

#innovacion
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@CDTIoficial

Horizonte Europa - Clúster 5

Clima, Energía y Movilidad



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12 / mayo /2021

Horizonte Europa (2021 – 2027)

PILAR 1 – CIENCIA EXCELENTE	25.011	PILAR 2 - RETOS MUNDIALES Y COMPETITIVIDAD INDUSTRIAL EUROPEA	53.516	PILAR 3 – EUROPA INNOVADORA	13.597
ERC - Consejo Europeo de Investigación	16.004	Clúster 1 - Salud	8.246	EIC- Consejo Europeo de Innovación	10.105
MSCA - Acciones Marie Skłodowska-Curie	6.602	Clúster 2 - Cultura, creatividad y sociedad inclusiva	2.280	Ecosistemas de innovación europea	527
Infraestructuras de investigación	2.406	Clúster 3 - Seguridad	1.596	EIT - Instituto Europeo de Innovación y Tecnología	2.965
		Clúster 4 - Digital, industria y espacio	15.349		
		Clúster 5 - Clima, energía y movilidad	15.123		
		Clúster 6 - Alimentación, bioeconomía recursos naturales, agricultura y medio ambiente	8.952		
		JRC – Centro Común de Investigación	1.970		
Ampliar la Participación y Fortalecer el Espacio Europeo de Investigación		3.393			
Ampliar la participación y difundir la excelencia		2.955			
Reformar y mejorar el sistema europeo de la I+i		438			

* Presupuesto en M€ (precios corrientes)

** Fondos de NextGenerationEU incluidos

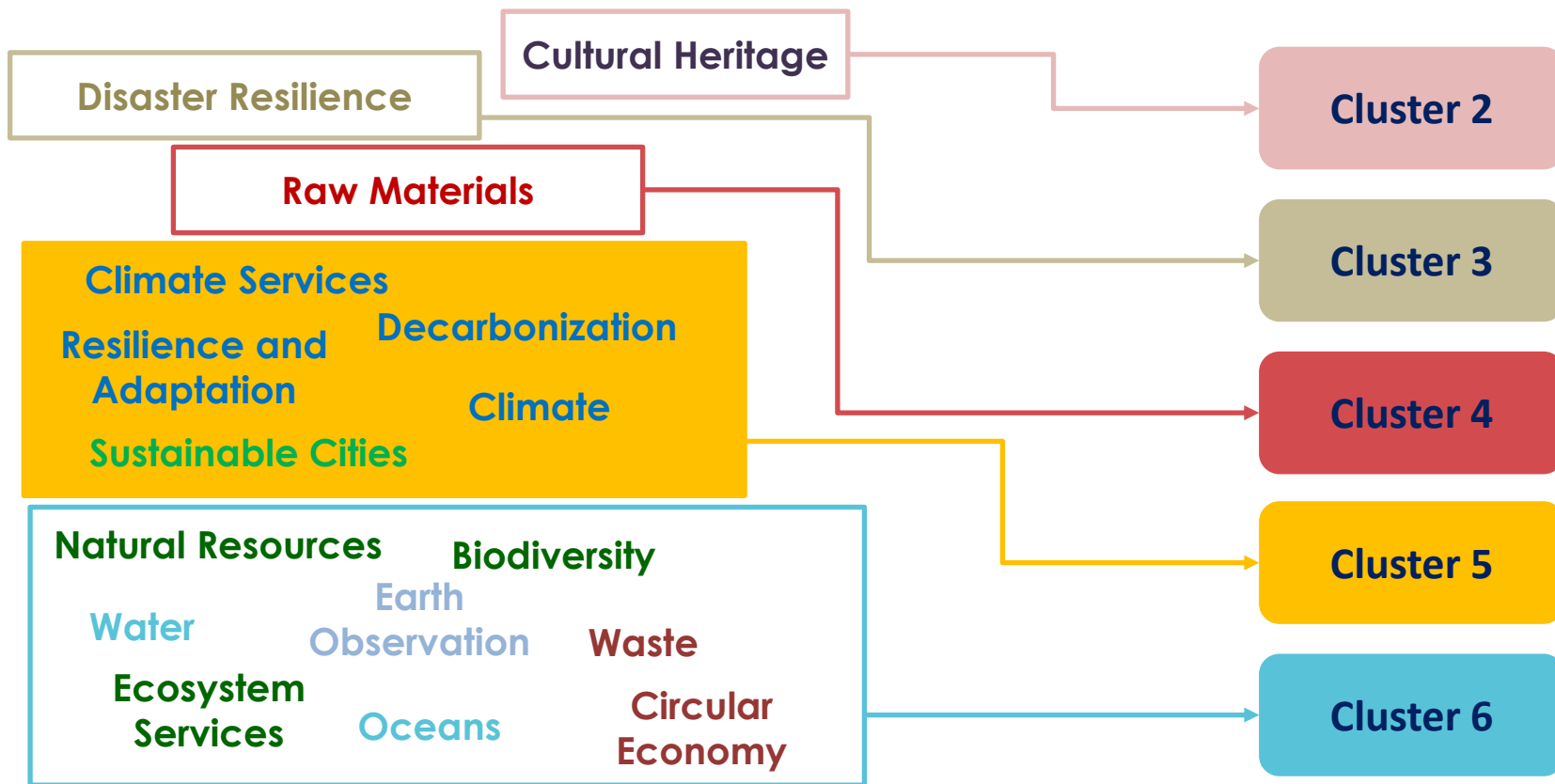
Clúster 5. Clima

- Políticas e Iniciativas
- Programa de Trabajo 2021-2022
- Misiones y partenariados

H2020 - Reto Social 5



Horizonte Europa



Un poco de contexto....

Top Global Risks by Likelihood

	1st	2nd	3rd	4th	5th	6th	7th
2021	Extreme weather	Climate action failure	Human environmental damage	Infectious diseases	Biodiversity loss	Digital power concentration	Digital inequality

	1st	2nd	3rd	4th	5th
2020	Extreme weather	Climate action failure	Natural disasters	Biodiversity loss	Human-made environmental disasters
2019	Extreme weather	Climate action failure	Natural disasters	Data fraud or theft	Cyberattacks
2018	Extreme weather	Natural disasters	Cyberattacks	Data fraud or theft	Climate action failure
2017	Extreme weather	Involuntary migration	Natural disasters	Terrorist attacks	Data fraud or theft
2016	Involuntary migration	Extreme weather	Climate action failure	Interstate conflict	Natural catastrophes
2015	Interstate conflict	Extreme weather	Failure of national governance	State collapse or crisis	Unemployment
2014	Income disparity	Extreme weather	Unemployment	Climate action failure	Cyberattacks
2013	Income disparity	Fiscal imbalances	Greenhouse gas emissions	Water crises	Population ageing
2012	Income disparity	Fiscal imbalances	Greenhouse gas emissions	Cyberattacks	Water crises

Top Global Risks by Impact

	1st	2nd	3rd	4th	5th	6th	7th
2021	Infectious diseases	Climate action failure	Weapons of mass destruction	Biodiversity loss	Natural resource crises	Human environmental damage	Livelihood crises

	1st	2nd	3rd	4th	5th
2020	Climate action failure	Weapons of mass destruction	Biodiversity loss	Extreme weather	Water crises
2019	Weapons of mass destruction	Climate action failure	Extreme weather	Water crises	Natural disasters
2018	Weapons of mass destruction	Extreme weather	Natural disasters	Climate action failure	Water crises
2017	Weapons of mass destruction	Extreme weather	Water crises	Natural disasters	Climate action failure
2016	Climate action failure	Weapons of mass destruction	Water crises	Involuntary migration	Energy price shock
2015	Water crises	Infectious diseases	Weapons of mass destruction	Interstate conflict	Climate action failure
2014	Fiscal crises	Climate action failure	Water crises	Unemployment	Infrastructure breakdown
2013	Financial failure	Water crises	Fiscal imbalances	Weapons of mass destruction	Climate action failure
2012	Financial failure	Water crises	Food crises	Fiscal imbalances	Energy price volatility

■ Economic
 ■ Environmental
 ■ Geopolitical
 ■ Societal
 ■ Technological

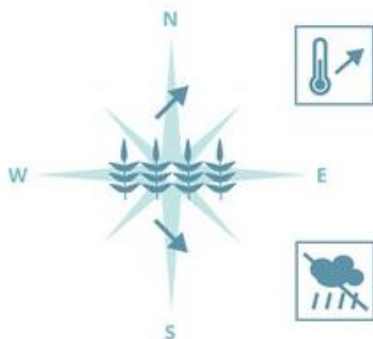
Source: World Economic Forum Global Risks Perception Survey 2020

Un carguero cruza por primera vez en febrero el Ártico: nueva alerta climática

• El buque ruso ha hecho un viaje a China de ida y vuelta a través de la ruta del mar del Norte

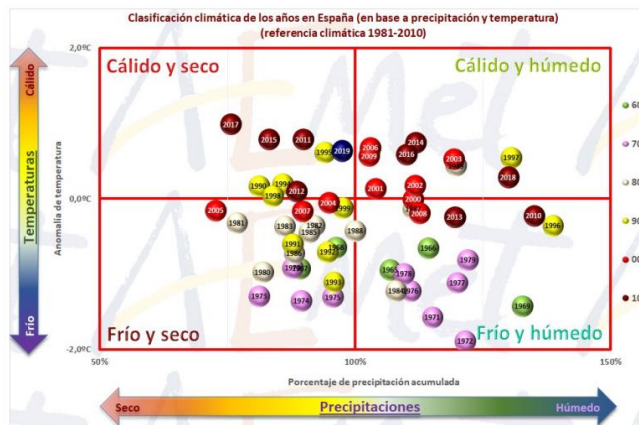


LA VANGUARDIA (23/02/2021)



En el sur de Europa, cabe prever que las olas de calor extremo y la reducción de las precipitaciones y del agua disponible reduzcan las cosechas, mientras que el norte de Europa puede mejorar su aptitud para el cultivo.

EEA (23/11/2020)



Clasificación climática anual en España en base a precipitación y temperatura. Fuente: AEMET



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- Políticas e Iniciativas
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Clúster 5. Compromisos, Políticas, Iniciativas...

SUSTAINABLE DEVELOPMENT **GOALS**



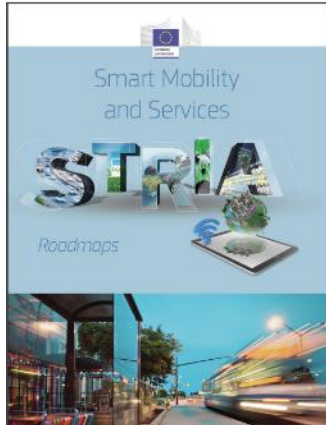
An Economy that Works for People



A Europe fit for the Digital Age



.....y otras



Objetivos de Desarrollo Sostenible*



Global Goals 
@GlobalGoalsUN

Climate change is a race we can win. We already have the solutions, but we need governments, businesses and individuals to implement them. Demand more [#ClimateAction](#)  where you live. Learn more [un.org/en/climatechan...](#)

**GOAL 13
CLIMATE ACTION**
TAKING URGENT ACTION TO
TACKLE CLIMATE CHANGE
AND ITS IMPACTS

10.4K views 0:07 / 0:59  

10:23 AM · Mar 28, 2021 · TweetDeck

* [Agenda 2030 sobre el Desarrollo Sostenible](#) (Adopción: 25.09.2015)

Acuerdo de París sobre el Clima*

En la conferencia del clima de París (**COP21**, diciembre/2015), **195 países** adoptaron el **primer acuerdo universal y jurídicamente vinculante sobre el cambio climático. (HISTÓRICO!!!)**

Elementos clave:

- **Mitigación: reducir las emisiones**
- **Transparencia y balance global**
- **Adaptación**
- **Daños y perjuicios**
- **Papel de las ciudades, las regiones y las administraciones locales**



* Acuerdo de París

Acuerdo de París sobre el Clima

$\Delta T^a < 2^{\circ}\text{C}$

(Esfuerzos para $1,5^{\circ}\text{C}$)

Itinerarios de bajas emisiones para un futuro resiliente al CC

- Estabilización del máximo global
- Reducciones rápidas
- Formulación de estrategias de bajas emisiones a largo plazo (2050)
- Después de 2050, balance entre emisiones y sumideros

MITIGACIÓN



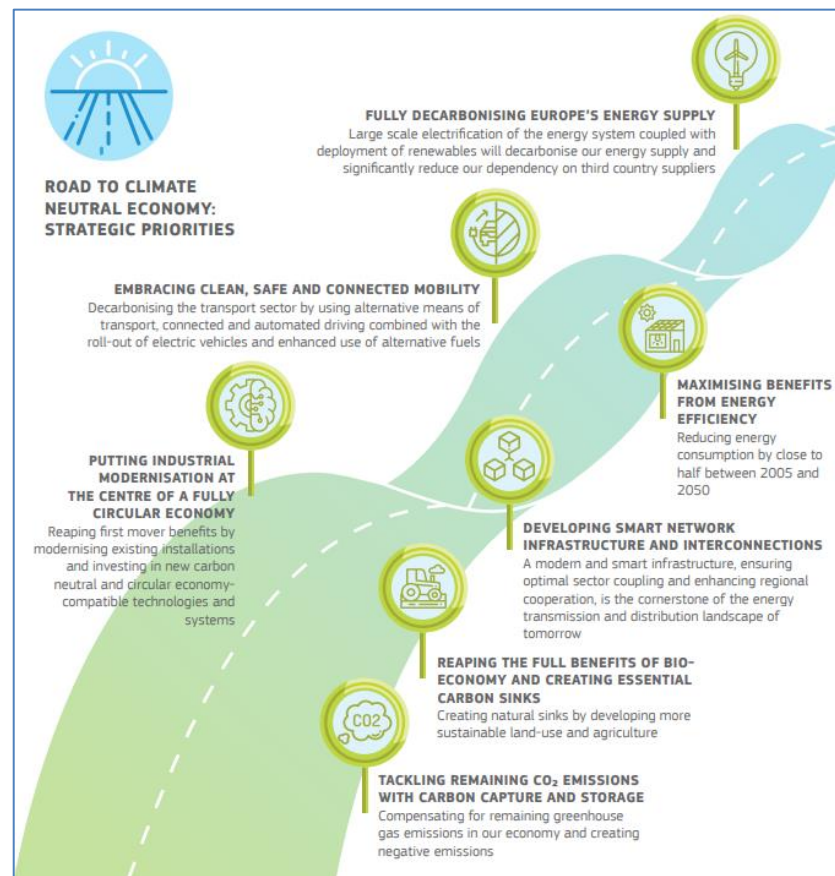
United Nations
Framework Convention on
Climate Change

Europa climáticamente neutra en 2050

2050 long-term strategy

(28/nov/2018)

- GHG emission reduction
- Energy transition
- Industrial transition
- Societal transition



Prioridades de la CE (2019 – 2024)



Objetivos de Emisiones en 2030*

> Energy - 75% of emissions

- Burning fossil fuels is the largest source of greenhouse gas emissions in the EU
- The energy system plays a central role in the transition to a climate-neutral economy



> Buildings - 36% of emissions

- The building sector is responsible for 40% of final energy use
- This sector has a large and cost-effective potential to become more energy-efficient and reduce emissions



> Transport

- The transport sector has the lowest share of renewable energy use
- It will need to increase its renewable energy share to around 24% by 2030

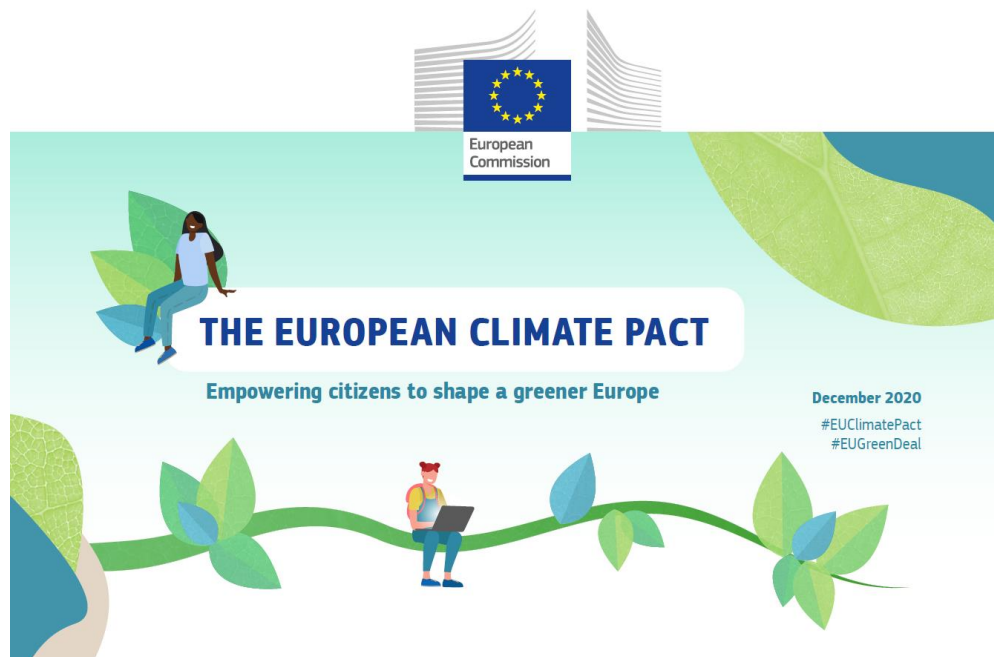


> Land Use Sector

- Nature absorbs CO₂ and is vital to the fight against climate change
- To achieve climate neutrality by 2050, we need to grow our carbon sink to reach 300 million tons CO₂eq by 2030



*EU Climate Target Plan 2030 Key contributors and policy Tools



https://ec.europa.eu/clima/policies/eu-climate-action/pact_en

Iniciativa de la UE dirigida a **personas, comunidades y organizaciones** para:

- Conectar y compartir conocimientos
- Aprender sobre el cambio climático
- Desarrollar, implementar y ampliar soluciones

The European Climate Law

European
Commission

March 2020
#EUGreenDeal



An EU-wide legal target for climate neutrality by 2050 that binds the **EU Institutions and national governments**.



Creating a predictable business environment for **industry and investors**, with the pace of emission reductions mapped out from 2030 to 2050, showing them what needs to be done, and at what speed.



A process to include in the Climate Law **the updated 2030 emissions reduction target**.



A mechanism for **keeping everybody on track** – with regular reporting on progress and tools to catch up if anyone falls behind.



A focus on the effective transition towards a fair and prosperous society, with a **modern, resource efficient and competitive economy**.



A renewed focus on adapting to the impacts of climate change to strengthen Europe's resilience, including for its **vulnerable communities**.



Estrategia de Adaptación al CC

Adaptación y....Resiliencia



https://ec.europa.eu/clima/policies/adaptation/what_en

- Más inteligente (“**smarter**”)
- Más rápida (“**faster**”)
- Más sistémica (“**systemic**”)

+

- **Colaboración internacional**

EARTO retweeted



Jean-Eric Paquet
@JEPaquetEU

@EUScienceInnov will contribute to all the headline ambitions of the @EU_Commission!

 EU R&I is one of the most powerful policies to boost our economies, it's an engine of the green & digital transitions & stairways to 'the future we want':
ec.europa.eu/info/publicati...

Traducir Tweet



Mariya Gabriel y 4 más

9:21 a. m. · 26 nov. 2020 · Twitter Web App

HORIZONTE
EUROPA
@HorizonteEuropa



Mariya Gabriel
@GabrielMariya

#HorizonEU will support:

- ◆ excellent frontier **#research**
- ◆ **#culture** & **#creative** industries
- ◆ breakthrough **#innovation** **#SMEs** **#Startups**
- ◆ **#EUResearchArea**
- ◆ **#green** & **#digital** transitions
- ◆ strong international cooperation
- ◆ widening participation

And more 🇪🇺 europea.eu/!HT43FW



European Research Council (ERC) and 8 others

4:20 PM · Dec 11, 2020 · Twitter Web App

Council of the EU | Press release | 10 May 2021 | 11:05

Council complements EU research legislative framework

The Council today adopted a set of legal acts aimed at complementing the legal framework around Horizon Europe, the EU's framework programme for research and innovation for the years 2021 to 2027.

These legal acts are the following :

- a decision establishing the **specific programme implementing Horizon Europe**, setting out the operational objectives and types of activities envisaged for implementing Horizon Europe;
- a regulation on the **Euratom programme complementing Horizon Europe**, ensuring the continuation of nuclear research and training activities with an emphasis on the continuous improvement of nuclear safety, security and radiation protection;
- amendments to the regulation on the **European Institute of Innovation and Technology (EIT)**, aimed mainly at enhancing the financial sustainability and openness of Knowledge and Innovation Communities;
- a decision on the **Strategic Innovation Agenda** of the European Institute of Innovation and Technology, setting out the priority fields and strategy of the EIT for the period 2021-2027 by defining the EIT's objectives, key actions, mode of operation, expected results and resources needed.

#HorizonEU: Visión

Un futuro sostenible, justo y **próspero** para las **personas** y el **planeta** basado en los valores europeos.

- 
- Lucha contra el **cambio climático** (objetivo presupuestario del 35 %)
 - Contribuir a alcanzar los **Objetivos de Desarrollo Sostenible**
 - Impulsar **la competitividad y el crecimiento** de la Unión



Créditos: <https://www.un.org/sustainabledevelopment/es/sustainable-development-goals/>

HE Base Legal - Clúster 5 → 9 Áreas de Intervención

**Climate Science
and Solutions**

Energy Supply

**Energy Systems
and Grids**

**Buildings and
Industrial
Facilities in
Energy Transition**

**Communities and
Cities**

Energy Storage

**Industrial
Competitiveness
in Transport**

**Clean, safe and
accessible
Transport and
Mobility**

Smart Mobility

HE Base Legal - Clúster 5 → Clima

Climate Science and Solutions

Knowledge base on earth-climate and living systems, as well as associated impacts, risks, and climate-responsible opportunities

Effectiveness of different climate mitigation and adaptation solutions

Integrated climate neutral pathways, mitigation actions and policies covering all sectors in the economy

Climate models, projections and techniques aiming to improve predictive capacity and climate services

Adaptation pathways and support policies

Improve risk assessment tools

Clúster 5. Clima

- Políticas e Iniciativas
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Cluster 5 – WP 2021/22*

DESTINATIONS

D1 – **Climate sciences and responses** for the transformation towards climate neutrality

Clima

D2 – **Cross-sectoral solutions** for the climate transition

Transversal a las 3 áreas

D3 – Sustainable, secure and competitive **energy supply**

Energía

D4 – Efficient, sustainable and inclusive **energy use**

Energía

D5 – Clean and competitive **solutions for all transport modes**

Movilidad

D6 – Safe, Resilient **Transport and Smart Mobility services** for passengers and goods

Movilidad

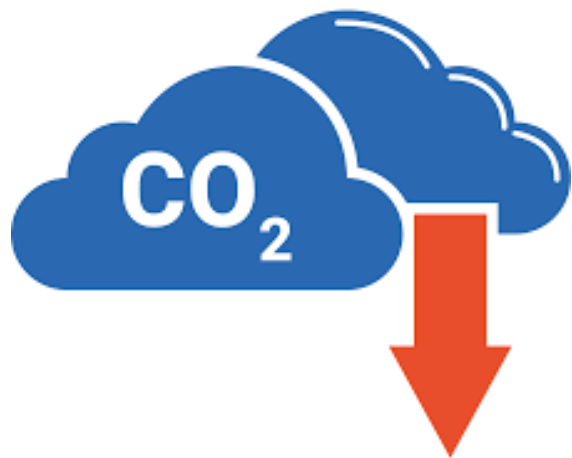
Destination 1 Climate sciences and responses for the transformation towards climate neutrality





"Making Europe the first digitally enabled circular, climate-neutral and sustainable economy through the transformation of its mobility, energy, construction and production systems"

Destination 1– Impactos esperados



Transition to a climate-neutral and resilient society and economy enabled through advanced climate science, pathways and responses to climate change (mitigation and adaptation) and behavioural transformations

Destination 1– Topics



01-01: Improved understanding of greenhouse gas fluxes and radiative forcers, including carbon dioxide removal technologies



Greenhouse gas fluxes and Earth system feedbacks



Global warming contribution of different, non-CO₂ radiative forcers



Climate and Earth system responses to climate neutrality and net negative emissions



Destination 1– Topics



01-02: Modelling the role of the circular economy for climate change mitigation

Destination 1– Topics



01-03: Maximising the impact and synergy of European climate change research and innovation

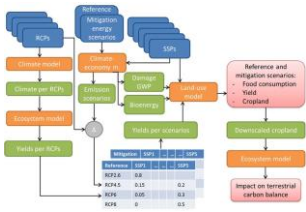


Maximising the impact of EU-funded climate change research



Maximising the synergy of climate change research and innovation in Europe

Destination 1– Topics



01-04: Enhanced integrated assessment in pursuit of global climate goals



01-05: Better understanding of the interactions between climate change impacts and risks, mitigation and adaptation options

Destination 1– Topics



01-06: Supporting and standardising climate services



01-07: Improved economic methods for decision-making on climate and environmental policies

Destination 1– Topics



01-08: Restoration of natural wetlands, peatlands and floodplains as a strategy for fast mitigation benefits; pathways, trade-offs and co-benefits



01-09: The contribution of forest management to climate action: pathways, trade-offs and co-benefits



Destination 2 -Cross-sectoral
solutions for the climate
transition.

**Citizens and stakeholder
engagement**



"Making Europe the first digitally enabled circular, climate-neutral and sustainable economy through the transformation of its mobility, energy, construction and production systems"

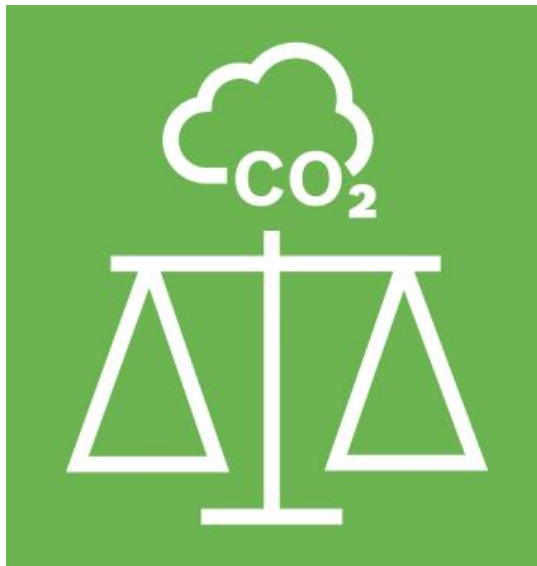


" Promoting an open strategic autonomy by leading the development of key digital and enabling technologies, sectors and value chains to accelerate and steer the digital and green transitions through human-centred technologies and innovations"

A compass rose is visible in the background, with a green arrow pointing towards the word 'STRATEGY'. The word 'STRATEGY' is written in large, green, capital letters, slanted upwards from left to right. The compass rose has several points, and the green arrow is positioned over one of the points, pointing towards the word 'STRATEGY'.

***” Creating a more resilient,
inclusive and democratic
European society, prepared and
responsive to threats and disasters,
addressing inequalities and
providing high-quality health care,
and empowering all citizens to act
in the green and digital transitions”***

Destination 2– Impactos esperados



Clean and sustainable transition of the energy and transport sectors towards climate neutrality facilitated by innovative cross-cutting solutions.

Destination 2– Topics



01-12: Fostering a just transition in Europe



01-13: Strengthening Social Sciences and Humanities (SSH) research communities in climate, energy and mobility disciplines



01-14: Accelerating the climate transition in difficult contexts: transition super-labs

Clúster 5. Clima

- Políticas e Iniciativas
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Misiones: un paquete de acciones de I+I, y más...



Misiones de
investigación e
innovación

Relacionar mejor la investigación e innovación de la UE con las necesidades de la sociedad y la ciudadanía, con una gran visibilidad e impacto.

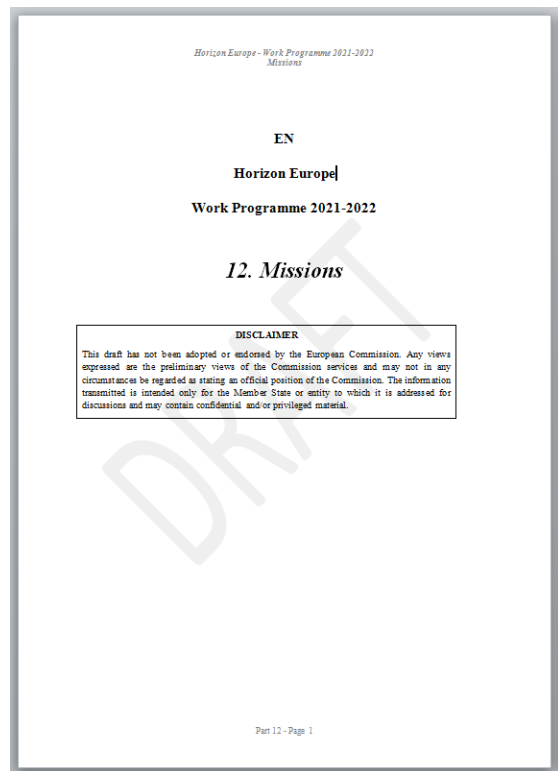
Cartera de acciones de I+I (pero no solo) basadas en la excelencia y orientadas a los resultados, multidisciplinares y multisectoriales, destinadas a:

- alcanzar dentro de un **plazo determinado** una **meta cuantificable** que no podría lograrse mediante acciones individuales;
- tener una **repercusión en la sociedad y en la formulación de políticas** por medio de la ciencia y la tecnología, y
- ser **pertinentes** para una parte significativa de la población europea y un amplio sector de los **ciudadanos europeos**;

Calendario de trabajo de las Misiones



Y para 2022.... WP con *topics* específicos para misiones



Lanzamiento:

Noviembre 2021?

Cierre:

Q1 2022?

Presupuesto:

10% Pilar 2 (3 primeros años)

Misiones en Clúster 5 - Clima

Healthy **OCEANS,**
SEAS, COASTAL
and **INLAND**
WATERS



Adaptation to **CLIMATE CHANGE**,
including **SOCIETAL**
TRANSFORMATION



CANCER

Climate-neutral
and smart **CITIES**



SOIL Health and
Food

**Mission
Areas**

Misiones en Clúster 5 - Clima

Healthy OCEANS,
SEAS, COASTAL
and INLAND



Adaptation to **CLIMATE CHANGE**,
including **SOCIETAL
TRANSFORMATION**

A Climate Resilient Europe by 2030

The Mission will:

- **prepare** Europe to deal with climate disruptions (all citizens, communities and regions);
- **accelerate** the transformation to a climate resilience, healthy and prosperous future within safe planetary boundaries (200 communities and regions);
- and **build** deep resilience by scaling up solutions triggering societal transformations (100 demonstrators).

A Climate Resilient Europe by 2030

Areas of innovation

Transforming community systems:

- Regenerating community and social infrastructure
- Protecting human health and wellbeing
- Restoring nature and ecosystem services
- Rethinking water management
- Reviving rural landscapes and sustainable food systems

Creating enabling conditions:

- Providing data, knowledge and digital services
- Facilitating inclusive and deliberative governance
- Improving education and understanding of behavioural change
- Strengthening sustainable and circular local economies
- Mobilising funds and resources

JPI Climate.....no es un “new EU partnership”

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www.jpi-climate.eu

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Connecting Climate Knowledge for Europe

The Joint Programming Initiative “Connecting Climate Knowledge for Europe” (JPI Climate) is a pan-European intergovernmental initiative gathering European countries to jointly coordinate climate research and fund new transnational research initiatives that provide useful climate knowledge and services for post-COP21 Climate Action.

JPI Climate Magazine

JPI Climate E-magazine (released in December 2019) is the result of the work developed by SINCERE, in close collaboration with the coordinators from the research projects, and has the intention to increase the societal impact of these projects.



Subscribe to our newsletter

subscribe

About JPI Climate

News

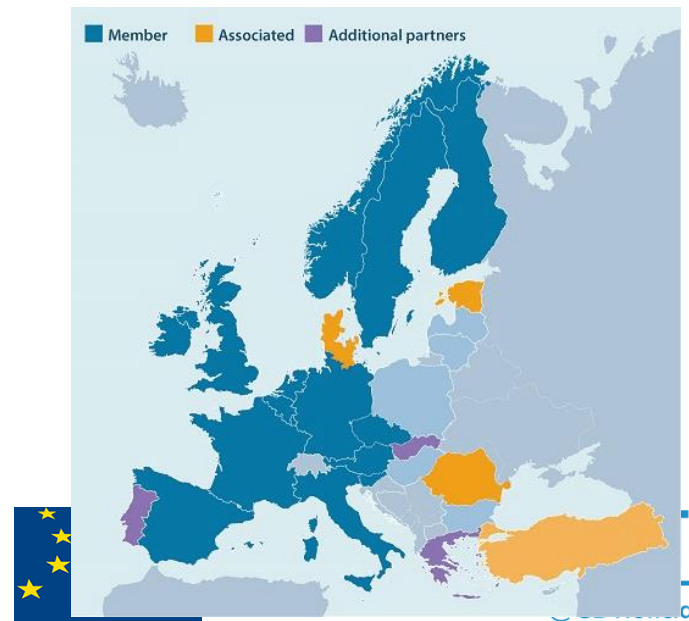
- Online conference: Climate Science from Space: Synergies for a greener innovation economy**
In the frame of the Portuguese Presidency of the Council of the European Union, the Portuguese Ministry of Science, Technology and Higher Education, with the support of the European Commission, is organising the online conference Climate Science from Space to be held on April 21-22, 2021.
FCT – Fundação para a Ciência e a Tecnologia, Thursday 25 March 2021
- SAVE THE DATES: Climate Neutrality Forum, 8 - 10 September 2021 - Berlin, Milan and Oxford**
Climate Neutrality Forum will take place from 8 - 10 September 2021. The JPI Climate will announce the launch of the Knowledge Hub on Climate Neutrality. The objective is to have a well-defined package that frames the scope and work of the European Knowledge Hub on Climate Neutrality and to prepare the formal launch at COP26. The Forum will take place in parallel hubs in Oxford, Berlin and Venice.
Tuesday 16 March 2021

Strategy JPI Climate

Upcoming Events

- The joint strategic workshop of JPI Climate and BiodivERsA**
This workshop aims to develop a joint vision for future research programming at the intersection between biodiversity and climate change. It is open only to members of the Governing Boards and Advisory Boards from JPI Climate and BiodivERsA.
- JPI Climate TAB meeting of effective knowledge exchange**
- Joint JPI Climate/FACCE JPI Workshop on GHG inventories**
- Second meeting of the Working Group of experts on White Paper JPI Cultural Heritage/JPI Climate**
- SINCERE project: Flagship Latin America Workshop**
- SOLSTICE projects Kick off meeting**
- Workshop on the 3rd pillar of Knowledge Hub on Climate Neutrality - 2 days tbc back to back with Meeting with funders on the 2nd pillar of Knowledge Hub on Climate**

- Lanzamiento en 2011
- SRIA 2026 – 2025



JPI Climate - Actividades

“Partnership-like”



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ECCA2021

Joint Calls

Funded projects

ERA-NET for Climate Services

SINCERE

SOLSTICE

AXIS

Climate action in post COVID-19 era

Sea Level Rise Knowledge Hub

JPI Climate CSA

Co-alignment

Co-alignment

JPI Climate is directed at building the European Research Area through enhanced cooperation and coordination of national research programmes in participating EU member states and associated countries. To achieve this, alignment of national research funding policies is needed. JPI Climate Governing Board jointly aims to have more insight in the way how national funding agencies develop, plan and implement their funding policies, what their priority themes are and how they already cooperate with each other in different programmes. The JPI Climate Governing Board also wants to effectively support the national funding agencies in adopting relevant joint research themes and in efficiently working together, addressing the challenges posed by the unavoidable differences in national funding procedures and timing of programmes.

There are three main strategic questions to be answered:

- How can scientists in problem-oriented climate research cooperate better in future?
- How can JPI Climate help to develop effective funding policies for joint research activities on priority problem-oriented climate research themes?
- How can JPI Climate foster the allocation of research funds from national and European funding agencies to relevant joint research?

To answer these strategic questions, the following concrete questions have to be dealt with:

- What are the priority themes that we would like funding agencies to focus on in future when supporting transnational research activities?
- Which instruments are available (with which some partners may have experience) or can we think of to facilitate joint research?
- How can we help the funding agencies to agree on common research themes and to make use of available instruments?
- Can we learn from other programmes – how did these programmes succeed in effectively realizing joint research activities between member states and with the EU and global programmes?

Clúster 5. Clima

- Políticas e Iniciativas
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....A modo de conclusión

A tener en cuenta que la Acción por el Clima....

- Definición y cumplimiento de **políticas** ↔ **I+I**
- “Cross-cutting” en Horizonte Europa (35% “budgetary target”) → oportunidades en **otros “Destinations”** y/o....
en otros Clústeres.
- Implementación:
 - **WP 2021-2022** y
 - Misión de **Adaptación al Cambio Climático incluyendo la Transformación Social**



IMPORTANTE!!!! Aprovechar todas las oportunidades

Apoyo al participante

Clúster 5 – Clima



lydia.gonzalez@cdti.es

Puntos nacionales de contacto

Clima, Energía y Movilidad



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+ info sobre programas y ayudas
para la
internacionalización de la I+D+I española



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