

# Cluster 5 NCPs Network

01/06/2021

Miriam de Angelis APRE



- National Contact Point for Cluster 5 «Climate, energy and mobility» Horizon Europe
- NCP for Societal Challenge 4 «Smart, green and integrated transport» & SC5 «Climate action, environment, resource efficiency and raw materials» Horizon 2020



## Presentation breakdown

- **¬¬¬** Who are the Horizon Europe Cluster 5 National Contact Points (HE CL5 NCPs)?
- ¬ NCPs' suggestions for a good proposal preparation
- **¬** The Cluster 5 NCPs network





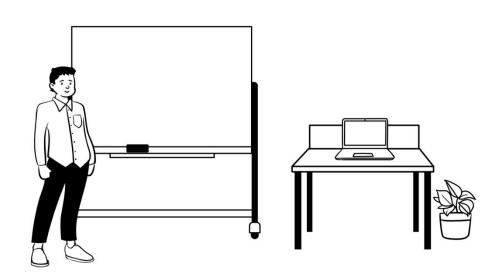
### The role of the HORIZON EUROPE National Contact Points (NCPs)

- NCPs provide guidance, practical information and assistance on all aspects of participation in Horizon Europe.
- NCPs are <u>national structures</u> established by governments of the 27 EU member states, the countries associated to the framework programme, as well as many non-EU and non-associated countries ("third countries").
- NCPs give personalised support on the spot and in applicants' own languages.
- NCPs are bound to the Minimum standards and Guiding principles set by the European Commission
   Confidentiality!
- In HE, just like in H2020, NCPs are <u>organized in networks</u> according to the theme they cover.
- Stay tuned for the launch of the CL5 NCPs network GREENET in June 2022 (TBC).



## What services do HE NCPs provide?

- **Disseminating and raising awareness** about HE funding opportunities
- Assisting stakeholders in understanding HE main features, novelties and policy drivers
- Providing guidance and training on HE proposal preparation, rules, the Work Programme and the topic text
- Supporting partner search and consortia building
- Supporting proposal preparation







The Green Deal The Clean energy strategy European policies Strategy for Energy System Integration A Hydrogen Strategy for a climate neutral Europe Exc. Exc. Table of contents Mission and guidance

Strategic Research vision of the agenda (2021-Clean Hydrogen Joint Undertaking 2027)

> **R&I Topics** Call 2022 **Expected Outcomes**

Proposal

1.	ve summary	17
1.1.	The European Green Deal and the climate neutrality ambition of Europe	
1.1.1.	The role of hydrogen technologies	
112	The EU hydrogen strategy for a climate-neutral Europe	
1.2.	The R&I support of hydrogen activities of the European Union	
2.	Clean Hydrogen Joint Undertaking	
2.1.	Mission and vision of the Clean Hydrogen Joint Undertaking	
2.2.	Objectives of the Clean Hydrogen JU for 2021-2027	
3.	Research and Innovation Activities	
3.1.	Structure of the Clean Hydrogen JU Programme	28
3.2.	Renewable Hydrogen production	29
3.2.1.	Electrolysis	30
3.2.2.	Other routes of renewable hydrogen production	35
3.3.	Hydrogen storage and distribution	38
3.3.1.	Hydrogen Storage	38
3.3.2.	Hydrogen in the Natural Gas Grid	41
3.3.3.	Liquid Hydrogen Carriers	44
3.3.4.	Improving Existing Hydrogen Transport means	47
3.3.5.	Compression, Purification and Metering Solutions	49
3.3.6.	Hydrogen Refuelling Stations (HRS)	52
3.4.	Hydrogen end uses: Transport applications	55
3.4.1.	Building Blocks	56
3.4.2.	Heavy-duty vehicles	59
3.4.3.	Waterborne applications	62
3.4.4.	Rail applications	67
3.4.5.	Aeronautic applications	70
3.5.	Hydrogen end uses: Clean heat and power	73
3.5.1.	Stationary Fuel Cells	75
3.5.2.	Turbines, boilers and burners	80
3.6.	Cross-cutting issues	83
3.6.1.	Sustainability, LCSA, recycling and eco-design	84
3.6.2.	Education and public Awareness	86
3.6.3.	Safety, Pre-Normative Research and Regulations, Codes and Standards	89
3.7.	Hydrogen valleys	92
3.8.	Supply chain	95
3.9.	Strategic Research Challenges	99
4.	Additional activities.	100

	I policies and other programmes (Synergies)	100
4.1.1.	Need to reinforce synergies	100
4.1.2.	Toolbox to generate funding synergies	101
4.1.3.	Cooperation mechanisms to deliver synergies	102
4.2.	Cooperation with JRC	103
4.3.	Regulations, Codes and Standards (RCS) Strategy Coordination	104
4.4.	European Hydrogen Safety Panel (EHSP)	107
4.5.	European Hydrogen Sustainability and Circularity Panel (EHS&CP)	109
4.6.	Knowledge management	113
4.6.1.	(Current) Knowledge activities in previous JUs	113
4.6.2.	Clean Hydrogen as the Knowledge Hub for Hydrogen in Europe	114
4.6.3.	Dissemination & Exploitation of the project results	116
4.7.	The role of small and medium-sized enterprises	118
4.8.	International cooperation strategy	119
4.9.	Communication	121
5.	Programme implementation	123
5.1.	Budget	123
5.2.	Conditions for participation and eligibility for funding	124
5.3.	Types of action: specific provisions and funding rates	126
5.4.	Rules for participation	127
6.	Governance	128
6.1.	Main actors: roles and representation	128
6.2.	Governing Board	128
6.3.	Executive Director	128
6.3.1.	Programme Office	129
6.4.	States Representatives Group	129
6.5.	Stakeholders' Group	129
7.	Programme monitoring and reporting	131
8.	Modern Administration	136
8.1.	Objective of human resource management	136
8.2.	Main principles of the human resources management of the Clean Hydrogen JU	136
8.3.	Staff establishment plan and human resources policy of the Clean Hydrogen JU	136
8.4.	Sound financial management	136
8.4.1.	Assurance and audit	137
8.4.2.	Financial management	137
8.4.3.	Internal control and risk management	138
8.5.	Fraud risk management	138
8.6.	Document Management, digital transformation and information management	139
8.6.1.	Information Management	139
8.6.2.	Digital Transformation	

Annex to GB decision no. CleanHydrogen-GB-2022-02 CLEAN HYDROGEN JOINT UNDERTAKING

Strategic Research and Innovation

Agenda 2021 - 2027

Clean Hydrogen Partnership



# The process



### **FIND**

who is the NCP responsible for your area of interest

### **READ**

Carefully the Work Programme, the topic and all the related documents and discuss them with your NCP

### **UNDERSTAND**

The policy drivers

### **BUILD**

The project concept and the best consortium

### **WRITE**

the proposal carefully, clearly and as detailed as possible

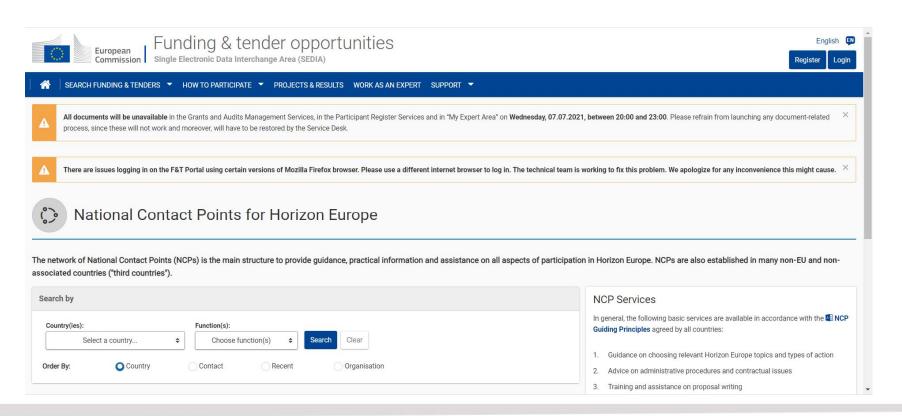




1

# Find the contacts of your CL5 National Contact Points

on the Funding and Tender Opportunities Portal







## Read the Work Programme, the topic exc.

#### HORIZON-CL6-2021-BIODIV-01-13: Breeding for resilience: focus on root-based traits

Specific conditions				
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 8.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.			
Indicative budget	The total indicative budget for the topic is EUR 16.00 million.			
Type of Action	Research and Innovation Actions			

Expected Outcome: In line with the objectives of the biodiversity and farm to fork strategies, a successful proposal will support the transition to more sustainable practices in agriculture by reducing the need for external inputs and supporting biodiversity in agroecosystems.

The project results are expected to contribute to all of the following expected outcomes:

- A better understanding of root-based traits (including the capacity to establish beneficial
  interactions with soil biota) and their genotypic variability as well as increased insight
  into the (adaptive) phenotypic plasticity of roots;
- Enhanced capacities for root phenotyping under controlled and on-field conditions;
- The delivery of strategies for breeding for below-ground traits capitalising on more
  effective interactions between plants and microorganisms in the rhizosphere;
- An increased use and valorisation of genetic resources (in situ and ex situ) for root based traits.

On the longer term projects will contribute to: the development of crops (annual and perennial) and forest trees that are more tolerant to abiotic stress conditions, require less external inputs (e.g. fertilisers and pesticides) and show an increased capacity for carbon sequestration, thereby contributing to adaptation of agriculture and forestry to climate change.

Scope: With increasing effects of climate change and a shift towards low(er) input production systems, there is the need for crops that are capable of capturing resources more efficiently and are resilient to abiotic stresses.

The root system and its interaction with soil biota is crucial for nutrient and water acquisition as well as for the capacity of plants to adapt to changing environments and to be more tolerant against pests and diseases. Phenotypic plasticity is key for plants to respond to varying soil conditions and highly dynamic distribution of soil resources. The size and architecture of the root system also determine the allocation of carbon in the soil. Breeding for root traits is therefore a promising strategy to increase plant stress resilience while also enhancing soil carbon sequestration.

#### Proposals should:

- Identify root traits that increase resource efficiency of plants in different environments, taking into account beneficial plant – microbe interactions and the restitution of plantfixed carbon to the soil:
- Increase our knowledge on the (molecular and biochemical) plasticity of root responses and their metabolic mechanisms to environmental cues;
- Improve existing and/or develop new root phenotyping tools (including image analysis protocols) to be used in controlled and on-field conditions, thereby overcoming the root data buttleneck:
- Develop strategies to implement "root breeding", i.e. select for desirable root characteristics and exploit the genetic variation in root traits.

Activities should be carried out in a range of agronomically relevant soil conditions.

In this topic the integration of the gender dimension (sex and gender analysis) in research and innovation content is not a mandatory requirement.

#### **Topic title**

#### **Type of Action**

Specifies what kind of activities are to be performed

#### **Expected outcomes**

specifies the positive effects generated by the actions

#### Scope

specifies the focus and the boundaries of the potential action





## Understand the policy drivers

- ¬ Strategy for Energy System Integration. COM(2020)
- A Hydrogen Strategy for a climate neutral Europe. COM(2020)
- New Industrial Strategy for Europe. COM (2020)
- ☐ Europe's moment: Repair and Prepare for the Next Generation. COM (2020)
- 7 'Fit for 55' package (incl. revised Renewable Energy Directive)

### Clean Hydrogen JU Vision

Support a sustainable hydrogen economy, contributing to EU's climate goals

### Clean Hydrogen JU Mission

Facilitate the transition to a greener EU society through the development of hydrogen technologies.





## Build the best consortium

- know the rules (minimum conditions)
- choose partners carefully and clarify everyone's role
- Consider experience and complementarity
- You can start locally, but always broaden your consortium in order to include an international dimension
- Explain why your consortium is the best (balance vs value chain)
- The coordinator is generally responsible for the overall planning of the proposal and for building up the consortium that will do the work.
- If you are a coordinator, be patient, inclusive and democratic but you take the final decisions

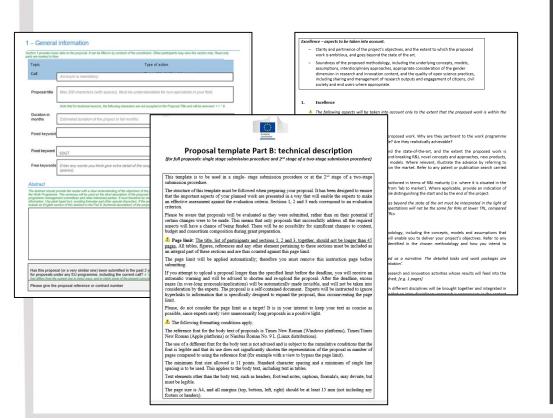


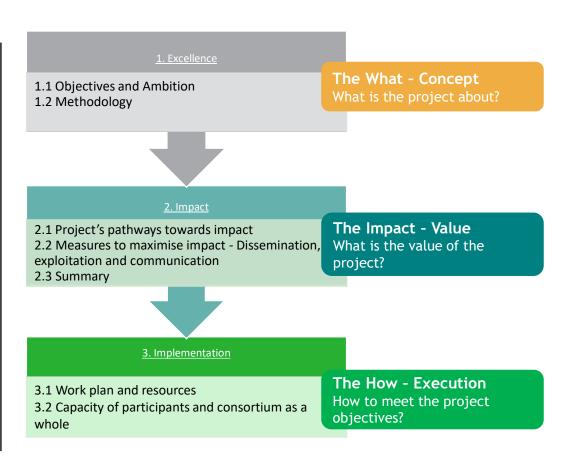




# Write the proposal

### ¬ Proposal template − Part B









## Write the proposal



Make sure that your proposed work is within the scope of the work programme topic of your choice



Demonstrate that your idea is ambitious and goes beyond the state of the art



Take into account interdisciplinary, gender dimension and open science practices in your scientific methodology. Respect the "no significant harm" criterion: Your research must not significantly harm the environment



Show how your project could contribute to the outcomes and impacts described in the work programme (the pathway to impact)



Describe the planned measures to maximise the impact of your project ('plan for the dissemination and exploitation including communication activities')



Demonstrate the quality of your work plan, resources and participants





## Are HE CL5 NCPs somehow organised at theb European level?

- In HE, just like in H2020, NCPs are organized in networks according to the theme they cover.
- **¬ CL5 NCPs network, GREENET, is launching in June 2022 (TBC)**



















Email: segreteria@apre.it
Tel. +39 06 48 93 9993
www.apre.it

cluster5@apre.it

**Miriam de Angelis** 









