

OVERVIEW DOCUMENT HORIZON 2020 GREEN DEAL CALL – extended version

In this table you can find the summary of each Green Deal Call topic. When you click on the short name of the call topic you are forwarded to a small summary of this call topic with interesting links. In the right column you can find the direct links to the COM webpages and draft Work Programme of mid-May.

In the latest draft of the Green Deal Workprogramme, the COM divides the call into 8 “core” or principal areas and 2 supporting areas on knowledge systems and research infrastructure and citizen engagement. We have updated some of the new information in this overview.

	Call areas and topics	Type of action	Link to
1	Increasing climate ambition		
	wildfires	IA&CSA	call 1.1
	climate-neutral cities	RIA	call 1.2
	climate resilient innovation regions	IA & CSA	call 1.3
2	Clean, affordable and secure energy		
	land based and offshore renewable energy	IA	call 2.1
	100 MW electrolyser	IA	call 2.2
	Clean energy in partnership with Africa	IA	call 2.3
3	Circular Economy		
	closing the carbon cycle	IA	call 3.1
	territorial deployment	IA	call 3.2
4	Energy efficient buildings	IA	call 4.1
5	Green airports and ports	IA	call 5.1
6	Sustainable food from farm to fork	IA	call 6.1
7	Restoring biodiversity and ecosystem services	IA	call 7.1
8	Zero-pollution, toxic-free environment		
	to protect from persistent and mobile chemicals	RIA	call 8.1
	evidence based policy to address chemical and pharmaceutical mixtures	RIA	call 8.2
9	Strengthening the knowledge		
	research infrastructure services	RIA	call 9.1
	end-user products and services for citizens	RIA	call 9.2
	digital twin of the ocean	IA	call 9.3
10	Citizen empowerment		
	participation	RIA	call 10.1
	behavioural change	RIA	call 10.2
	citizen science, civic involvement	IA	call 10.3

1.1. Preventing and fighting extreme wildfires with the integration and demonstration of innovative means LC-GD-1-1-2020

Wildfires have increased and even doubled in Mediterranean Europe and now also occur in most parts of Europe (even in Sweden) as a result of climate change. There are two types of calls in this area, an innovation action (IA) with a total budget of 72 million euro and a coordination and support action (CSA) with a budget of 3 million euro.

The IA focuses on all phases of the wildfire: prevention and preparedness, detection and response, restoration and adaptation. They are looking for comprehensive projects that research, demonstrate and deploy innovative techniques, means and methods tailored to extreme wildfire behavior. This involves a broad range of topics so a multidisciplinary team (e.g. satellite solutions, firefighter, environmental scientists) is needed for this project. The selected projects should also result in a more pro-active governance with better large scale risk assessment and wildfire preparedness. Citizens and the forestry sector can play a major role in this respect.

The CSA aims to ensure the success of this call by coordinating and supporting the different selected IA projects under this call. There will probably be 4 IA's and 1 CSA.

[full text call for proposals 1.1](#)

[Webinar on area 1 during EU Research and Innovation Days](#)

1.2. Towards climate-neutral and socially innovative cities LC-GD-1-2-2020

In the past cities have often been seen as large polluters but with a new young generation embracing a new greener urban way of life, there is a window of opportunity for change.

This RIA action wants to develop a one stop shop platform that can provide the necessary expertise and assistance to cities for developing and implementing their climate actions and related social innovation plans. This platform will also help with the investment strategies for sustainable solutions. There are four different activities within this topic which should all be addressed:

- a) Climate action plans and green deal innovations where particular attention is given to exchanges between cities, involvement of citizens and the concept of a climate-neutral city contract.
- b) Help cities with the project preparation and financing by building on the best practices of past EU projects (e.g. Horizon 2020)
- c) Social innovation means that results of R&I at EU-level must be matched with the expectations of the citizens. They have to be involved in testing the sustainable solutions. This way the acceptance of the transition will increase (overlap here with Area 10)
- d) R&I for climate neutral transformation in this projects will also happen via a cascading grants call. The one stop shop platform will use 60% of the total project budget to give to other large scale projects in the lead cities that contribute to the objectives of their project and the call for proposals. Hereby there will be a

collaboration with 2 other cities or districts in other member states so that pilot projects can be upscaled and replicated elsewhere.

Estimated budget: 53 mio€

[full text call for proposals 1.2](#)

[Webinar on call 1.2 during EU Research and Innovation Days](#)

1.3. Climate-resilient innovation packages for EU regions LC-GD-1-3-2020

This topic is not looking for incremental changes but stresses the need for radical and transformative ways of reducing climate vulnerability and making these regions more resilient. The European Commission is thus looking for large solutions which are close to completion so the proposed solutions should ideally start at high TRL. As with call 1.1, they are looking for a large portfolio of solutions while also approaching it in a multidisciplinary way. The main aim is to identify and upscale the most promising cross-sectoral solutions. There is scope for several IA projects and 1 CSA project.

a) Innovation Action - Innovation Packages for transformational adaptation of European regions and communities (estimated budget 42 mio€)

Here they are looking for a portfolio (package) of high TRL solutions that test and improve the climate resilience of the key systems (health, transport, agriculture, energy) in these regions. It is not just about technology but behavioural change or new kinds of governance can also be part of the solutions. The solutions must be part of a sustainability pathway or strategy and citizens should be involved in the making of this. Priority in this topic should be given to the most vulnerable regions as a result of climate change. (larger exposure to risk, or less capacity to tackle risks)

b) Coordination Support Action - Support the design, testing and upscale of Innovation Packages (estimated budget 3 mio €)

The main aim here is to support the approved project of the innovation action. In concreto they will help with the citizen engagement, monitoring and assessment of the innovation packages and support the preparation of solutions. Finally they will also help with legal barriers that the IA projects might encounter.

[full text call for proposals 1.3](#)

[Webinar on call 1.3 during the EU Research and Innovation Days](#)

2.1. Innovative land-based and offshore renewable energy technologies and their integration into the energy system LC-GD-2-1-2020

Clean renewable power production must become the main source of energy and major investments are needed to achieve this. There are two subtopics to this call. The first looks at land-based renewable energy technologies and how they can be better integrated in the

energy system. More in particular the EC is looking for projects involving district heating and cooling (DHC) OR involving cogeneration of heat and power (CHP). They should achieve TRL of 4-5. Each project will receive between 3 and 6 million EUR. The second subtopic looks at offshore energy solutions. The call for proposals is technology neutral so does not have to be solely about wind energy but can also involve wave, tidal and solar systems. The scope consists of the offshore renewable energy power generating systems (mandatory) and can be completed with solutions regarding the grid infrastructure and power2X/battery/ storage systems. The envisaged end TRL is 7. Each project will receive between 20 and 35 million EUR.

Type of action: Innovation Action and Research&Innovation Action

Estimated budget:

- RIA: 18 mio € (land-based)
- IA: 68 mio € (off-shore)

[full text call for proposals 2.1](#)

[Webinar on area 2 during the EU Research and Innovation Days](#)

2.2. Develop and demonstrate a 100 MW electrolyser upscaling the link between renewables and commercial/industrial applications LC-GD-2-2-2020

In order to decarbonize the European economy, hydrogen will be needed in hard to abate sectors (e.g. cement factories) and some transport means where electrification is not a good solution (e.g. heavy duty vehicles and long distance trucks). Current production is nowhere near enough as the biggest facility in Linz (Austria) is about 6MW (larger ones under construction) so we need more and bigger facilities. A big step upwards in this respect would be a 100 Megawatt electrolyser which should be in operation at the end of the project.

Type of action: Innovation Action (funding rate reduced to 50% as end TRL is 8 so would be in breach with competition rules)

Estimated budget: 60 mio €

[full text call for proposals 2.2](#)

[Webinar on Area 2 during the EU Research and Innovation Days](#)

2.3. Accelerating the clean energy transition and access in partnership with Africa LC-GD-2-3-2020

The African continent has an enormous potential for renewable energy sources (RES) which has just begun to be harnessed. It will help them achieve the Paris climate goals and also assist Africa in developing their economy in a more sustainable way. This call emphasis the need to adapt the European solutions to the context of Africa. In this respect, collaboration with African partners is essential. The main focus of the project should be on the

development of RES including solutions for off-grid communities and also on energy-efficiency. The total budget for this call is 40 million euro and each approved project will receive between 5 and 10 million euro. There is no specified TRL but it will be 7 at least as the actions must design, construct and operate the demonstration installation in Africa.

Type of action: Innovation Action (at least 2 partners from at least 1 African Country)

Estimated budget: 40 mio €

[full text call for proposals 2.3](#)

[Webinar on area 2 during the EU Research and Innovation Days](#)

3.1. Closing the industrial carbon cycle to combat climate change LC-GD-3-1-2020

Here 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. Important in this respect is also that you need to demonstrate how you will scale up the developed technologies in order to reach industrial production levels. The start TRL is 4-5 and by the end of the project with a maximum duration of 5 years, the TRL should be 7. This means an industrial scale demonstrator installation must be ready by 2026 at the latest. 2 projects will be funded and will each get up to 40 million euro.

Type of action: Innovation Action (min. 2 projects funded)

Estimated budget: 80 mio €

Cross-cutting Priorities: International cooperation

[full text call for proposals 3.1](#)

[Webinar on area 3 during the EU Research and Innovation Days](#)

3.2. Demonstration of systemic solutions for the territorial deployment of the circular economy LC-GD-3-2-2020

The main objective of this call is to reconcile the interests of human, economic activity and future the planet by creating a true circular economy. With that goal in mind, they want to bring actors from all societal areas (government, citizen groups, industry) together in a territorial cluster and their tasks is to draw up, demonstrate and implement concrete systemic solutions for the circular economy. The solutions must be the result of a large comprehensive approach so not limited to 1 or 2 sectors or actors' interest.

The systemic solutions shall consequently be cross-cutting among different sectors and include science, technology, governance, economic, social and environmental dimensions and components. A systemic solution should address one or more economic sectors/value chains/technological processes to increase their circularity, involve circular participative

governance models, demonstrate sustainable products and/or services' business models, involve one or more social and community-based innovation schemes

There is no clear definition of the territory of the cluster. However, the solutions must be suitable for upscaling and duplication in other member states so collaboration will be needed with other member states. The proposed solutions should all have TRL of 6-7 and the budget per project will vary from 10 to 20 million euro

Type of action: Innovation Action

Estimated budget: 60 mio €

[full text call for proposals 3.2](#)

[Webinar on area 3 during the EU Research and Innovation Days](#)

4. Building and renovating in an energy and resource efficient way LC-GD-4-1-2020

Making the building sector greener is a strategic component of the full decarbonizing goal by 2050. Many of the houses and offices we have constructed are now passive buildings. With this call we want to make the transition to buildings that become net contributors to the energy supply chain and produce much more energy than they consume. There are two major components of this transition.

- designing and constructing buildings to reduce their embodied emissions and increase their energy efficient operation. Retrofitting existing buildings to improve their energy efficiency is also part of this exercise.
- energy positive buildings (producing electricity, covering their heating and cooling needs and contributing to the grid stability) with sustainable, renewable energy technologies.

Proposals are expected to bring the technologies from TRL 5/6 to TRL 7/8 at the end of the project and each project must deliver 2 large scale real-life demonstrations of promising technologies and in different regions of Europe. The choice of technology is quite free and can involve digital tech, energy storage, new building designs etc. The subsidy per project will vary between 10 and 20 million euro.

Type of action: Innovation Action (page limit: 100 pages)

Estimated budget: 60 mio €

[full text call for proposals 4.1](#)

[Webinar on area 4 during the EU Research and Innovation Days](#)

5. Green airports and ports as hubs for sustainable and smart mobility LC-GD-5-1-2020

Ports and airports play a pivotal role in the fast growing transport sector. To make this sector more sustainable, this call is looking for high TRL projects that make these multimodal hubs

greener. The aim is to generate a long term effect and serve as model for other ports and airports. For airports this can be achieved by making the transport from and to the airport more electric, use low energy solutions in the terminal, improve the air quality in the buildings, reduce food waste and so forth. In ports they are looking for solutions stemming from green smart logistics, production of low carbon energy, use of autonomous vehicles just to give a few examples. Essential to this call for proposals is that the projects have to be demonstrated and monitored in a real-life environment, called the 'lighthouse' port or airport. There is a requirement to also involve a maximum of 3 other ports or airports in the project.

2 projects per category (port or airport) will be selected and will each receive about 20-25 million euro.

Type of action: Innovation Action

Estimated budget: 100 mio €

[full text call for proposals 5.1](#)

[webinar on area 5 during the EU Research and Innovation Days](#)

6. Testing and demonstrating systemic innovations for sustainable food from farm to fork LC-GD-6-1-2020

The Farm to Fork Strategy is a core part of the Green Deal and 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 future generations. Current production methods still result in too much pollution (soil, air, water) and can result in the loss of biodiversity and also contribute to climate change.

This call wants to improve our food production and consumption. They are looking to build on innovative systemic solutions that can be scaled up, such as smart agro-ecological practices, new protein sources other than meat, sustainable food from the oceans and aquaculture, and personalised advice relating to sustainable healthy diets. There are 6 focus areas and a project should address only of them. (TRL 5 to 7)

- a) Climate neutral farms
- b) Climate neutral food businesses
- c) Less hazardous pesticides, better fertilisers and zero pollution of air, water and soil
- d) Less use of antimicrobials in animal production and aquaculture
- e) Reducing food losses and waste + avoiding unsustainable packaging
- f) More sustainable healthy diets, accessible to all EU citizens

At least one project per subtopic will be approved if it reaches the thresholds and will each receive between the 6 and 12 million euro.

Type of action: Innovation Action

Estimated budget: 74 mio €

[full text call for proposals 6.1](#)

[webinar on area 6 during the EU Research and Innovation Days](#)

7. Restoring biodiversity and ecosystem services LC-GD-7-1-2020

Ecosystems provide essential services such as fresh water and clean air, biomass provision for food, feed, fibre and fuel, mitigation of natural disasters, pests and diseases, improved health and wellbeing of citizens. They are natural carbon sinks and reduce CO² emissions and contribute this way to a better climate. However pressure on these ecosystems and its biodiversity is increasing at a faster rate than the efforts to protect it. Consequently the delivery of these services is threatened.

Hence there is a strong need for upscaling of the restoration efforts and this can best be done through a transdisciplinary (not just biologists) approach which looks at all the relevant ecosystem types (both at sea and on land)

With this call for proposals they are looking for projects that can demonstrate how transformational change in habitat restoration can take place at a large scale and the first results (improvement) should be visible by 2024. It is also important that the proposed solutions or innovations can be replicated elsewhere in the European Union.

Both local communities as the private sector should be involved in the restoration projects to generate added value and financing. This call seeks further synergies with projects done under the LIFE programme or the Horizon actions. Projects will receive between 16 and 25 million euro.

Type of action: Innovation Action

Estimated budget: 80 mio €

[full text call for proposals 7.1](#)

[webinar on area 7 during the EU Research and Innovation Days](#)

8.1. Innovative, systemic zero-pollution solutions to protect health, environment and natural resources from persistent and mobile chemicals LC-GD-8-1-2020

A survey showed that a large majority of respondents is worried about the presence of chemicals in everyday products. The most difficult category to clean up and set up a regulatory framework are chemicals that are persistent (slowly degradable) and mobile (e.g. through water). This call for proposals aims at demonstration of innovative solutions to protect our health, our environment and our natural resources from these persistent and mobile chemicals (e.g. PFAS). The R&I can be about remediation but can also focus on providing better insights through better monitoring, determining the toxicity and assessing the long-term health risks. This can be of help to policy makers and regulators.

Funding will vary from 8 to 12 million euro per project and the proposed TRL are 4 to 6 so quite a bit lower than for other Green Deal calls.

Type of action: Research and Innovation Action

Estimated budget: 40 mio €

[full text calls for proposals 8.1](#)

[webinar on area 8 during the EU Research and Innovation Days](#)

8.2. Fostering regulatory science to address chemical and pharmaceutical mixtures: from science to evidence-based policies LC-GD-8-2-2020

This topic is a result of the new chemicals strategy for sustainability which is strongly linked to the Green Deal. It calls for applied research studies, demonstrating how regulatory science can apply new tools and methodological approaches based on the latest scientific evidence, to quantify and prevent harmful co-exposures for humans, wildlife and domestic animals to industrial chemicals and pharmaceuticals. As these substances float through different channels (soil, water, air, food, consumer products) it happens that unintentional hazardous mixtures of chemicals arise. These can be hard to detect and the effects are not well known yet. This applied research study should result in better insight, better risk assessment of chemicals and pharmaceuticals and in the longer run an improved regulatory framework. Each project will receive between 4 and 6 million euro.

Type of action: Research and Innovation Action

Estimated budget: 20 mio €

[full text call for proposals 8.2](#)

[webinar on area 8 during the EU Research and Innovation Days](#)

9.1. European Research Infrastructures capacities and services to address European Green Deal challenges LC-GD-9-1-2020

Areas 9 and 10 are set up to increase the success of the Green Deal as a whole by supporting the areas. The first call is about stimulating exchange of knowledges between researchers and industry and let them work in the best possible conditions. Therefore they want to mobilize and group the world class capacities and resources, notable those provided by European Research Infrastructures (RI). This way we can support breakthrough solutions in the selected sectors. Three RI's should be set up: energy storage (7 million euro), observing greenhouse gasses (GHG) in cities (8 million euro), monitoring of health and air quality in cities (13 million euro). There will be one approved project per RI so a total budget of 28 million is foreseen.

Type of action: Research and Innovation Action

Estimated budget: 28 mio €

[full text call for proposals 9.1](#)

[webinar on area 9 during the EU Research and Innovation Days](#)

9.2. Developing end-user products and services for all stakeholders and citizens supporting climate adaptation and mitigation LC-GD-9-2-2020

One red line throughout the Green Deal calls is that the proposed solutions are well received and accepted by the end-users like business, citizens and governmental institutions. This call topic strives for activities that deliver end-user products and services that help decision-makers identify which modes of production, consumption and lifestyle are compatible with climate resilience and pathways achieving climate neutrality by 2050. In order for the end-users to completely grasp this evolution, the pathways need to be converted into clear information about how climate change will evolve and how production, consumption, lifestyle, etc. needs to change, also explaining the drivers and obstacles to achieve this societal change. A second smaller part of this call is developing the next generation of climate services and how end-users can use this to adapt to extreme climate events and new climatic conditions. Each project will receive between 3 and 5 million euro.

Type of action: Research and Innovation Action

Estimated budget: 25 mio €

[full text call for proposals 9.2](#)

[webinar on area 9 during the EU Research and Innovation Days](#)

9.3. A transparent and accessible ocean - Towards a Digital Twin of the Ocean LC-GD-9-3-2020

There is more data than ever before available about our seas and oceans and we have more powerful computing ability to handle big data. The time is there to create a pilot (=“prepare the ground”) digital twin of our ocean to understand the way it works as whole and its impact on the climate. This way we will better understand the consequences of our actions and develop better environmental policies related to the protection of our oceans and seas. Only one project will be approved with a budget of 12 million euros. Again it is important that citizens are informed of the findings of this project so they can better understand issues like sea-level rise, ecosystem change or species shifts.

Type of action: Innovation Action

Estimated budget: 12 mio €

[full text call for proposals 9.3](#)

[webinar on area 9 during the EU Research and Innovation Days](#)

10.1. European capacities for citizen deliberation and participation for the Green Deal LC-GD-10-1-2020

The 3 calls of area 10 are strongly linked to involving the citizens in setting up the Green Deal and making the right choices to achieve its goals, both at the individual and collective level.

All areas of the Green Deal require citizens' active support at all stages of the transition. This is important as they are the ones who have to accept and take up the proposed solutions. As a consequence it is important that they can participate in the decision process. The objective of call 10.1 is to establish transnational networks of experts, researchers, practitioners and relevant civil society organisations specialised on deliberative democracy and civic participation across Europe, including professionals in the field of public engagement. They will 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. National and local governments and administrations will be closely associated. The main goal of setting up this participatory process across a wide selection of member states is to enable the collective design and ownership of Green Deal objectives by enhancing the involvement of citizens in the Green Deal. This will in turn strengthen the trust of citizens in these Green Deal issues and what policy makers or scientists tell about the impact of climate change and the needed change.

Type of action: Research and Innovation Action

Estimated budget: 10 mio €

[full text call for proposals 10.1](#)

[Webinar on area 10 during the EU Research and Innovation Days](#)

10.2. Behavioural, social and cultural change for the Green Deal LC-GD-10-2-2020

All areas of the Green Deal require considerable changes in social practices and in the behaviour of individuals, communities, public and private organisations. In short it will need to result in a different way of life. This topic is looking for in-depth research on this behavioural change, both at the individual as at the collective level.

The selected projects will need to establish transnational and transdisciplinary networks of experts, researchers, practitioners and relevant civil society organisations on behavioural, social and cultural change. They will jointly analyse social and behavioural change processes, share good practice, tools and resources and implement behavioural experimentation on priority issues to deliver on the Green Deal. The overall objective of this network is to deliver new strategies and approaches which can help to achieve this change. The budget per project varies between 3 and 5 million euro.

Type of action: Research and Innovation Action

Estimated budget: 10 mio €

[full text call for proposals 10.2](#)

[Webinar on area 10 during the EU Research and Innovation Days](#)

10.3. Enabling citizens to act on climate change and environmental protection through education, citizen science, observation initiatives, and civic involvement LC-GD-10-3-2020

This call is about directly providing citizens with better insights and knowledge on climate change and explain how they can contribute to a more sustainable world. There are 2 subtopics to this call.

Area education: Here it should 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. Contributions and practical knowledge provided by non-academic stakeholders, and international best practices, will be important. This will serve as a reference tool for everyone wanting to become more engaged in the greening of our society. Each project will receive about 5 million euro.

Area citizen science, observation and civic involvement: actions will target the involvement of citizens in climate- and environment-related issues and domains, such as biodiversity, marine and freshwater pollution and sustainable food. 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, in cooperation with businesses, civil society organisations and public authorities. Actions should include the development and/or improvement of devices (low-cost sensors, consumer apps, etc.) taking into account the interoperability and exchange of future and existing data collected. This way they will learn more about their personal impact (e.g. carbon footprint) on the environment. Each project will receive between 3 and 5 million euro.

Type of action: Innovation Action

Estimated budget: 25 mio €

[full text call for proposals 10.3](#)

[Webinar on area 10 during the EU Research and Innovation Days](#)