Pan-European Network for Sustainable Hydropower

pen-hydropower.eu

COST ACTION FOCUSED ON HYDROPOWER IN EUROPE

PEN@ HYDRO POWER
CA21104

PEN@Hydropower is aimed at establishing a Pan-European network for a sustainable, digitalised Hydropower contributing to the Clean Energy Transition (CET).

A united network of researchers, engineers, scholars to facilitate close collaboration among European research groups through projects supporting sustainable Hydropower.

Promotes cross-disciplinary activities with the aim of knowledge sharing, boost new interlinked collaborations and put the basis for holistic solutions to the complex challenges of building a sustainable hydropower.

CA COUNTRIES OVERVIEW

41 members

25 members of inclusiveness target countries (ITC)

1 member from COST partner country (South Africa)

COST Membership

41 Members

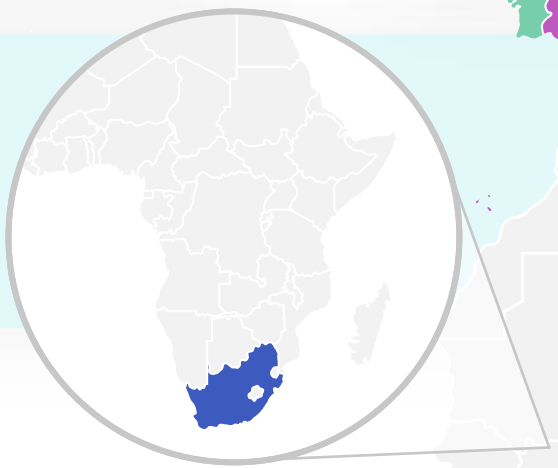
- Albania
- **Armenia**
- Austria
- Belgium
- Bosnia and Herzegovina
- Bulgaria
- Croatia
- **Cyprus**
- Czech Republic
- **Denmark**
- Estonia
- **Finland**
- France
- Georgia
- Germany
- Greece
- Hungary
- Iceland
- Ireland
- Italy
- Latvia
- Lithuania
- **Luxembourg**
- Malta
- **The Republic of Moldova**
- **Montenegro**
- The Netherlands
- The Republic of North Macedonia
- Norway
- Poland
- Portugal
- Romania
- Serbia
- Slovakia
- Slovenia
- Spain
- Sweden
- Switzerland
- Turkey
- Ukraine
- United Kingdom

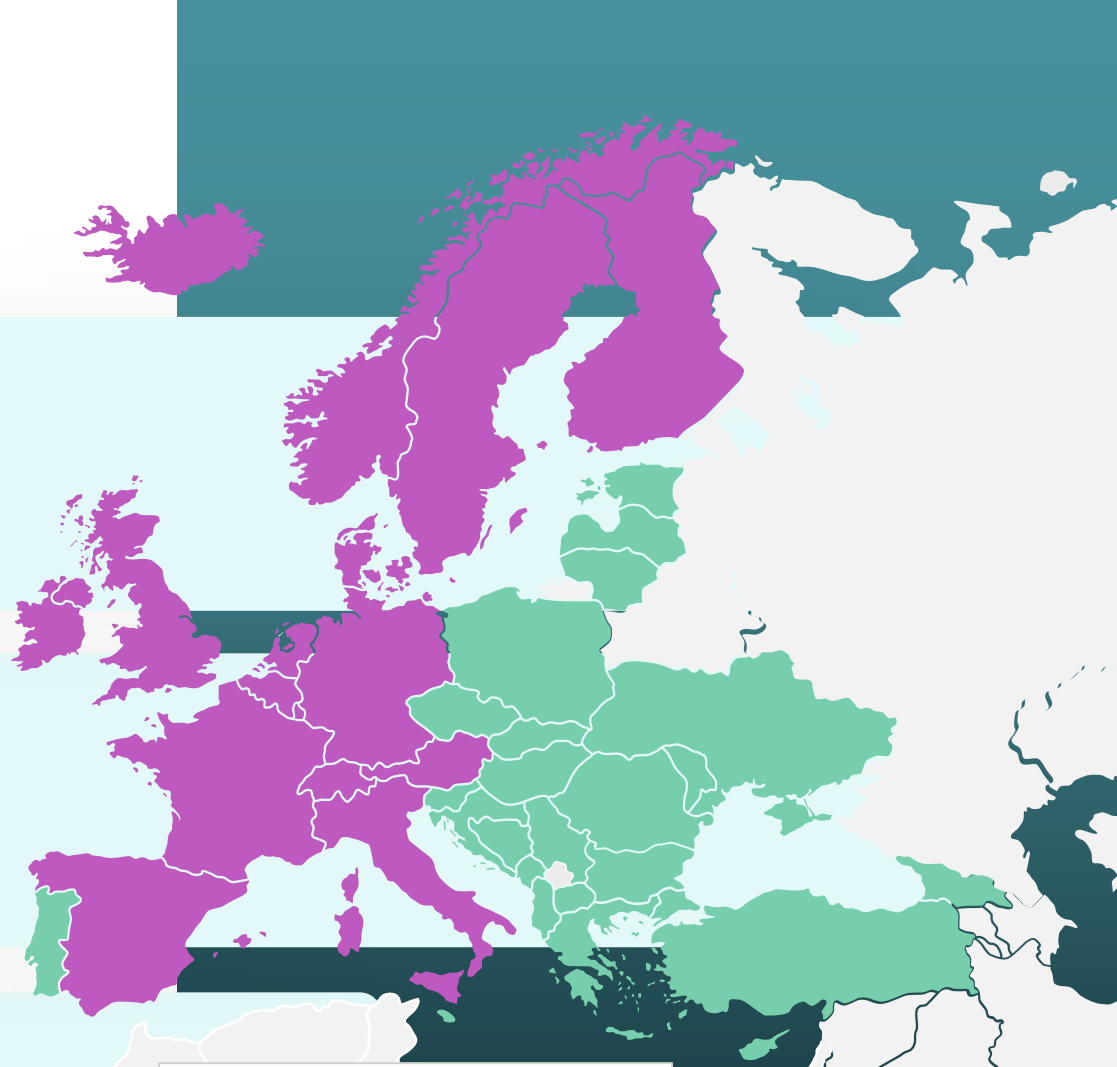
1 Cooperating Member

- Israel

1 Partner Member

- South Africa





- COST Members non-ITCs (Inclusiveness Target Countries)
- COST Members ITCs
- COST Cooperating Member
- COST Partner Member

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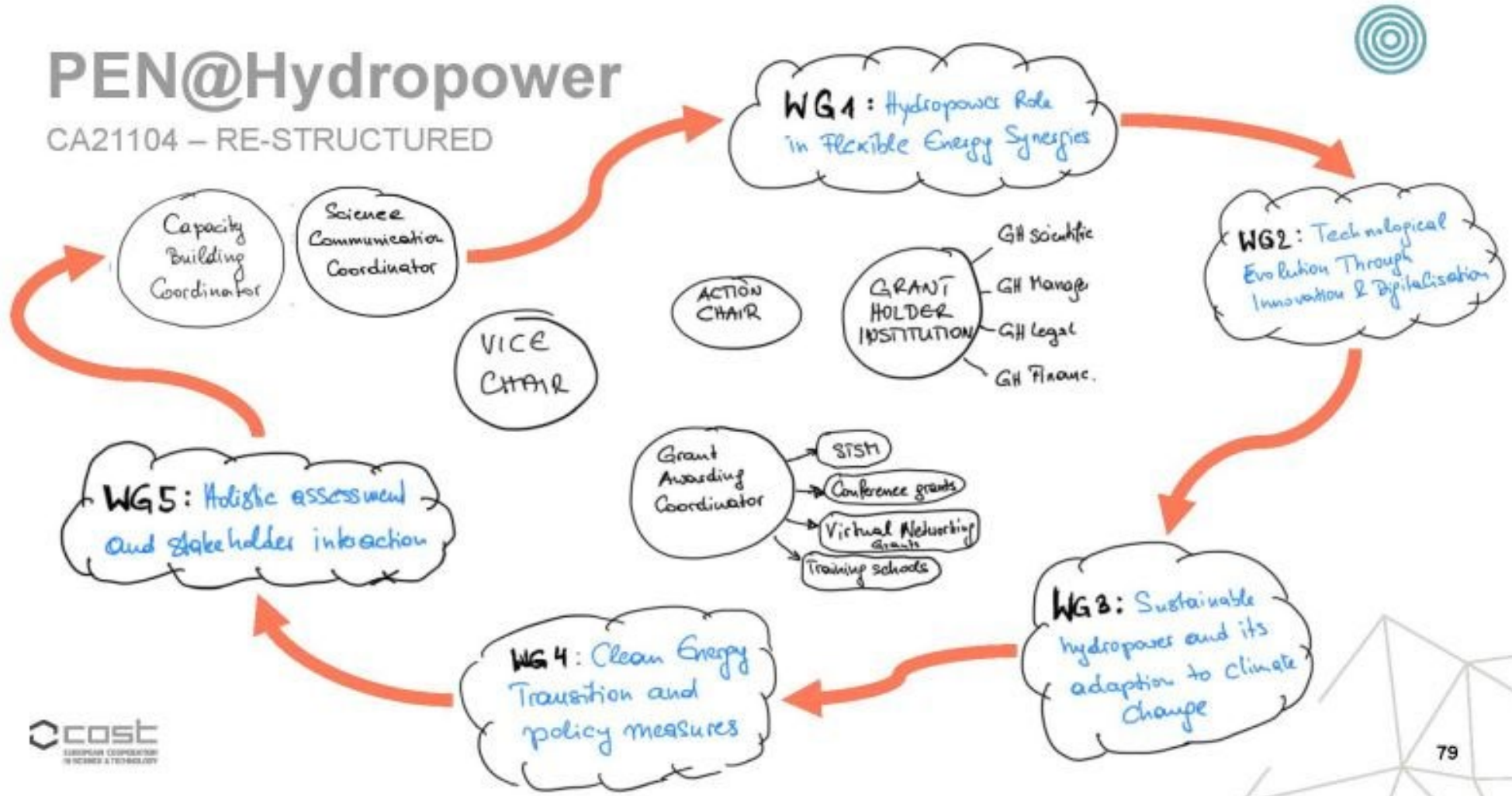
COST ACTION STRUCTURE



Research Areas

WG1 Evaluation and highlighting of the new role for Hydropower (HP) and Pumped Hydro Storage (PHS) **considering the flexibility and energy storage needs** of the future renewable energy sources dominated electricity systems, along with water hydraulics and ecology issues.

WG2 Establish a scientific framework for HP producers/investors to improve the performance and competitiveness of existing and new HP and PHS plants within the European electricity system. **Technological innovations to enhance flexibility and efficiency and promote digitalization** and predictive monitoring.

WG3 Develop a holistic assessment and new approaches to support **sustainable development and adaptation of the EU hydropower potentia**l, considering the resilient infrastructure needs, the environmental and societal conditions, and the climate change forecasts.

WG4 **Mapping the current EU legislative and market framework, the CET scenarios, and identification of policy gaps** to promote the new role of hydropower in the changing energy and market needs.

WG5 **Development of a holistic scientific strategy** based on consideration of digitalisation, climate change adaptation, a balance between production, industrial demands (WEF nexus), and environmental impacts of increased flexibility.

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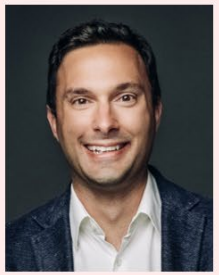
MANAGEMENT COMMITTEE & KEY INDIVIDUALS

Dr. Eduard DOUJAK
Action Chair

Prof. Giovanna CAVAZZINI
Vice Chair

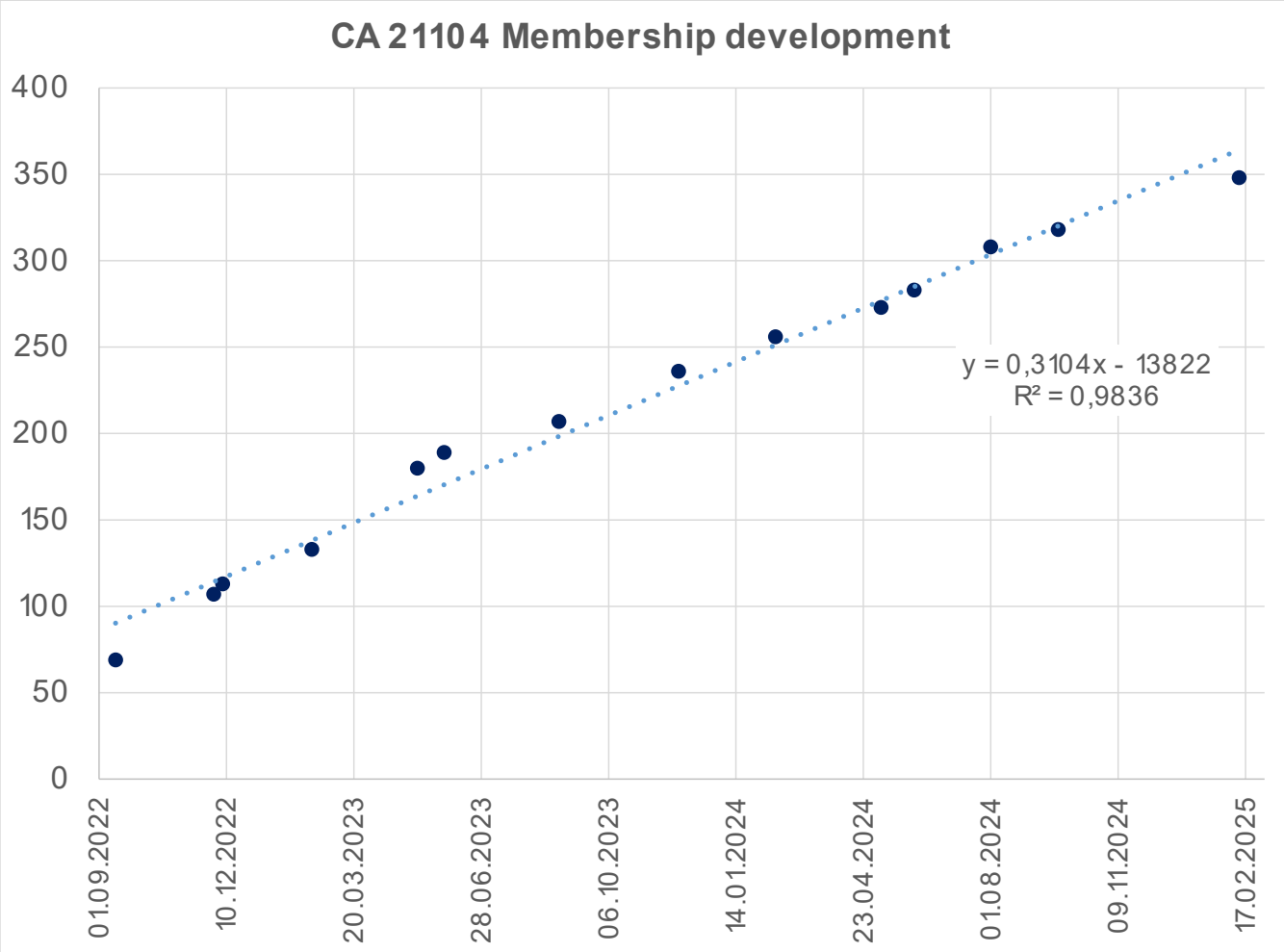
WG 1	WG 2	WG 3	WG 4	WG 5
 Elena, **ECI**, *Switzerland*	 Dogan, **ECI**, *Turkiye*	 Ritesh, **ECI**, *Finland*	 Egidijus, **ECI**, *Lithuania*	 Marina, **ECI**, *Latvia*
 Mentor: Ioannis, *Greece*	 Mentor: Pavel, *Czech Rep.*	 Mentor: David, *Iceland*	 Mentor: Ewa, *Poland*	 Mentor: Barbara, *Austria*

- CA21104 – SPECIAL COORDINATORS

Grant Awarding Coordinator	Science Communication Coordinator	Capacity Building Coordinator
		
Marko, *Slovenia*	Steven, *Malta*	Sebastian, *Romania*

Natalia,
Austria
Gender equality coordinator

ACTION PARTICIPATION



Before September 14th, 2022 (Kick-Off-Meeting) we had already **69** WG applications.

- By (30.11.2022) we had **107** WG applications. A plus of **38** persons.
- By (30.11.2023) we had **236** WG applications. A plus of **167** persons.
- By (14.02.2024) we had **256** WG applications. A plus of **187** persons.
- By (07.05.2024) we had **273** WG applications. A plus of **204** persons
- By (01.08.2024) we had **308** WG applications. A plus of **239** persons
- By (22.09.2024) we had **318** WG applications. A plus of **249** persons
- By (12.02.2025) we had **348** WG applications. A plus of **279** persons.

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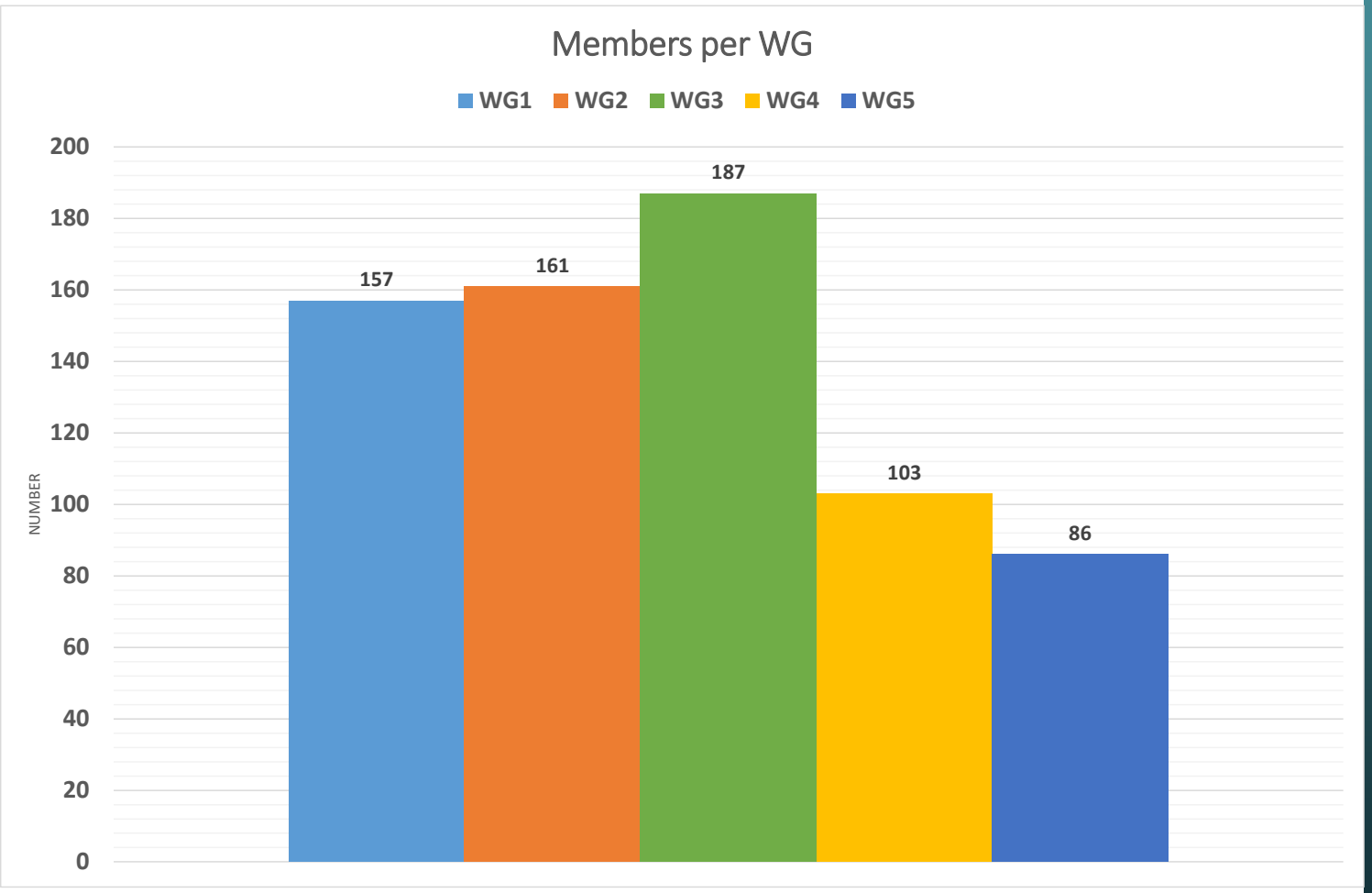
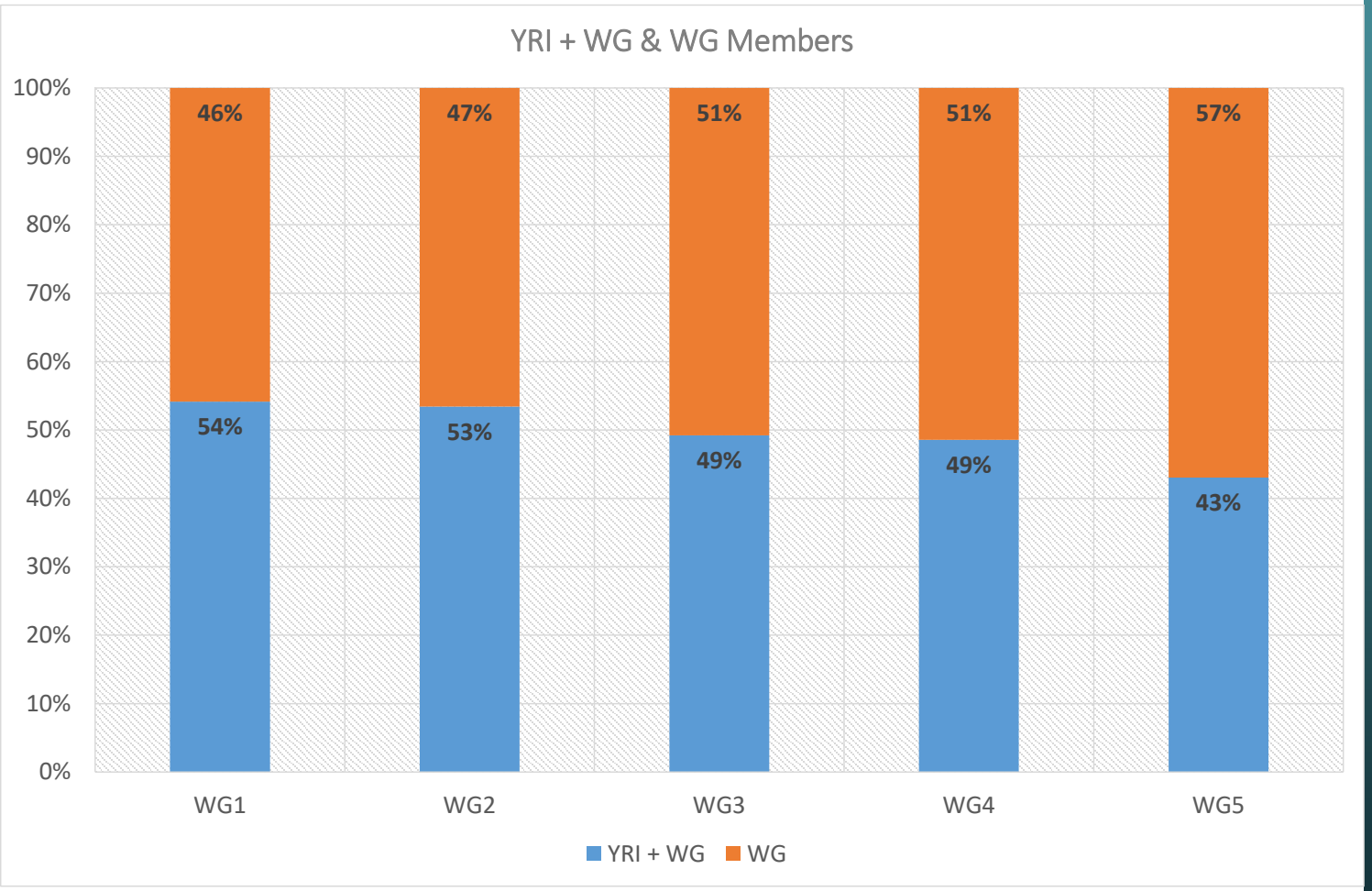


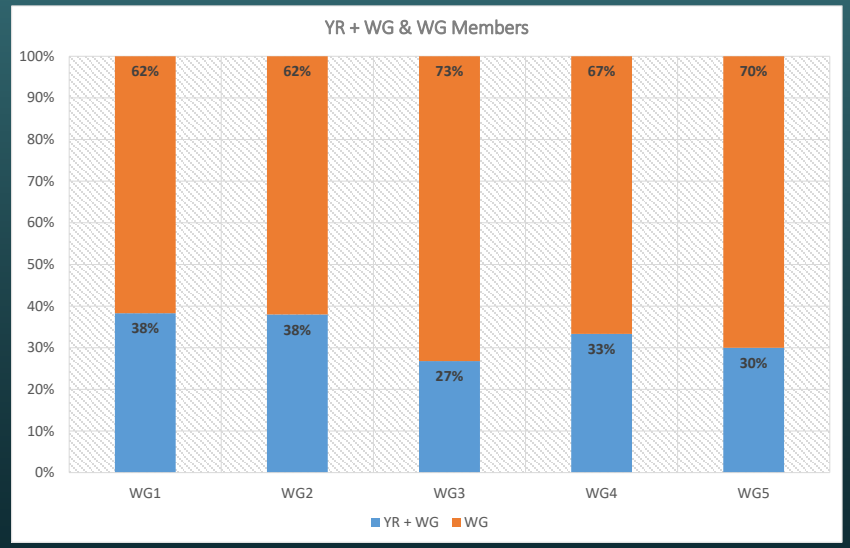
As CA21104 participants can select more WG's the number of WG members is not equal to the CA21104 participants. Some members join more than 1 WG.

ACTION PARTICIPATION



Surprisingly we see now already a high share of Young researchers. Our action becomes more attractive for young researchers and that is perfect. One of the goals of the CA is capacity building and with such a high share of Young researchers we can match the goal.

See status for 10/2022 below.



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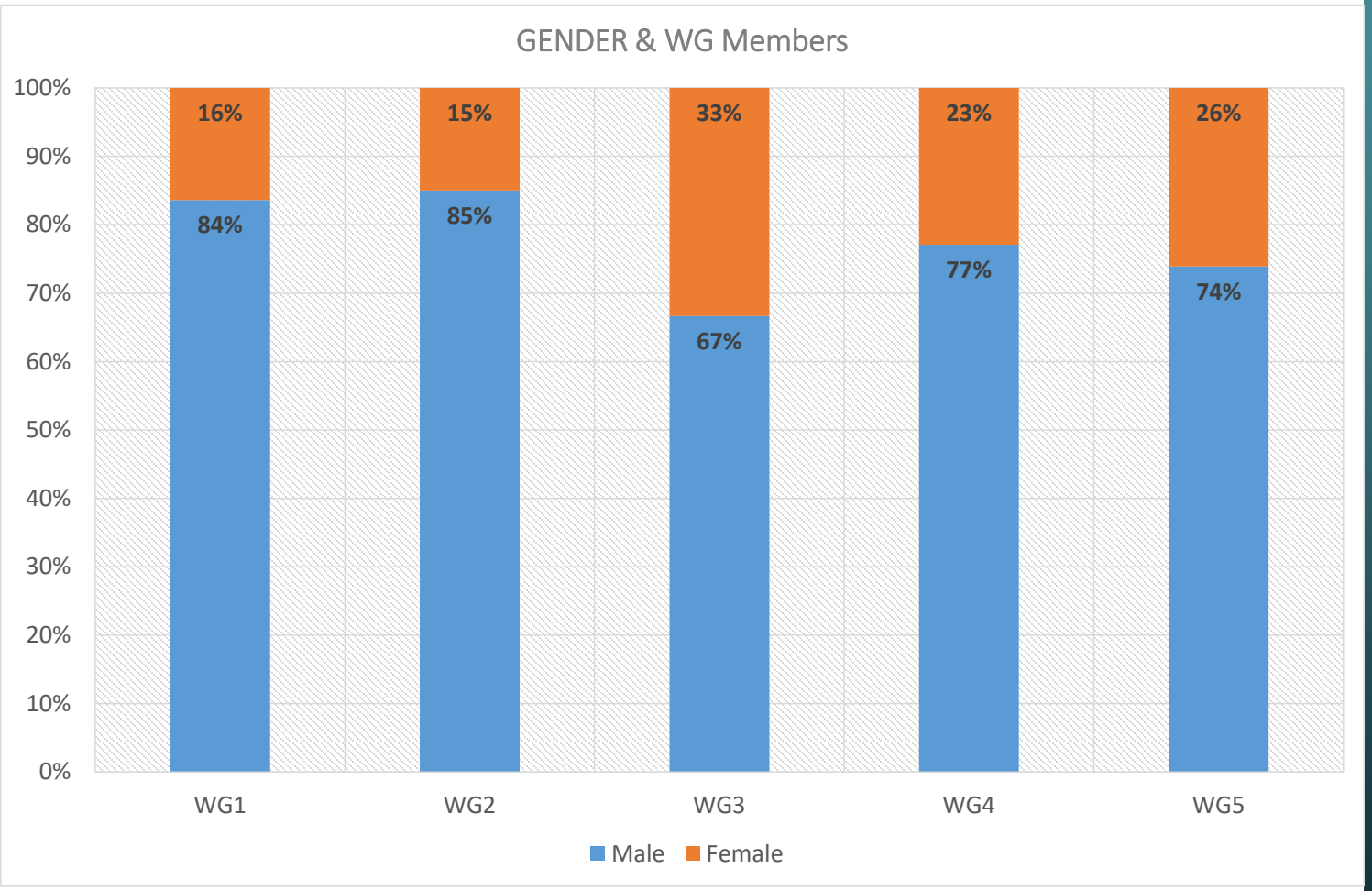
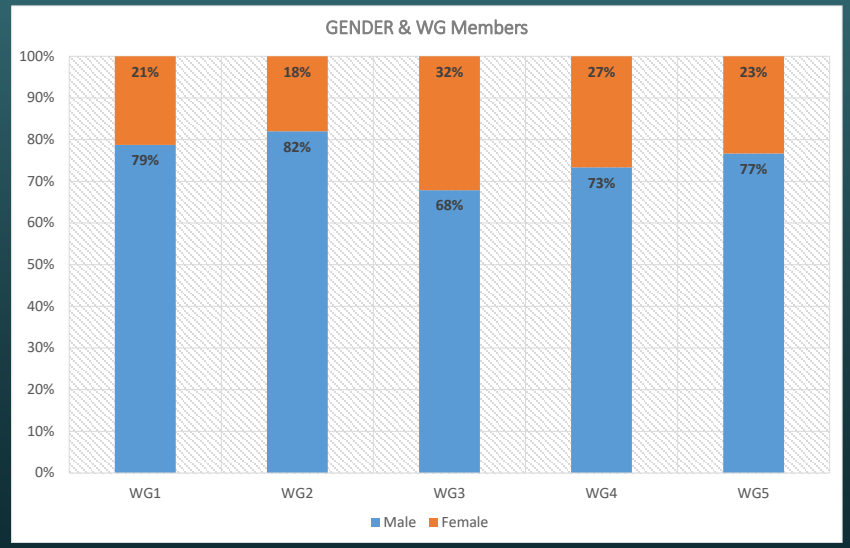


At the Gender Topic we see unfortunately not a big change. The percentage of female participants in the action hasn't change dramatically. Probably due to the lack of overall involvement of women in this particular branch.

See status for 10/2022 below.



ACTIVITIES

01 GRANTS

02 TRAINING SCHOOLS

03 MEETINGS WORKSHOPS CONFERENCES

TS3
Northern European Area

24th-27th June 2025
Upssala, Sweden

Northern Europe: 10 countries (9 members of MC)
Norway, Sweden, Denmark, Finland, Iceland, Ireland, Latvia, Lithuania, Estonia, United Kingdom

MC meeting, February 13, 2025

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TS3
Northern European Area in preparation

TS3, 24th-27th June 2025
Upssala, Sweden

TS3 Call:
Open: **January 15th, 2025**
Deadline: **March 14th, 2025**

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4th TRAINING SCHOOL on SUSTAINABLE HYDROPOWER

maximum 25 seats:
20 seats covered by CA21104 + 5 seats supported by EERA JP Hydropower

4th Training School LOC responsible (TS3 support):
Prof. Staffan Lundström, Luleå University of Technology
Prof. Urban Lundin, Upssala University of Technology
Mrs. Emma Hagner, Swedish Center for Sustainable Hydropower

Upssala University of Technology

Älvkarleby Hydropower Plant

Contacts

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COST Action Coordinator

TU Wien: Getreidemarkt 9/302 - Vienna; NA 1060

COST Association

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LINKEDIN: @pen-hydropower

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THANK YOU

CONTACT US FOR MORE INFORMATION

pen-hydropower.eu