



União Europeia Pesquisa e Inovação

Horizonte 2020 Chamada "Green Deal" Prevenção e Combate de Incêndios

Webinario Euraxess/Del. EU Brazil
27 October 2020

Comissão Europeia
DG Pesquisa e Inovação



European Union's Research & Innovation

Horizon 2020 Green Deal Call Preventing & Fighting Wildfires

BR Webinar on Green Deal call
27 October 2020

European Commission
DG Research & Innovation



EU Green Deal call / Wildfires topic

- Background
- Holistic approach
 - A. Preparedness & Prevention
 - B. Detection & Response
 - C. Restoration & Adaptation
- Synergies with
 - International Cooperation
 - other EU initiatives
 - EU Space

Green Deal call Wildfires topic



Horizon 2020 Extra Call

Green Deal's immediate priorities:

“reduce incidence and extent of forest fires”,
“boost ability to predict and manage environmental disasters”.

More **EU citizens suffer directly & indirectly** from wildfire impacts every year :

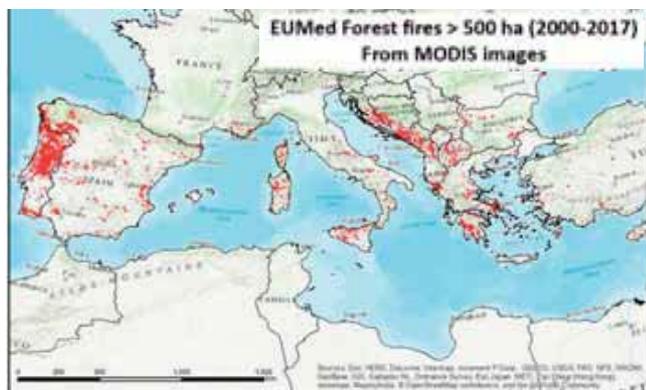
▪ hundreds casualties ▪ €2+ billion economic damages ▪ Forests & Natura 2000 areas ravaged
not only Southern Europe but also rising in Central, Eastern and Northern Europe

Extreme wildfires more frequent = + **pollution**, + **ecosystems** damage, - **biodiversity**, ...

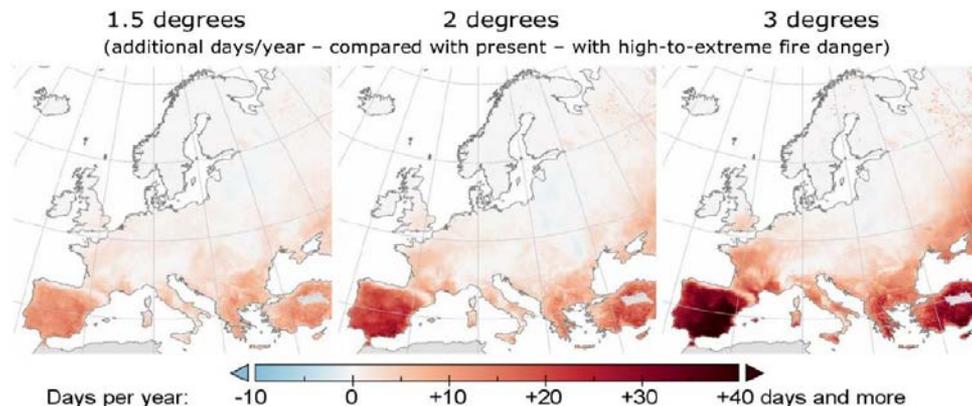


Wildfires worldwide are already among the **first contributors to climate change**
(significant GHGs direct emissions, degraded carbon sinks, ...)

Climate change + unsustainable forestry + land use + demographic changes
increase wildfires' severity, extent of burned areas and length of the fire season



Source: FUME project 'Lessons learned & outlook' + EFFIS (EU's Copernicus Emergency Management Service).



Source: EU's JRC PESETA IV study



Main Objective

Accelerate, integrate, adapt and demonstrate (in pilot sites) research & innovation **holistic solutions** ready to **up-scale & deploy at local / regional / national / EU & international level**, making best **use** of existing data, technologies and services, closely **engaging** all concerned actors and communities for each phase.

General Approach

Research, demonstration and deployment of innovative means and methods tailored to extreme wildfire behaviour

Proactive **governance**, awareness and preparedness where **citizens**, local **authorities** & the forestry/insurance **sectors** play a central role

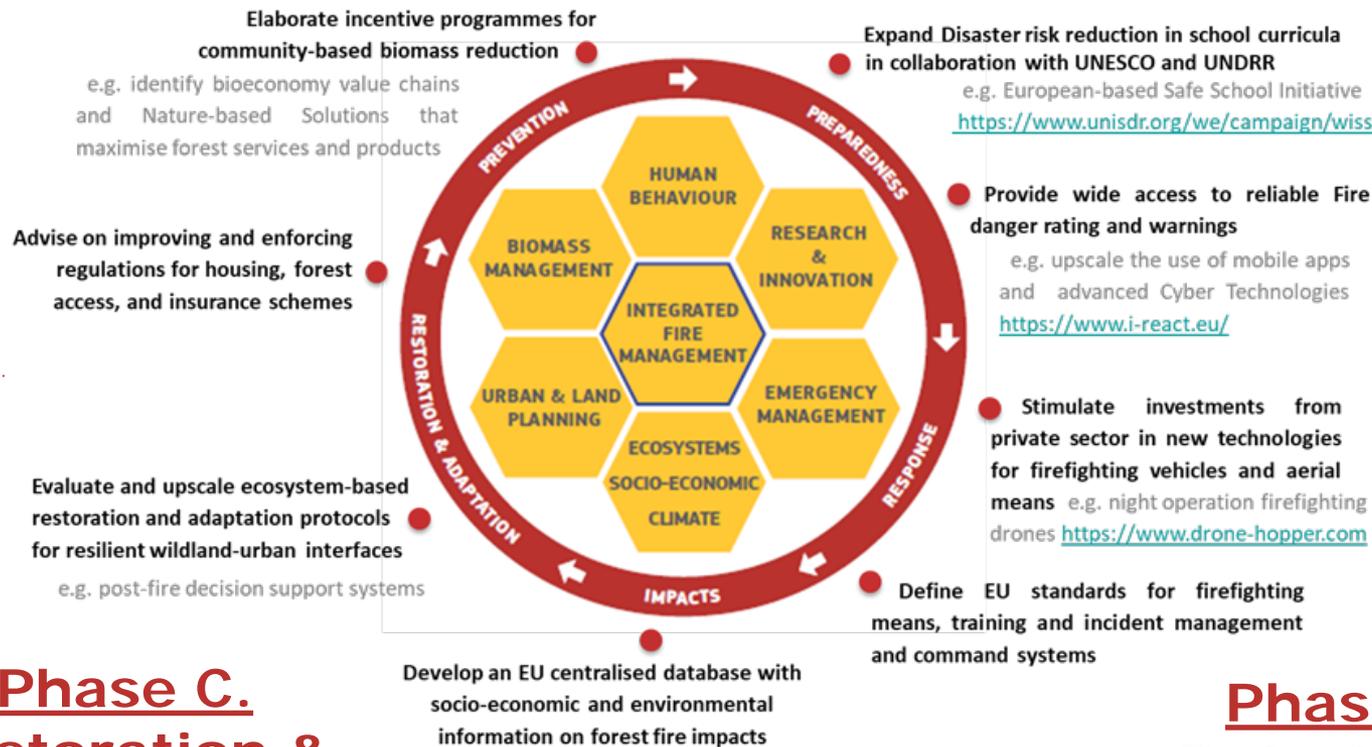
Integration of environmental, climate, health & safety/security, cultural and socio-economic aspects

Tailored and effective solutions co-designed **with end-users in pilot sites** across various European contexts



High-impact activities to accelerate & demonstrate holistic solutions adapted to the new context of wildfires in **all** fire management phases

Phase A. Prevention & Preparedness



Phase C. Restoration & Adaptation

Phase B. Detection & Response



Measurable targets to be achieved by 2030:

- ✓ **0 fatalities** from wildfires.
- ✓ 50% reduction in **accidental ignitions**.
- ✓ 55% reduction in **emissions**.
- ✓ **Control** of any extreme and potentially harmful wildfire **in less than 24 hours**.
- ✓ 50% reduction in **building losses**.
- ✓ 90% losses from **wildfires insured**.
- ✓ 50% Natura 2000 protected areas **fire-resilient**
- ✓ 25% increased of surface area with **prescribed fire treatments**.

To maximise impact:

The most promising results demonstrated in the actions expected to be **up-scaled / deployed** into:

- National climate change adaptation/disaster risk units,
- **Union's Civil Protection Mechanism**,
- **Emergency Response Coordination Centre**, Disaster Risk Management Knowledge Centre,
- European Forest Fire Information System (EFFIS),
- Copernicus Services (EU Space observation with global reach),
- **EU/regional/interregional initiatives**, UN's Sendai Framework, **international standards**,
- ...

N.B. Multilateral international cooperation can leverage global impact



Structure of the call topic (LC-GD-1-1-2020)

Proposals should address only one of the subtopics below:

Subtopic 1: Innovation Actions that will speed up the pan-European adaptation process to extreme wildfires by **advancing and applying research and innovation, including demonstration pilot sites**, while making best use of existing data, technologies and services.

Indicative EU contribution: between EUR 15 to 20 million per action

*Total EU available: **EUR 72 million***

Proposals should cover all of the fire management phases (A, B & C), while focusing on a subset of activities within each phase.

Subtopic 2: A Coordination and Support Action that will **ensure** the demonstration of innovative and **integrated approaches** fulfils the expected impacts, by **coordinating and supporting** the Innovation Action projects funded under this topic.

Indicative EU contribution: between EUR 2 to 3 million per action

*Total EU available: **EUR 3 million***

Subtopic 1 Phase A



Prevention & Preparedness

In each phase, proposal may focus on a subset of activities as:

- Supporting the **integration of socioeconomic and environmental information** on wildfire **causes** and **impacts** into existing EU databases with a focus on extreme wildfire events, the causes of wildfire ignitions and the **demographic** dynamics ...
- Improving fire and landscape management of both **public and private lands** using both **traditional and innovative approaches for sustainable fuel management** ...
- Enhancing **access** to official **fire danger index rating and warnings** in cooperation with EU initiatives ...
- Building a common **culture on risk prevention and preparedness** across Europe, including **behavioural** change of citizens, to encourage **self-protection**, safety and environmental protection ...
- Integrating fire safety knowledge and engineering to support the design, construction, and management of **fire-resilient buildings and infrastructures** ...
- Improving **early-warning tools** by integrating forest stand bio-geographical data in forecasting models ...
- Improving understanding the link exposure to smoke & **air pollutants – health** ...
- Broad Earth System studies for weather and climate drivers as well as biophysical **feedback** from **global forest fires** incl. historically ...



Subtopic 1 Phase B



Detection & Response

- Stimulate private investments for **retrofitting / developing new technologies** ...
- Fast-track R&I in **space & aerial means** for **detection, targeting and extinction** e.g. (pseudo-)satellites, drones, water-bomber helicopters / planes able for night ops; modular units for cargo/multi-mission aircraft; scooping, tanking & discharging...
- **Firefighters' + manned & unmanned ground/air vehicles'** simultaneously **in all conditions** (i.e. **location, route management, patrolling and automation...**)
- Near real-time high-fidelity **fire and smoke propagation forecasting** ...
- Interoperable **incident-management**, communication, coordination & command systems, incl. information from multiple platforms and sources (as social media) ...
- **Interaction with citizens at risk: warnings**, evacuation, confinement messages ...
- Integration of wireless sensors, EWS, fire retardant, **search & rescue, evacuation** ...
- Emergency responders': personal protection, ICT support, robotics, fire agents ...
- **Training**, incl. virtual reality **simulators** for air fleet and ground ...
- Better and faster estimates of the impact of fire events ...



Subtopic 1 Phase C



Restoration & Adaptation

- Advancing and demonstrating systemic and **structural measures for fuel treatments** and tree/forest management aiming at resilient wildland-urban interfaces ...
- **Demonstrating sustainable post-fire ecosystem restoration solutions** of damaged ecosystems aiming at restoring biodiversity ...
- Evaluating and upscaling the **deployment of ecosystem-based restoration solutions** across various biogeographical contexts, building on experience from nature-based solutions related projects ...
- Testing and developing **public-private cooperation mechanisms** to leverage investments from the private sector, including insurance companies ...
- Contributing to the definition of a **common EU legal framework** for the governance systems and operational activities regarding forest and communities protection ...
- Supporting mechanisms and **promotion of governance systems for restoration and adaptation** through the involvement, coordination, and cooperation of different actors and sectors ...





Activities may include among others:

- supporting **clustering** and cooperation among the projects funded under this topic and with **other** relevant actions under **Horizon 2020**, the **Cohesion** and **Civil Protection** funds
- **facilitating the integration of the three fire management phases** covered by each of the Innovation Action projects funded under this topic;
- engagement with **citizens, local communities, forest** owners and the forestry-based industry, nature **conservation** organisations, **insurance** and **social infrastructure sectors**
- extensive and structured **knowledge sharing** (e.g. Disaster Risk Knowledge Management Centre DRKMC) and **evaluation-based analysis of past wildfire events**
- developing **recommendations** for wildfire prevention & preparedness activities for different actors,
- developing **better readiness of response units for cross-border**, regional, **international assistance**, in line with the Union Civil Protection Mechanism framework;
- **facilitating international collaboration and global outreach** in the areas covered by this topic.

International Cooperation encouraged for all Subtopics actions

In order to:

- leverage **knowledge, resources** and **best practices**,
- increase **impact** worldwide,
- decrease risks.

Multilateral international cooperation is encouraged, in particular with:

- United States,
- Canada,
- Australia,
- Russia,
- Japan,
- **Brazil,**
- **South America,**
- Indonesia,
- South Africa.



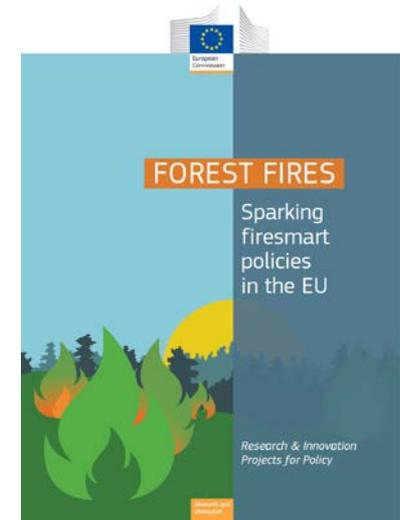


All Subtopics actions should:

- Go **beyond the state of the art** and previous R&I activities at EU level:
e.g. FP7 / Horizon2020 / COST / JRC, LIFE and Civil Protection projects
examples in

[Projects For Policy \(P4P\) Forest fires - Sparking fire-smart policies in the EU](#)

- **cooperate with ongoing** relevant Horizon 2020 projects
- involve relevant **international, national and EU agencies**
e.g. European Environment Agency (EEA), **European Union Aviation Safety Agency (EASA)**, ...
- involve **end-users** from Member States and Associated Countries
e.g. forest owners, forest-based industry actors, environmental and nature management organisations, firefighters, **local and regional authorities**, etc
- Make best **use of existing EU initiatives and services** (as **Copernicus, Galileo, EGNOS**),



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Synergies with EU GNSS



- EU space flagship programmes **Galileo and Copernicus** „up and running“
- Data and services: **world class, open and free of charge**
- An asset in the implementation of the Green Deal Call



Europe's Global Navigation Satellite System (**EGNSS = Galileo, EGNOS**), providing improved **positioning** and **timing** information.

Support in wildfires preventing and fighting:

- **Locating** & navigating: assets, people in distress, personnel and response teams also during **search and rescue** operations.
- **Geo-referencing** incident data and maps – in an accurate and consistent way.
- **Navigating** drones, planes, helicopters, robots ... for mapping, monitoring or extinction.

More info available on the wildfires support dedicated presentation from EGNSS Supervisory Agency GSA: https://www.gsa.europa.eu/sites/default/files/expo/6.egnss_contribution_to_preventing_and_fighting_wildfires-vojtech_fort.pdf

& on Galileo User Helpdesk: <https://www.gsc-europa.eu/>

In order to maximise impact, most promising results demonstrated expected to be up-scaled/ deployed into:

- **Galileo Emergency Warning Service;**

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Synergies with EU Copernicus



Europe's Earth Observation Programme, unique constellation of satellites, six specific services.

highly accurate, timely and accessible data services.

World class, open and free of charge.

Support in wildfires preventing and fighting:

- **Near real-time** data on the affected region
- **Temperature** information
- **Fire-danger** forecast
- **Emissions** related information
- **Vegetation / fuel** related information
- ...



More info available at the Copernicus website: <https://www.copernicus.eu/> and <https://gwis.jrc.ec.europa.eu>

In order to maximise impact, the most promising results demonstrated expected to be up-scaled/ deployed into:

- Copernicus **Emergency** Management System (EMS) e.g. for Rapid Mapping, Risk & Recovery;
- Copernicus **Land** Service e.g. for monitoring changes in land cover and land use;
- Copernicus **Atmosphere** Monitoring Service e.g. fires intensity detection & pollutants propagation forecast;
- Copernicus **Security** Service e.g. for support to EU external action;
- the **Group on Earth Observation (GEO)**.



**OBRIGADO !
¡ GRACIAS !
THANK YOU !**



Green Deal call Wildfires topic web-site:

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/lc-gd-1-1-2020>

Call Deadline: 26 January 2021 17:00 (Brussels time)
Single-stage evaluation

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