ASSET

A holistic and Scalable Solution for research, innovation and Education in Energy Transition

Il progetto ASSET:
just for energy transition drivers!

Sara Gollessi - ènostra

ASSET Italian Roadshow

Milano, 18 Novembre 2019

www.energytransition.academy

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www.energytransition.academy

Il progetto ASSET

*A holistic and Scalable Solution for Research, Innovation and **Education** in Energy Transition*

Maggio 2019 → Aprile 2021

11 partner
6 paesi EU (ES, IT, BE, DK, DE, EL)

I partner del progetto

EASE

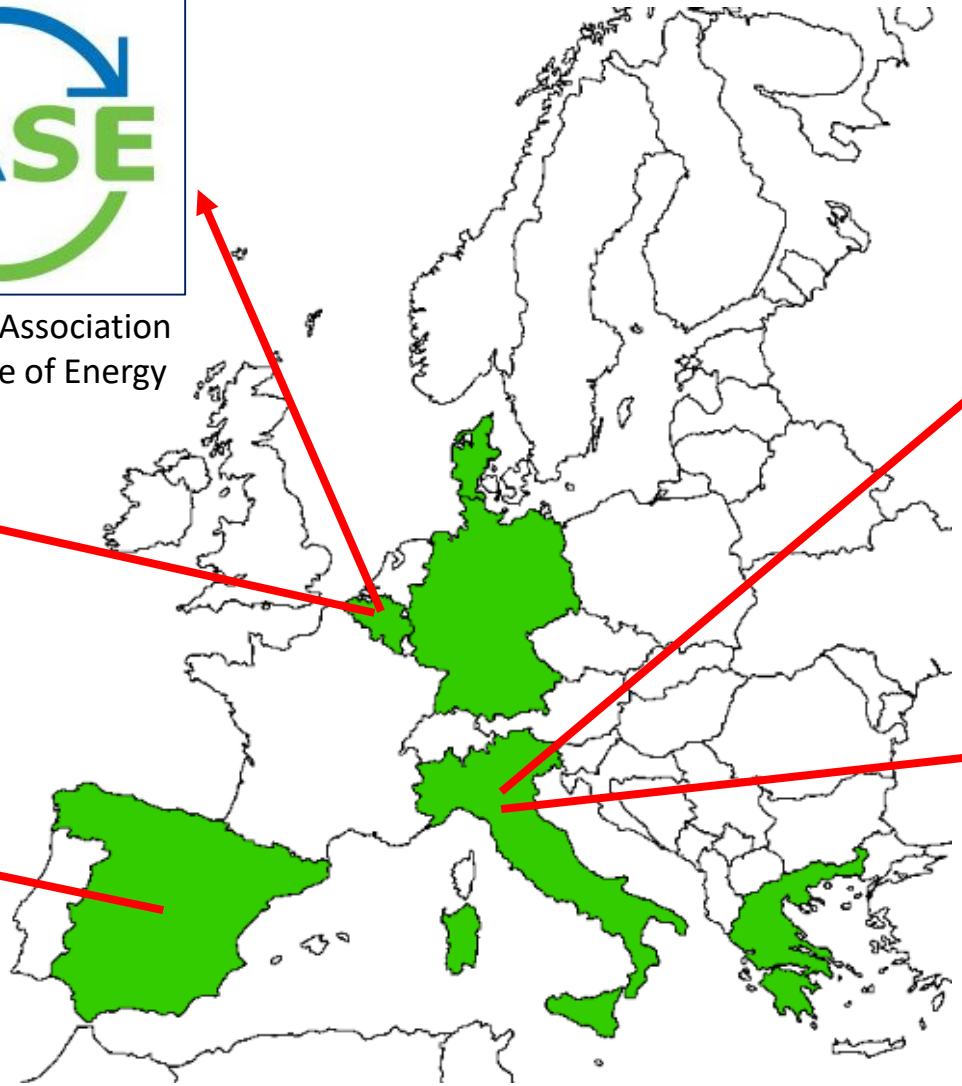
European Association for Storage of Energy

Ecopower cvba

Renewable energy cooperative

Atos

Digital services



Logical soft

Software house

è nostra L'ENERGIA BUONA

Renewable energy cooperative

I partner del progetto

AALBORG UNIVERSITET

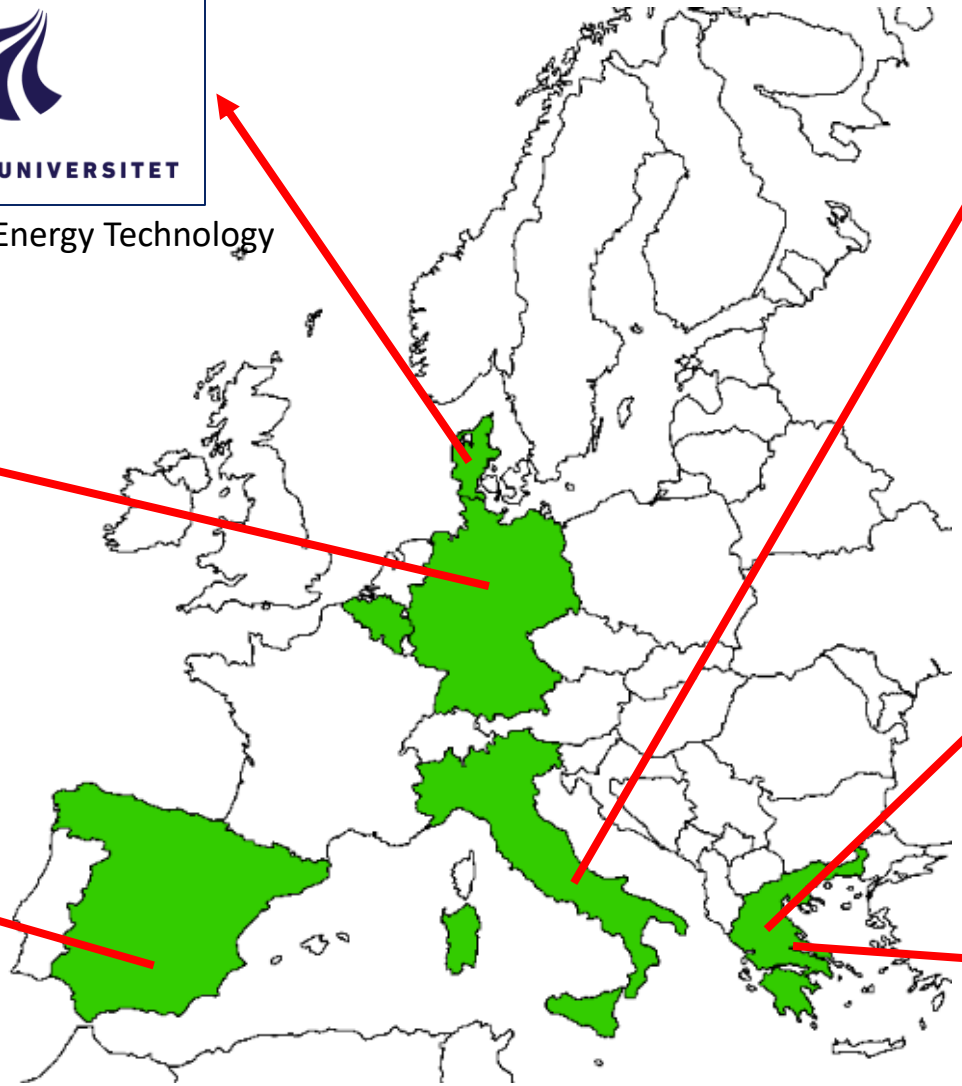
Department of Energy Technology

UNIVERSITÀ DEGLI STUDI DI NAPOLI FEDERICO II

Department of Social Sciences

RWTH AACHEN UNIVERSITY

Institute for Automation of Complex Power Systems (ACS) and Human Technology Centre



ΠΑΝΕΠΙΣΤΗΜΙΟ ΔΥΤΙΚΗΣ ΑΤΤΙΚΗΣ
UNIVERSITY OF WEST ATTICA

Department of Industrial and Production Engineering, department of Electrical and electronic engineering, the Department of Computer Engineering

UNIVERSITAT POLITÈCNICA DE VALÈNCIA

Institute for Energy Engineering

OTE ACADEMY

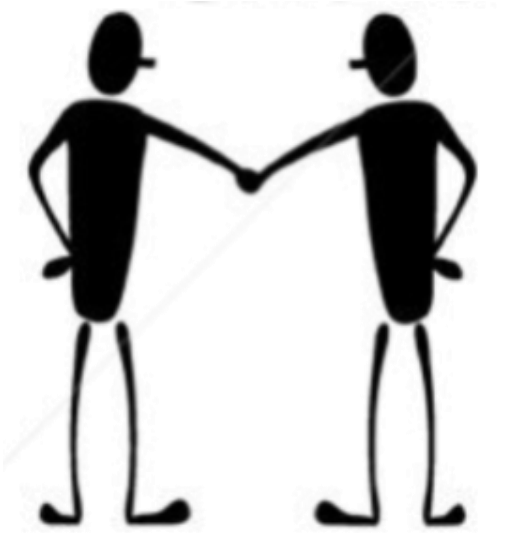
Professional training services

Lo scopo generale del progetto

Fornire gli strumenti per **creare** e **condividere** le conoscenze e le competenze necessarie per la transizione energetica.

Principali caratteristiche:

- **gratuito** e **aperto** a chiunque
- **multidisciplinare** e **olistico**
- **flessibile** e **modulare**
- basato su approccio **collaborativo**



Gli obiettivi specifici del progetto

Creare una **community** in cui coinvolgere i principali attori della transizione energetica

Definire un quadro concettuale per facilitare e accelerare la creazione di nuovi moduli di apprendimento e aggiornare i programmi attualmente disponibili

Sviluppare programmi innovativi per educare studenti, formatori, lavoratori e cittadini

Promuovere l'interdisciplinarietà nei servizi di ricerca, innovazione e istruzione

Rafforzare le collaborazioni tra università e imprese

Supportare i formatori

I Work Packages

WP1 - ASSET ecosystem and networking (ènostra)

WP2 - Energy transition skills identification (UWA)

WP3 - Energy transition programs preparation (RWTH)

WP4 - Programs delivering and piloting (AUU)

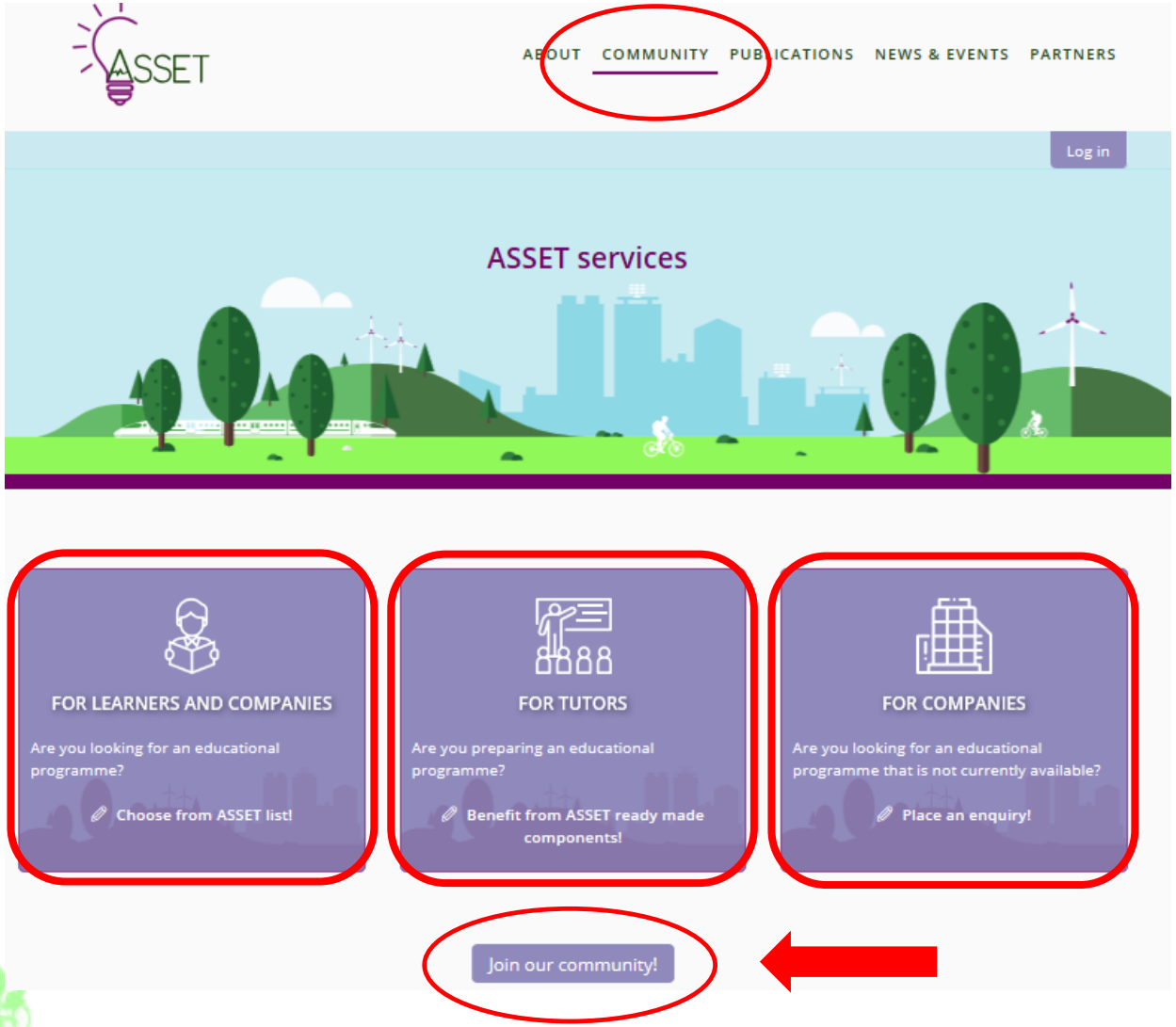
WP5 - Dissemination, communication and sustainability (Logical Soft)

WP6 - Project Management (ATOS)

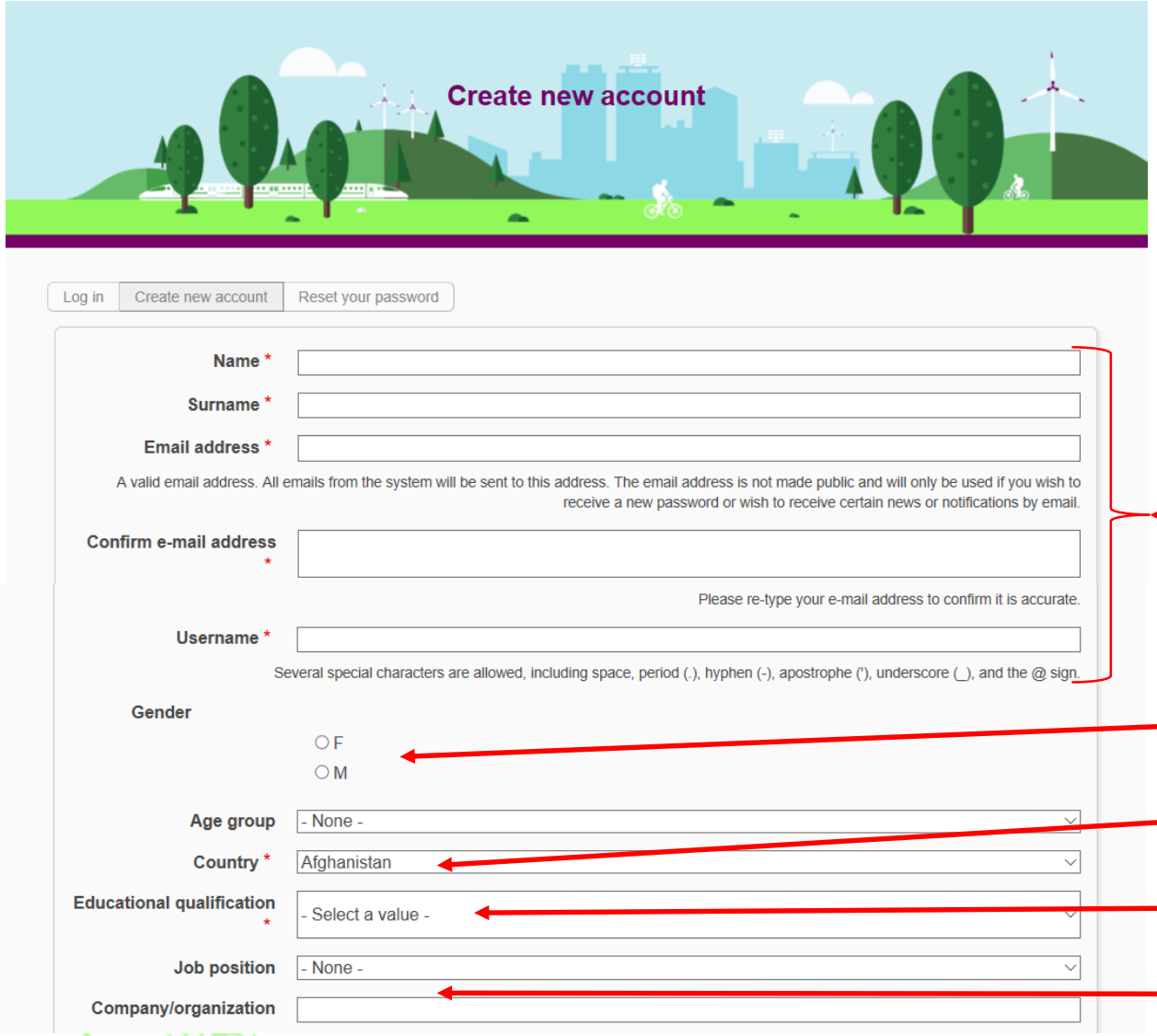
WP1: i Target Groups e le Key Words

UNIVERSITIES, RESEARCH CENTERS, TRAINING ACTORS	**COMPANIES FROM THE ENERGY SECTOR**	**POLICY MAKERS, AUTHORITIES, PUBLIC ADMINISTRATIONS, MARKET REGULATORS**
CHALLENGE	**COMPETITIVENESS**	**CHOICE**
SOCIETAL ACTORS (NGOs, *Consumers and Professional Associations, Trade Unions, Industrial Associations, Chambers of Commerce)*	**ENERGY CITIZENS** *(Renewable Energy Communities – REC, Rescoops, Rescoop federations, prosumers, individuals as potential energy citizens)*	**STUDENTS** *(University)* and **NEW EMPLOYEES**
ACTION	**CHANGE**	**UPSKILL**

WP1: ASSET Community



WP1: ASSET Community



Dati personali

Gender

Provenienza geografica

Titolo di studio

Occupazione

WP1: ASSET Community

Which are your specific fields of interest related to the energy transition process? *
(you can choose more than one):

- ☐ Renewable energy
- ☐ Economic aspects
- ☐ Energy storage
- ☐ Smart and flexible energy systems
- ☐ Energy efficiency
- ☐ Carbon capture, utilisation and storage (CCUS)
- ☐ Climate change
- ☐ Social aspects
- ☐ Energy communities
- ☐ Policy/Regulatory aspects
- ☐ Environmental aspects
- ☐ Sustainability aspects
- ☐ Other

Interessi specifici

In which group do you identify yourself? *
(you can choose more than one)

- ☐ Research & education
- ☐ Companies from the energy sector
- ☐ Policy bodies
- ☐ Societal actors
- ☐ Energy citizens
- ☐ Individuals
- ☐ Other

Tipologia di portatore di interesse

Do you want to receive the ASSET project Newsletter? *

○ Yes ○ No

Iscrizione alla newsletter

☐ **I accept the disclaimer and terms and conditions** *

Click here to read the disclaimer about privacy and data protection.

Click here to read Terms and Conditions.

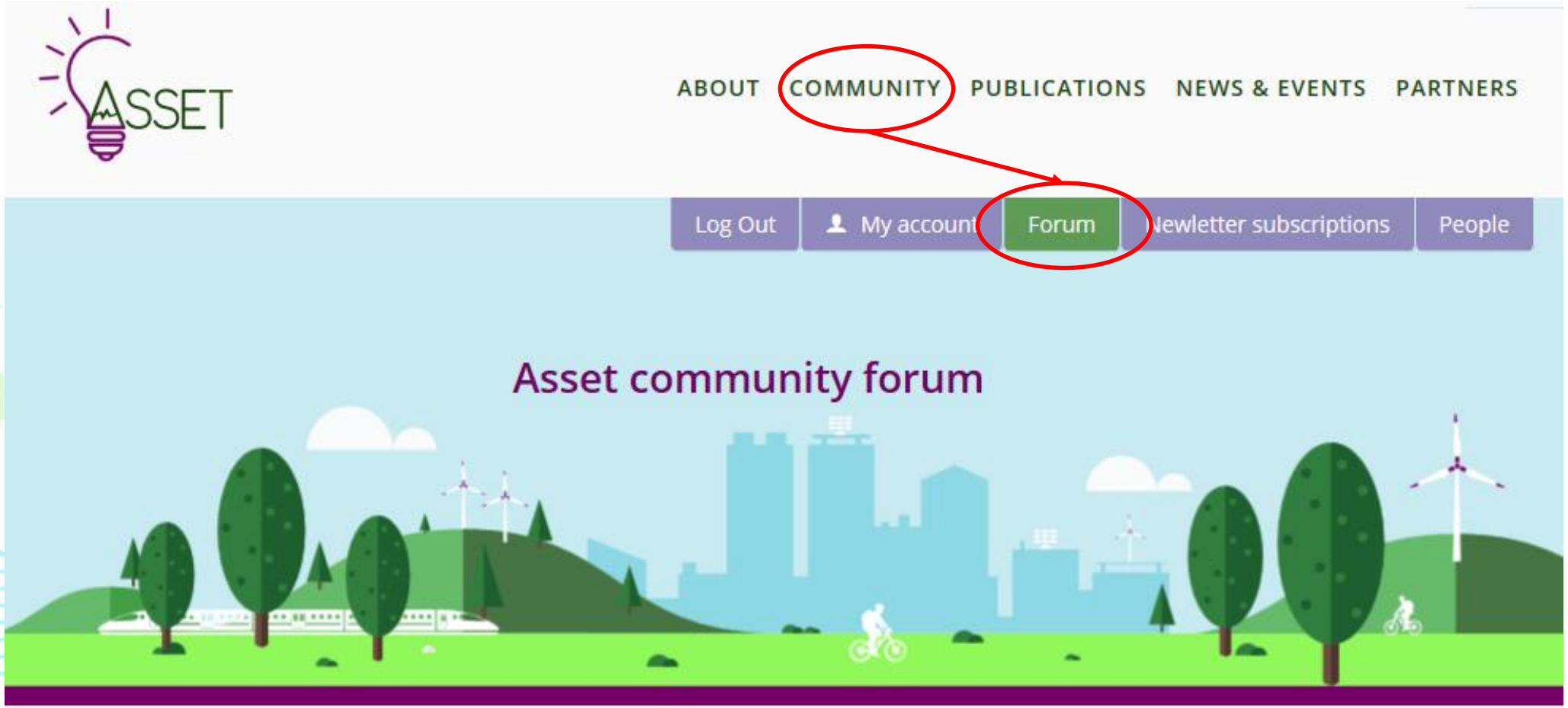
▾ Contact settings

☑ Personal contact form

Allow other users to contact you via a personal contact form which keeps your email address hidden. Note that some privileged users such as site administrators are still able to contact you even if you choose to disable this feature.

Create new account

WP1: ASSET Forum



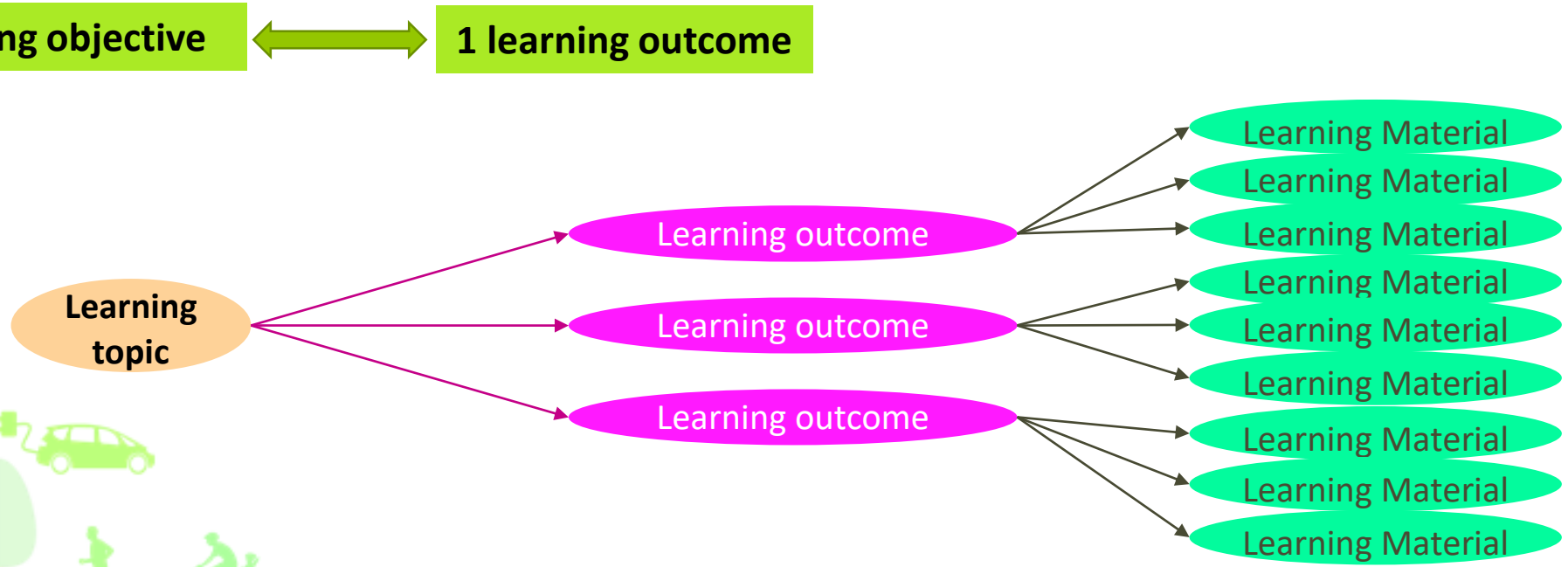
WP1: ASSET Forum

Scopo: commentare, fare domande, condividere informazioni

Topic	Replies	Last reply
ASSET for Energy Citizens: Communities, Prosumers and Cooperatives By mashood 2 weeks 5 days ago	0	n/a
ASSET for Societal Actors: Associations and Trade Unions By mashood 2 weeks 5 days ago	0	n/a
ASSET for Policy Makers, Authorities, Public Administrations and Regulators By mashood 2 weeks 5 days ago	0	n/a
ASSET for Energy Sector Companies By mashood 2 weeks 5 days ago	0	n/a
ASSET for Students (University) and New employees By mashood 2 weeks 5 days ago	0	n/a
ASSET for Universities, Research Centers and Training Actors By mashood 3 weeks ago	0	n/a
Welcome to ASSET Forum: An Introduction to our Community, Vision, and Objectives By mashood 3 weeks ago	0	n/a

WP2: skills identification and societal challenges

- **Societal challenges** → UNINA
- **Skills shortages, training and educational needs** → LOGICAL SOFT
- **Learning program models** (enables re-use of educational resources) → UWA



WP3: Energy Transition Programs Preparation

Produce the Learning Graphs

- Apply the learning graph model
- Ensure that the models are reusable and ready for integration

Produce the Learning Content

- University courses, seminars, and MOOCs, interdisciplinary courses and Case-based modules

Train the Trainers

- Produce the materials
- Deliver the training

WP3: Energy Transition Programs Preparation

Smart and Flexible Energy Systems
Multi-terminal DC grids
AC Microgrids
Power Quality in Microgrids
DC Microgrids
Challenges and solutions in Future Power Networks
Monitoring and distributed control for power systems
Implementation of automation functions for monitoring and control
Maritime Microgrids
Power Systems Dynamics
Case study on distribution grid operation
Optimization Strategies and Energy Management Systems

Energy Storage
Hydrogen as energy vector

Renewable Energy
New Materials for solar cells applications
Energy Integration of Renewable Sources to District Heating, Cooling and Power Systems
Energy and environment
Heat pump technology for smart production of heating and cooling using renewable sources (CBL Module)

SSH and other cross cutting themes:
Corporate and institutional communication and Social Responsibility
Innovation and Diversity in engineering/Scientific Integrity
Understanding Responsibility in research and Innovation
Green professionalization and ethics
Socio-technical analysis
Innovation processes in the energy sector
Energy Efficient and Ecological Design of Products and Equipment
Economics of energy sources and the optimal integration of renewable energies and energy conservation measures
Behavioural change as a powerful drive to minimize the energy consumption while providing the same level of energy service

WP3: Energy Transition Programs Preparation

Power Systems Dynamics

- to understand and apply the principles of power system dynamics
  - lecture slides: Trends in power system structure and services
  - lecture slides: Fundamentals on PSD: present and future
  - lecture slides: Stability problems and methods
  - lecture slides: Swing equations (analytical method)
  - lecture slides: Equal area criterion (graphic method)
  - exercise: Equal area criterion
  - lecture slides: Static stability problems
- to remember and exploit the fundamentals of the associated network components
  - lecture slides: Transmission lines model
  - lecture slides: Synchronous machine model
  - exercise: transmission line modeling
  - exercise: electromagnetic phenomena
- to classify the division of power system dynamics
  - Lecture slide: Classification of Power System Dynamics
- to understand and apply stability control
  - lecture slides: Steady-State Stability of Multi-Machine System
  - lecture slides: Voltage Stability
  - exercise: Voltage Stability
  - lecture slides: Frequency Stability
  - exercise: Frequency Stability

WP4: Programs Delivery and Piloting

- **EMMA Platform Customization**
  - Authoring a Course on EMMA
  - Navigating Emma
  - Platform Tracking and Analytics Facilities
  - Supporting Tools
  - Simplified Guide for EMMA
- **MOOC Data Collection**
  - MOOC Proposal
  - MOOC description
  - MOOC Syllabus
- **Webinar organization to MOOC Provider**
- **Planning of Courses and Programmes**
  - Course Identification
  - Mode Selection (Class based, MOOC, or Blended)
  - Content Simplification for MOOC Delivery

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Social Media Accounts:

https://www.facebook.com/AssetH2020Project

https://twitter.com/Project_Asset

www.linkedin.com/company/asset-project-h2020