Developing Chiang Mai into a Knowledge Centre for Green Hydrogen

Establishing a training centre for green modular hydrogen systems in cooperation with Enapter GmbH and the Energy Research and Development Institute of Nakornping (ERDI) at Chiang Mai University in Thailand.

Challenge

To ensure that the global energy transition succeeds and green modular hydrogen systems achieve a breakthrough in Southeast Asia, an increase in education and training capacities is required to communicate the latest findings and techniques.

Increasing this training capacity will create a local network of multipliers for the development of green modular hydrogen projects in Southeast Asia.

Solution

In order to stimulate the market for green hydrogen in Southeast Asia, the project in Chiang Mai will assist the establishment of a training centre for green modular hydrogen systems in Thailand. The support consists of developing training modules, training trainers and conducting training courses.

Modular hydrogen systems are sets of electrolysers, dryers, water and hydrogen tanks, etc. integrated into a cabinet or container. Due to the modular nature of the hardware, the systems serve a wide range of H_2 and PtX applications because they are customisable in size and capacity and allow flexible and straightforward deployment in different conditions. Therefore, the technology has benefits for decentralised use and allows operators to test the technology and gradually expand capacity.

The Chiang Mai Knowledge Hub will comprise a professional training centre with modern technology and a demonstration site, which is the only one of its kind in Thailand (the Enapter Phi Suea House).
Using a modular hydrogen system, including electrolysers and fuel cells, participants will learn commercial and technical aspects of project development.

The training courses are available and free of charge for all interested parties, especially project developers and system integrators from Thailand and Southeast Asia.

Services

As part of the PPP project period approximately 150 skilled workers will be trained. H2Uppp is primarily responsible for developing the training courses and educating the trainers. Enapter's contribution is primarily the provision of hardware for the training courses and technology-related training content.
ERDI contributes by providing premises and assuming responsibility for the delivery of training.

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Impact and outcome

The PPP will strengthen trust in green hydrogen, speed up decision-making and project implementation and ensure better quality projects by training system integrators, project developers and end users.

The outcome of the PPP project will be the training centre at Chiang Mai University and the certification of the hydrogen system at the demonstration site in Phi Suea House, as well as qualified trainers, training modules and hydrogen hardware.

It is expected that the demand for this type of training will increase over time, which is why continuing the training programme is of crucial importance for the success of the project.
Therefore, the ERDI has agreed to continue the project for at least two years after the end of the PPP.

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At a glance	
Duration	01/2023-12/2024
Country	Thailand
Objective	To stimulate the market for green H_2 in Southeast Asia, the project will establish a knowledge hub for green modular hydrogen systems in Chiang Mai.
Partner	Enapter GmbH; Energy Research and Development Institute of Nakornping (ERDI) at Chiang Mai University.
Anticipated outcome	During the two-year project period, a knowledge hub for green modular hydrogen systems will be established in Chiang Mai. The knowledge hub comprises a training centre and a demonstration site (the Phi Suea House) for green modular hydrogen systems. Within the project, training modules on the commercial and technical aspects of hydrogen are developed, trainers are trained, training hardware is provided and training courses are offered. The training courses are freely accessible and free of charge. They are intended to enable project developers and system integrators from Thailand and Southeast Asia in particular to develop and implement projects independently. The PPP activities will increase confidence in green hydrogen, speed up decision-making and project development, and improve the quality of hydrogen projects.

The International Hydrogen Ramp-up Programme (H2Uppp) of the German Federal Ministry for EconomicAffairs and Climate Action (BMWK) promotes projects and market development for green hydrogen in selected developing and emerging countries as part of the National Hydrogen Strategy.

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