

About the HYPOSO project – Hydropower solutions for developing and emerging countries

Final Event

12 May 2023

IHE Delft, Netherlands

Ingo Ball

HYPOSO Project Coordinator

WIP Renewable Energies

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Outline

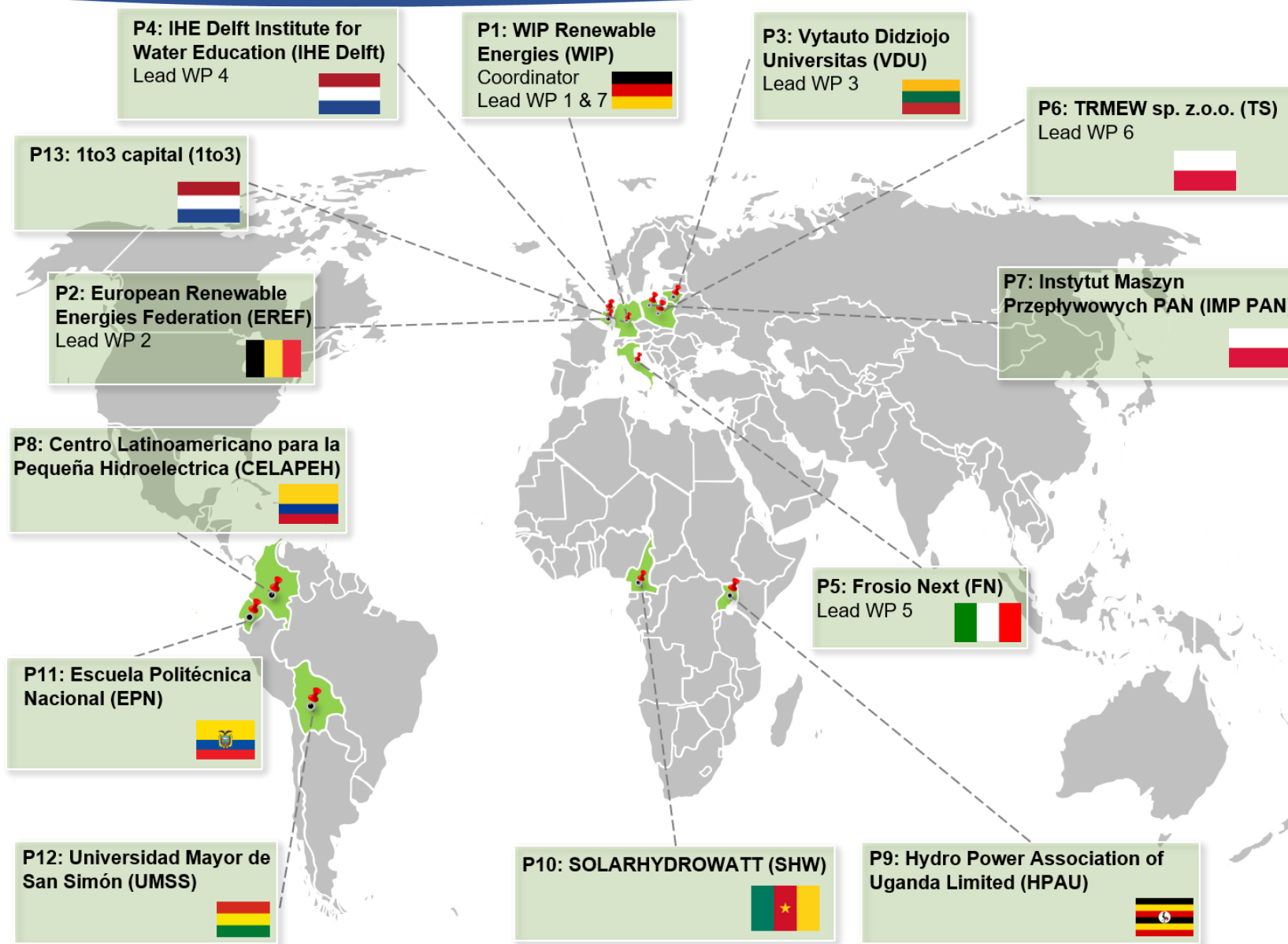
- General information & structure
- Objectives & impact
- HYPOSO in/for the target countries



General information

- Project title: **Hydropower solutions for developing and emerging countries**
- Project acronym: **HYPOSO**
- EU funded project within the **H2020** programme
- Grant Agreement (GA) No: **857851**
- Starting date of the project: **1 September 2019**
- Duration: **45 months**
- Participants: **13 (5 research organisations – 8 enterprises (4 SME))**
- 11 Countries: **Belgium, Bolivia, Cameroon, Colombia, Ecuador, Germany, Italy, Lithuania, the Netherlands, Poland, Uganda**





Project Overview

- Support the European hydropower industry

by providing tools to best facilitate and consult selected target regions in Africa and Latin America with their know-how and expertise and enable more technology export for European companies.

- Stimulate the energy transition in developing and emerging countries

by the market uptake support that shall lead to win-win situations and focus on sustainable and locally adapted solutions.

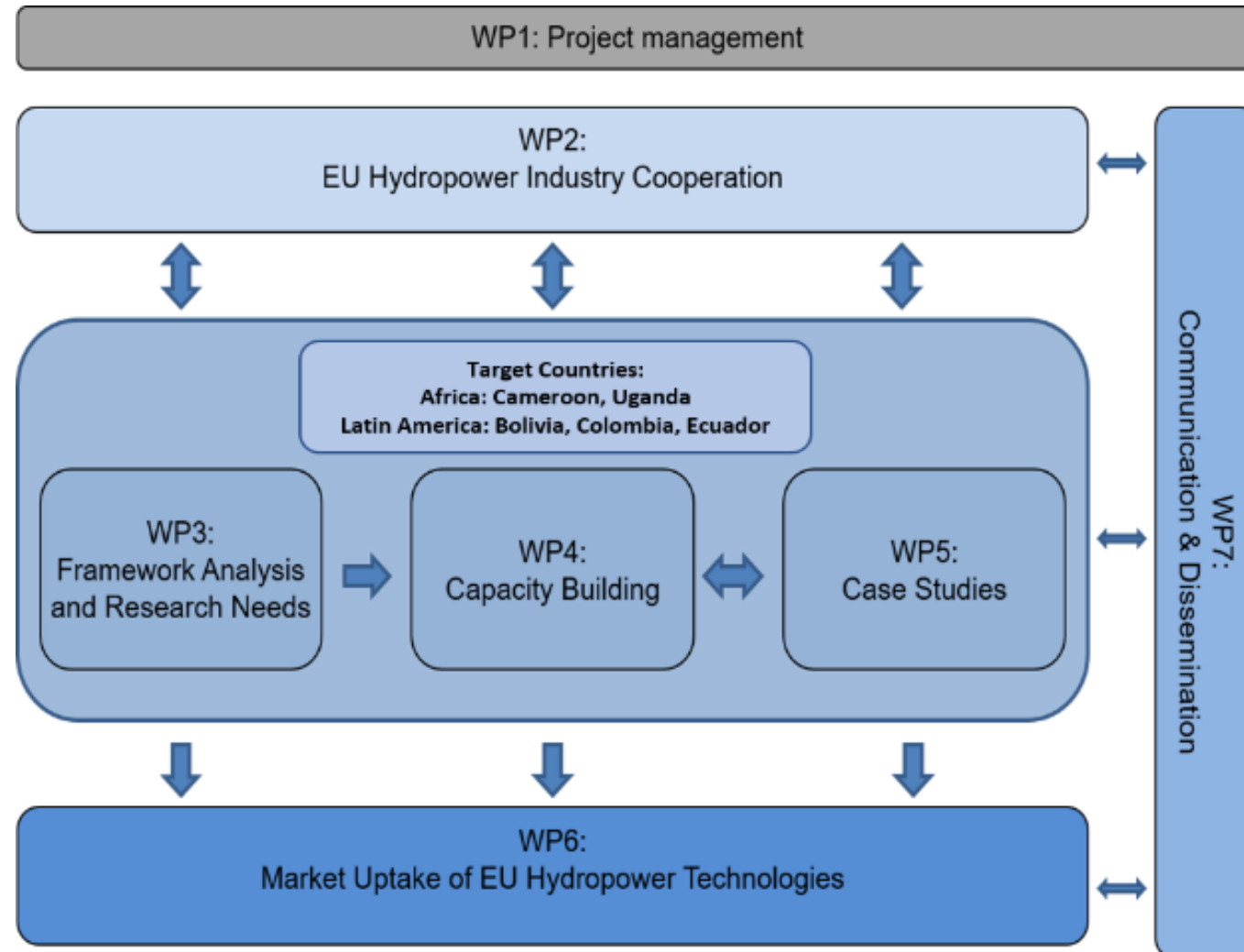


Objectives

- **Mapping** (EU hydropower industry, > 2,000 potential hydropower sites and **stakeholders in target countries**)
- **Framework analysis** of target countries
- **Capacity building** activities
- **15 Case studies** (5 MoU)
- **Online platform** (providing sector information, enabling contacts)
- **b2b Workshops** (in Colombia, Uganda and the Netherlands)
- **Study tour** in Europe



Structure











Impact in numbers

Country		Bolivia	Cameroon	Colombia	Ecuador	Uganda	Total
Potential of Small Hydropower (SHP)	Total [MW]	200	970	25,000	296	200	26,666
	Remaining %	>23	>99	>99	>65	>70	
Defined capacity limit of SHP [P]		< 5 MW	< 10 MW	< 10 MW	< 10 MW	< 20 MW	
Cost per installed kW		1,300 -8,000 US \$/kW					
Goal for installed MW per target country as consequence of HYPOSO (only SHP)		5	10	50	20	5	90
Amount of additional EU investment in target countries through project activities, million US \$ (roughly 50% of installed cost)		8	15	75	30	8	136



Impact in target countries



	BOLIVIA	COLOMBIA	ECUADOR	CAMEROON	UGANDA
	 increase rural electrification (73%)	 increase share of Renewable Energies (10% coal)	 increase share of Renewable Energies (37% oil)	 increase electrification rate (urban: 57-64% rural: 22-28%)	 increase electrification rate (urban: 71% rural: 8%)
	➤ HP experts	➤ HP experts	➤ HP experts	➤ HP experts	➤ HP experts
	local jobs	local jobs	local jobs	local jobs	local jobs

The HYPOSO partners in Latin America



Universidad Mayor de San Simón
(UMSS)

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(EPN)

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The HYPOSO partners in Africa



**SOLARHYDROWATT
(SHW)**

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**Hydro Power Association of Uganda
Limited (HPAU)**

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<https://www.hpau.org/>



Implementation of objectives

Hydropower Solutions
HYPOSO

Home About HYPOSO Map HYPOSO Platform Sector Information News Events

Languages Newsletter

Welcome to the HYPOSO Platform!

The HYPOSO Platform shall gather stakeholders from Africa, Latin America, and Europe, to work together in hydropower projects for the goal of a more sustainable future.

The HYPOSO Platform is composed of three different parts:

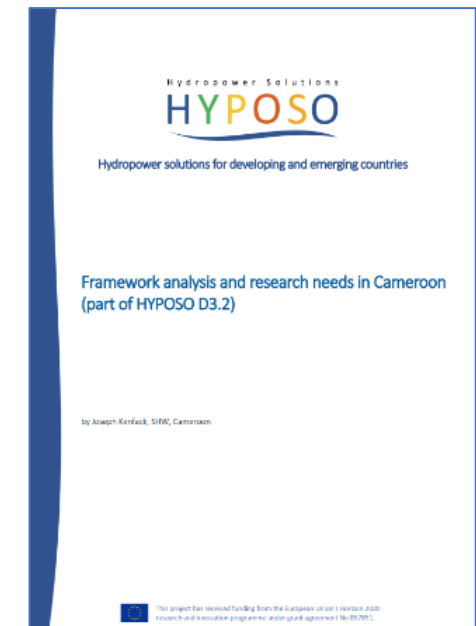
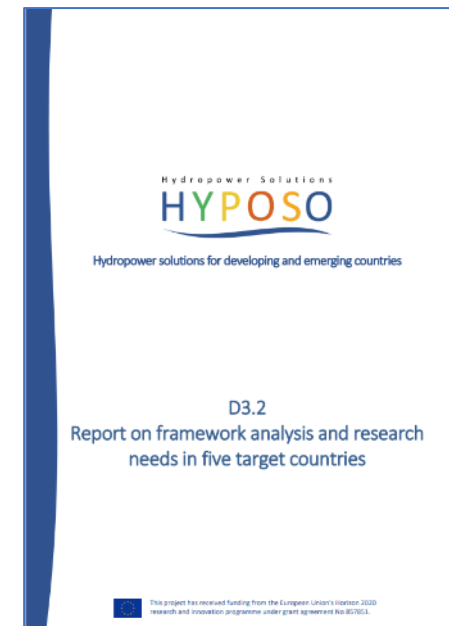
- the **HYPOSO Meeting Platform**, where hydro stakeholders from Europe, Africa and Latin America are invited to present themselves in a company/organisation profile, and can actively – using the filter categories, see below - search for potential business partners or can be found by other Platform members doing so.
- the **HYPOSO Map**, an online GIS map, showing information about background & infrastructure, climate & hydrology, operational hydropower plants, and hydropower resources (i.e., potential sites) in the HYPOSO target countries Bolivia, Colombia and Ecuador in Latin America, and in Cameroon and Uganda in Africa.
- the **HYPOSO Business Cases**, which are altogether 15 different interesting and promising potential small hydropower sites in the HYPOSO target countries, already assessed to the pre-feasibility status. The sites shall be developed and realised in cooperation between local stakeholders and the European hydropower industry. The first ones (six sites in Africa) will be available in summer 2022.

Discover the HYPOSO Map >>

The HYPOSO Business Cases

Information about the HYPOSO Business Cases are expected to be available from June 2022 on.

Mapping activities (WP2 & WP3) and Online Platform (WP7)



HYPOSO Meeting Platform

Find your future business partners in the HYPOSO Meeting Platform. Use the filter functions (categories) to find the right contacts for your purposes as quickly as possible.

Filter categories:

Africa all Stakeholders (all)



Hydro Power Association of Uganda Ltd.

A not-for-profit organisation, formed and duly incorporated in Uganda on June 10th 2014 as a Company Limited by Guarantee. HPAU seeks to contribute to the national.



RWENZORI POWER LTD.

Rwenzori Power Ltd (RWEPO) is an establishment in Uganda that started in 2014, with the main aim of developing renewable energy systems ranging from solar, peat,



Marma Technical Services Ltd

Marma Technical Services Ltd (MSTSL) is a Private registered limited liability company based in Uganda since 2004. Our core venturing activities are:



Implementation of objectives

The HYPOSO Map is an online GIS map, showing useful information about background & infrastructure, climate & hydrology, operational hydropower plants, and hydropower resources (i.e. potential sites) in the HYPOSO target countries: Bolivia, Colombia and Ecuador in Latin America, and in Cameroon and Uganda in Africa. Use the HYPOSO Map as starting point to find unexploited sites that could become a hydropower plant in the future.

The HYPOSO Map as shown is a kind of discovery, identifying sites worthy of further investigation automatically. The estimates modeled and derived in the HYPOSO Map will not represent the actual numbers feasible for engineering design. It will be the users sole responsibility to determine whether any site or river reach is worthy of further investment, however, hopefully the HYPOSO Map can save time and money for its users.

[← back to overview](#)

Operational Hydropower plants
 Description: Operational (Existing) hydropower plants (HPPs) and under construction.
 Group: undefined

Legend

- 0.1 - 10 MW
- 10 - 50 MW
- 50 - 100 MW
- 100 - 250 MW
- 250 - 500 MW
- 500 - 750 MW
- 750 - 1000 MW
- ≥ 1000 MW

Layer opacity: [Slider]

[KML](#) [Shape](#)



Implementation of objectives

Capacity Building Courses (WP4)

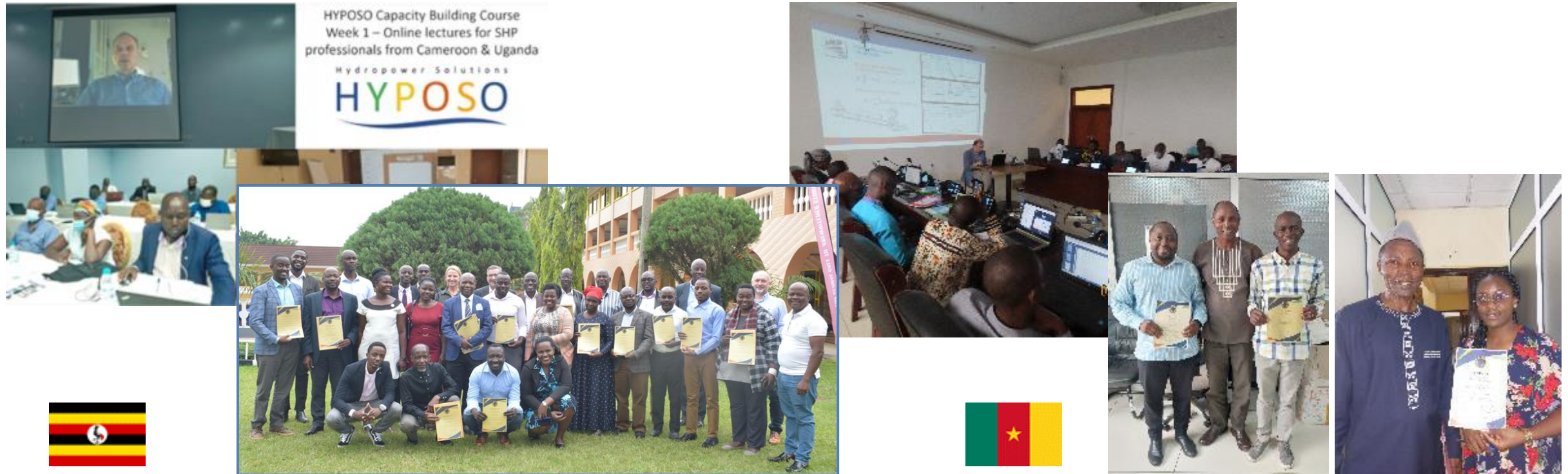
Realisation of Capacity Building Courses for stakeholders from Bolivia and Ecuador.



Implementation of objectives

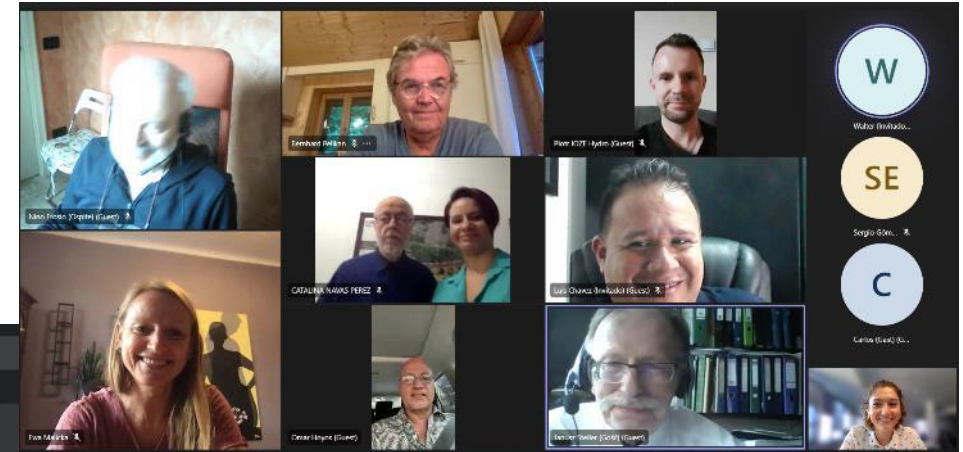
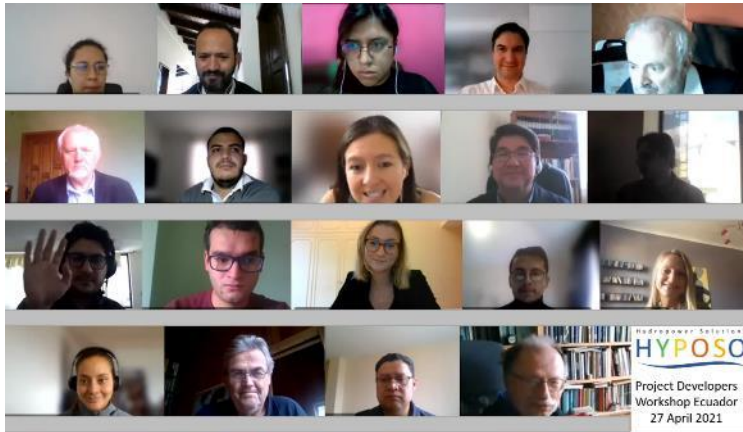
Capacity Building Courses (WP4)

Realisation of Capacity Building Courses for stakeholders from Uganda and Cameroon.



Implementation of objectives

Project developer workshops (WP5)



Baratti is presenting

HYPOSO

Project Developers Workshop Ecuador
27 April 2021

Work Package 5 - Case studies

Task 5.1 - Project developer's workshop for case studies BOLIVIA

Aim: presentation of 3 high potential hydropower sites

Presentation by Beatrice Baratti (FROSIO NEXT S.r.l.)
 Wednesday, 16th March 2022; Brescia (ITALY)

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Participants list:

- Beatrice Baratti
- ANDRES GONZA...
- Unknown
- FERNANDO AR...
- Linus Jurevičius
- Bernhard Polikan
- 24 others
- Dennis Vera
- Efrain Herrera - ENDE
- Eva Malicka
- Fabi To
- FERNANDO ARTURO LED...
- Gabriel Rodriguez Roca
- GALO OSVALDO MUÑOZ...
- Jaime B.Ch.
- Liliana Rodriguez Alvarez



Implementation of objectives

Project developer workshops (WP5)



Implementation of objectives

Case studies (WP5)

Excursions to assess potential hydropower sites in **Cameroon** and **Uganda**



Implementation of objectives

Case studies (WP5)

Excursions to assess potential hydropower sites in **Bolivia, Ecuador and Colombia**



Implementation of objectives

Workshops on Framework Conditions for SHP (WP6)

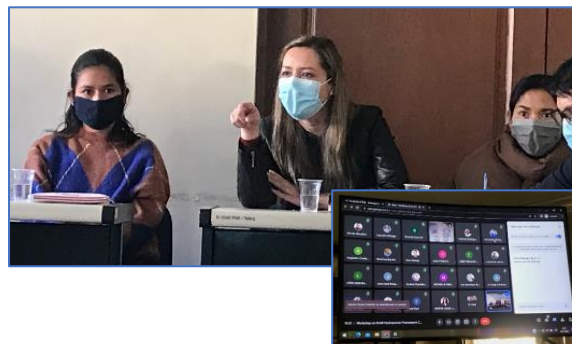
In Africa, Workshops on Framework Conditions for SHP were held in **Cameroon and Uganda**



Implementation of objectives

Workshops on Framework Conditions for SHP (WP6)

In Latin America, Workshops on Framework Conditions for SHP were held in **Bolivia, Ecuador and Colombia**





More HYPOSO activities

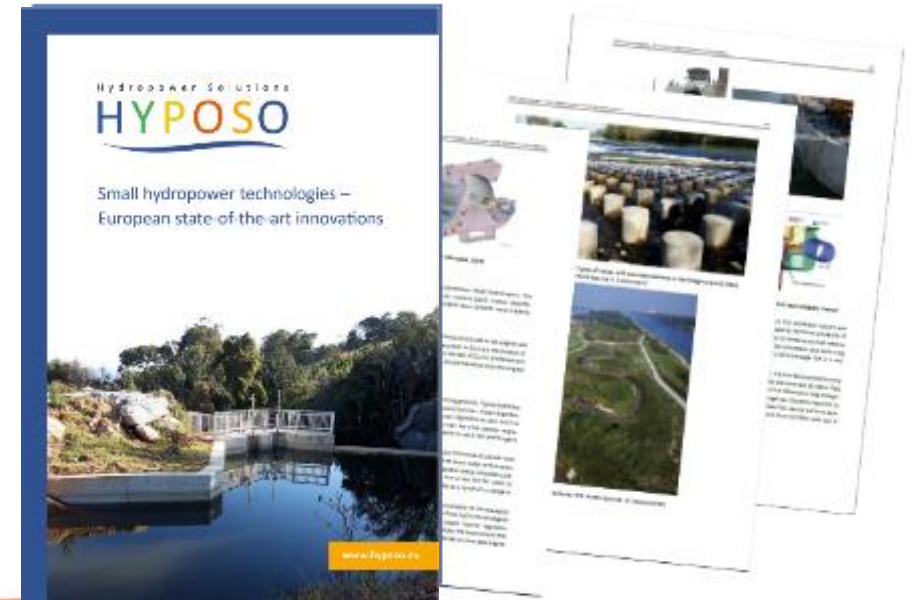


Also elaborated...

- HYPOSO Handbook (EN, ES and FR):
<https://www.hyposo.eu/en/sector-information/>

Last HYPOSO activities

- Study Tour & Final Event
- Study Tour Video



Hydropower Solutions

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Thank you!

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VYTAUTAS MAGNUS
UNIVERSITY
AGRICULTURE
ACADEMY



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 857851.

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Thank you!

Contact:

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