintenance, supply chains and the related digital infrastructures.
7. Regulatory, market and financial challenges.
8. Marine spatial planning issues (making multi-use of the seas possible, barriers such as costs, public acceptance and vulnerability to changing climate conditions in offshore areas

CALL IDENTIFIER	TOPIC	Budget in M€		Type of Action
		Total	Project	
LC-GD-2-2-2020	Develop and demonstrate a 100 MW electrolyser upscaling the link between renewables and commercial/industrial applications	10-20	60	IA

Operate and install a 100 MW electrolyser to produce renewable hydrogen, as an energy carrier. Mandatory Cross border dimension and knowledge sharing within Europe: organize 3 workshops, out of which 2 in European countries, outside of the beneficiary's main implantation, involving policy makers and energy stakeholders

1. Install and operate a 100 MW electrolyser for managing and using power efficiently (electricity and heat), as well as water, hydrogen and oxygen flows.
2. Increase the efficiency of the electrolyser reaching an energy consumption of 49 (ALK) to 52 (PEM) kWh/kg H₂ at nominal power; Increase the current density to 1A/cm² (ALK) or 3A/cm² (PEM) and delivery pressure to 30 bar; Reduce the electrolyser CAPEX by 20% down to €480/kW and €700/kW for Alkaline & PEM electrolysers respectively
3. 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
4. Operate 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 biorefinery or other industries injecting in NG transmission grid type of application
5. Demonstrate ste of future economic viability of the technology, depending on cost of electricity and hours of operation of electrolyser; Reduce footprint and address safety issues

Area 3: Industry for a clean and circular economy

CALL IDENTIFIER	TOPIC	Budget in M€		Type of Action
		Total	Project	
LC-GD-3-2-2020	Demonstration of systemic solutions for the territorial deployment of the circular economy	60	10 - 20	IA

Build sustainable, regenerative and just circular economy, demonstrate concrete systemic solutions for the territorial deployment of the circular economy in at least three territorial clusters in Europe, and facilitate their replication. Demonstrate R&I systemic solutions for the territorial deployment of the circular economy at the level of governance closest to citizens.

Expected Impact:

Proposals are expected to contribute to the implementation of the CCRI by providing policy-makers, public and private investors and local communities with concrete and demonstrated examples of circular systemic solutions at local and regional scale with the following impacts:

- decoupling of economic and human activities from the consumption of finite resources and GHG emissions, ensuring the transition towards circular and climate-neutral economy;
- improved sustainability and circularity of clusters' economic sectors, natural ecosystems, management and valorisation of local resources;
- emergence of circular business opportunities and a structured pipeline of investment projects;
- increased circular and climate-neutral practices among citizens and their participation in systemic solutions;
- creation of jobs in the short to medium term;
- more effective development of circular solutions through knowledge transfer between the territorial clusters funded under this topic and other territories across EU member states and associated countries ;
- more effective widespread uptake and easier replication, scalability and visibility of circular systemic solutions and hence multiplication of the economic, social and environmental benefits to achieve the policy targets of the European Green Deal, Circular Economy Action Plan, EU Bioeconomy Strategy and the European Industrial Strategy at local, regional, national, European and international levels.

→TRL 6-7

Area 4: Energy and resource efficient buildings

CALL IDENTIFIER	TOPIC	Budget in M€		Type of Action
		Total	project	
LC-GD-4-1-2020	Building and renovating in an energy and resource efficient way	60	10-20	IA

Deliver at least one residential and one non-residential large-scale, real-life demonstrations of promising technology, process and social innovations:

1. Test innovations across the whole value chain, from planning and design, through manufacturing and construction to end use;
2. Including all relevant players: governance and financing institutions, planners, owners, architects, engineers, contractors, facility managers, tenants, etc;
3. Adapt this value chain to new operation patterns - new business models, services, usages, behavior;
4. Validate the market and consumer uptake in the form of real life “living-labs”;
5. Demonstrate, evaluate and ultimately replicate in different environment and market conditions, considering social, business and policy drivers;
6. Validate the innovations for different building types - residential (e.g. social housing) and non- residential (e.g. hospitals, schools, public buildings) in various climatic zones;
7. Bring the core technology from TRL 5-6 up to TRL 7-8 at the end of the project.

Area 5: Sustainable and smart mobility

CALL IDENTIFIER	TOPIC	Budget in M€		Type of Action
		Total	project	
LC-GD-5-1-2020	Green airports and ports as multimodal hubs for sustainable and smart mobility	100	15-25	IA

Address the following activities under one of two areas - A) Green Airports OR B) Green Ports:

- Foster innovative overall energy systems integration;
- Demonstrate effective integration of transport modes within and around the airport/port;
- Foster wider use of green hydrogen, electrification and sustainable alternative fuels;
- Assess improvement in energy consumption, greenhouse gas emissions and air quality.

Consortia structure and budget:

- Led by One “Lighthouse” airport/port, demonstrating novel concepts and solutions;
- Include Three “Fellow” airports/ports helping to define and incorporate solutions, and committed to implementing the best practices identified, and results produced by the project;
- Include academic and other partners (e.g. rail, road);
- For Green Ports - include at least one inland port;
- A maximum of 20% of the requested grant should be allocated to the Fellow airports or ports.

Area 6: Farm to Fork

CALL IDENTIFIER	TOPIC	Budget in M€		Type of Action
		Total	project	
LC-GD-6-1-2020	Testing and demonstrating systemic innovations in support of the Farm-to-Fork Strategy	72	9-12	IA

Proposals are expected to:

- Demonstrate innovative systemic solutions that have the potential to generate significant positive impacts by 2030 with regards to :
 - Achieving climate neutrality of farms and farming systems (on land, water and sea); reducing GHG emissions; increasing carbon sequestration and storage (Subtopic A);
 - Achieving climate neutrality of food businesses; reducing energy use and increasing energy efficiency in processing, distribution, conservation and preparation of food (Subtopic B);
 - Decreasing the dependency on the use of hazardous pesticides (Subtopic C);
 - Reducing loss of nutrients from fertilisers and ultimately fertiliser use; increasing the efficiency of fertilisers (Subtopic C);
 - Decreasing the dependency on antimicrobials in animal production and in aquaculture (Subtopic D);
 - Reducing food losses and waste and the use of unsustainable packaging, at every stage of the food chain including consumption (Subtopic E);
 - Increasing the share of citizens that adhere to healthy sustainable diets, including among the most deprived and vulnerable groups (Subtopic F);
 - Providing sufficient, safe, nutritious, healthy and affordable food for all (Subtopics (A), (B), (C), (D), (E), and (F));
 - Improving the overall sustainability of food systems (social/health, climate/environmental and economic) (Subtopics (A), (B), (C), (D), (E), and (F));
 - Improving the resilience of food systems to shocks and stresses (Subtopics (A), (B), (C), (D), (E), and (F)).
- Contribute significantly to the achievement of the objectives and targets of the Farm to Fork Strategy^[17] and The European Green Deal, and in particular to:
 - Reducing GHG-emissions by at least 50% by 2050 compared with 1990 levels (Subtopics A, B, E, F);
 - Reducing the overall use and risk of chemical pesticides by 50% and the use of more hazardous pesticides by 50% by 2030 (Subtopic C);
 - Reducing nutrient losses by 50%, which will reduce the use of fertilisers by at least 20% by 2030 (Subtopic C);
 - Reducing the EU sales of antimicrobials for farmed animals and in aquaculture by 50% by 2030 (subtopic D);
 - Halving the per capita food waste at retail and consumer levels by 2030 (Subtopic E);
 - Reversing the rise in overweight and obesity rates across the EU by 2030 (Subtopic F);

- Bringing European diets more in line with dietary recommendations (Subtopic F).
- Achieve an increase in awareness among policy makers, businesses, investors, entrepreneurs, institutions, stakeholders and citizens of selected innovative systemic solutions, of their potential and of the requirements to promote and realise their uptake at EU scale and behavioural change (Subtopics (A), (B), (C), (D), (E), and (F)).

1.

Area 7: Ecosystems and Biodiversity

CALL IDENTIFIER	TOPIC	Budget in M€		Type of Action
		Total	project	
LC-GD-7-1-2020	Restoring biodiversity and ecosystem services	80	16-25	RIA

This topic therefore responds to the urgent double challenge of (i) accelerating transformative change through (ii) upscaling restoration of ecosystems at sea or on land.

Scope:

Actions should:

- 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;
- 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;
- adapt, integrate and demonstrate innovative method (technological, non-technological, social and governance, including sustainable financing) on upscaling ecosystem restoration, also in regions and for communities in transition;
- 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;
- 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;
- **promote scaling up and stepping up of implementation of nature-based solutions** building on existing experience in particular on lessons learned and best practices gained through EU-funded projects and initiatives such as those supported by Horizon 2020 and the LIFE programme in order to address barriers to implementation for systemic nature-based solutions focussing on restoration in urban, peri-urban, rural or marine areas;
- showcase how restoring ecosystems at large scale will also help human communities to adapt to changing conditions at their local level, and how restoration activities can be integrated into economically and socially viable land use practices, enabling a shift of social and behavioural patterns towards increased benefits for biodiversity and strengthening social acceptance and social resilience;

- demonstrate how to maximise synergies and avoid trade-offs between priorities for restoring biodiversity, mitigating and adapting to climate change (such as those identified jointly by the IPCC and IPBES).
- generate knowledge on how large-scale restoration can accelerate transformative change beneficial for biodiversity and climate resilience, and bring this information to UN programmes, as well as to IPCC and IPBES^[6], processes.

1.

Area 8: Zero-pollution, toxic free environment

CALL IDENTIFIER	TOPIC	Budget in M€		Type of Action
		Total	Project	
LC-GD-8-1-2020	Innovative, systemic zero-pollution solutions to protect health, environment and natural resources from persistent and mobile chemicals	40	8-12	RIA

Expected Impact:

- Provide a foundation for prevention and mitigation solutions based on better understanding the sources and distribution of the targeted chemicals, access to models of their environmental fate and degradation pathways and improved understanding of relevance for human and environmental health of the problem of emerging and persistent pollution;
- **Provide solutions and support decision making for addressing large-scale diffuse contamination of water and soil with persistent and mobile chemicals (including for combinations of pollutants) in an integrated manner;**
- Contribute to achieving a toxic-free environment through solutions for better load reduction, (bio)remediation and detection technologies, including real time monitoring approaches;
- Improve risk assessment to facilitate optimal risk management and preventive solutions;
- Support policy development, regulatory action and risk communication with FAIR^[5] data of regulatory relevance;
- Support actions deriving from several EU documents on persistent and mobile chemicals^[6], the upcoming Zero Pollution Action Plan and the aims of the new Circular Economy Action Plan^[7] to minimise the presence of substances that pose problems to human and environmental health.

1.

CALL IDENTIFIER	TOPIC	Budget in M€		Type of Action
		Total	Project	
LC-GD-8-2-2020	Fostering regulatory science to address combined exposures to industrial chemicals and pharmaceuticals: from science to evidence-based policies	20	4-6	RIA

Innovative systemic solutions that can be scaled up, such as:

1. Providing policy-makers & risk assessors with validated, practical methods & tools;
2. Improve the scientific knowledge base;
3. Study the effectiveness and efficiency of different policy approaches.

Area 9: Strengthening our knowledge in support of the EGD

CALL IDENTIFIER	TOPIC	Budget in M€		Type of Action
		Total	Project	
LC-GD-9-1-2020	European Research Infrastructures capacities and services to address European Green Deal challenges	28	a – 7 b1 – 13 b2 - 8	RIA

Infrastructure consortium should address one of the following sub-topics:

- a) Support leadership in clean energy storage technologies – supporting the development of research and industrial ecosystem underpinning energy storage activities and relevant value chain - involving all relevant European and international initiatives, and infrastructures, ensuring integration and access, and avoiding duplication of effort.
- b1) Enhancing infrastructures and monitoring networks for greenhouse gases observation;
- b2) Enhancing infrastructures and monitoring networks for air quality in urban areas and citizens’ health in cities.

CALL IDENTIFIER	TOPIC	Budget in M€		Type of Action
		Total	Project	
LC-GD-9-2-2020	Developing end-user products and services for all stakeholders and citizens supporting climate adaptation and mitigation	25	3-5	RIA

Providing detailed information, relevant to real-world decision-makers, and informing citizens about the impacts of climate change in the decades to come, identifying adaptation options, and illustrating pathways towards climate neutrality, incorporating behavioural factors.

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

1. Convert the mitigation pathways and adaptation strategies into clear information about how production, consumption, infrastructure and lifestyle need to change;
2. Tools, platforms and/or mobile applications contributing to providing the next generation of climate services, in collaboration with the commercial sector, addressing the downstream part of the value chain, and providing actionable information to non-specialists for adapting to extreme climate events.

*International cooperation is encouraged, in particular for addressing the climate priority of the Group on Earth Observation (GEO), and building on GEOSS and Copernicus services, and ESA projects.

**This topic includes social sciences aspects, and space remote sensing applications

CALL IDENTIFIER	TOPIC	Budget in M€		Type of Action
		Total	Project	
LC-GD-9-3-2020	Transparent & Accessible Seas and Oceans: Towards a Digital Twin of the Ocean	12	12	IA

Develop a pilot ocean digital twin, allowing fit for purpose, timely, persistent and autonomous monitoring, identifying and testing of the most efficient solutions for sustainable ocean and coastal management.

1. Encourage and enable the infusion of ‘non-scientific data streams’ through the joint communities of companies, public authorities, social innovators, researchers, citizens and policy makers;
2. Increase citizen awareness and allow for knowledge-based decision-making;
3. Reduce risk and increase efficiency of coastal and marine economic activities.

The selected projects are expected to collaborate with other relevant H2020 projects, and with relevant projects from ESA Ocean Science Cluster, building on existing Copernicus, EMODNET, ERICs assets, and addressing concrete cases in local or regional sea basins.

*This topic includes social sciences aspects, and space remote sensing applications

Area 10: Empowering citizens for the transition towards a climate neutral, sustainable Europe

CALL IDENTIFIER	TOPIC	Budget in M€		Type of Action
		Total	Project	
LC-GD-10-3-2020	Enabling citizens to act on climate change, for sustainable development and environmental protection through education, citizen science, observation initiatives, and civic engagement	25	5	IA

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

Based on the recommendations of the European Green Deal Communication, actions will foster the development and implementation of a multidisciplinary European competence framework within the context of lifelong learning for the development and assessment of knowledge, skills and attitudes of citizens and in particular young people on climate change and sustainable development.

This framework shall be built on the best available research and rooted in the Council Recommendation on Key Competences for lifelong learning, especially natural science, technology, mathematics, as well as social, personal, entrepreneurial, citizenship and digital competences. The participation of natural scientists, technology specialists, citizen science professionals and social sciences and humanities researchers is essential for the development of the framework. Taking into account the natural resistance to individual behavioural changes and to collective changes in social practices, as well as the gender gap observed in attitudes towards ecology and sustainable practices, contributions and practical knowledge provided by non-academic practitioners, NGOs and stakeholders, and international best practices, will be important.

The European competence framework will be tested and validated through demonstration activities, in particular in schools, training institutions and universities, as for example through the implementation of nature-based solutions (e.g. green walls, green ponds for natural water filtering, green roofs, air quality sensors, green mobility, etc.), actions for biodiversity conservation, education on natural disasters, waste management including marine and riverside litter, sustainable energy and food production and consumption, educational activities supporting the refurbishment of school buildings, etc.

Under this subtopic, clustering activities among the selected projects should be ensured through regular exchanges (e.g. meetings, peer-learning and peer-counselling activities, etc.) in order to share the educational outcomes on the competence framework, best practices and results of the different demonstration sites. To this end, proposals should earmark the appropriate resources for coordination activities accordingly. Each proposal should also reflect a balanced geographical representation of the demonstration sites covering different regions in Europe.

The Commission considers that proposals requesting a contribution from the European Union in the range of EUR 3 to 5 million would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

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

Actions in this subtopic will target the involvement of citizens in climate- and environment-related issues and domains, such as biodiversity, marine and freshwater pollution, water scarcity and sustainable transport and food production. They will focus on the active participation of citizens through citizen science, environmental observation and civic consortia. Projects should be conducted on a broad scale, i.e. in cooperation with businesses, civil society organisations, public authorities and existing initiatives (such as the Climate Adapt platform^[14] and the Covenant of Mayors^[15]), to ensure that these actions will lead to examples on how to engage the wider community in the effective behavioural changes and changes in social practices needed for a successful and just transition. The key component of this subtopic is to raise awareness, engage and empower citizens and consumers with concrete tools to monitor their impacts on the environment, to collect information enabling them to change their behaviour and to reduce their personal carbon and environmental footprint as user and consumer through individual and social innovation. Actions should include the development and/or improvement of devices (low-cost sensors, consumer apps, such as wearable sensors, a trusted user-friendly app with robust carbon footprint calculations, extreme weather community app, for the purposes of early warning, marine and freshwater litter watch) taking into account the interoperability and exchange of future and existing data collected. Attention should be paid to promoting gender-equal participation and deconstructing gender stereotypes.