

## Monitoring & Evaluation (M&E) Plan

Basic Information	
Title of response plan	Development of a national hydrogen strategy and action plan for accelerating Thailand's net-zero target
Technical assistance reference number	CTCN 22-013
Country/ countries	Thailand
NDE focal point and organisation	Dr. Surachai Sathitkunararat, The Office of National Higher Education Science Research and Innovation Policy Council (NXPO)
Sector(s) addressed	Renewable Energy
Technologies supported	Establishing national strategy
Implementation period and total duration	October 2022 ~ March
Total budget for implementation	USD 260,000
Designer of the response plan	National Institute of Green Technology (previously, Green Technology Center)
Implementer of response plan	National Institute of Green Technology (previously, Green Technology Center)

(A) Outputs and Activities as described in the Response Plan	(B) Indicator	(C) Expected results	(D) Method and frequency for data collection	(F) Comments
Output 1: Development of implementation planning and communication documents	<i>Number of deliverables produced during the assistance</i>	<i>5 deliverables</i>	<i>Document review</i>	
Activity 1	<i>Number of communication materials</i>	<i>1 response plan; 1 implementation plan; 1 monitoring and evaluation plan; 1 impact description; 1 closure and data collection report</i>	<i>Document review; Detailed work plan and budget; Monitoring and evaluation plan with given indicators; Developing and revising documents through feedback</i>	

Output 2: Assessment report on the potential use of hydrogen in three key economic sub-sectors in Thailand	<i>Number of deliverables produced during the assistance</i>	<i>1 deliverable</i>		
Activity 2.1: Hold a kick-off meeting for the presentation of technical assistance with the different stakeholders	<i>Number of events organized by proponents and implementing partners</i>  <i>Number of participants in events</i> <i>a) Number of men</i> <i>b) Number of women</i>	<i>1 kick-off meeting</i>  <i>10</i> <i>7</i> <i>3</i>	<i>Organizing a kick-off meeting; presenting relevant plans; collecting relevant information</i>  <i>Counting heads of the participants</i>	
Activity 2.2: Identify and select key economic sub-sectors with the potential use of hydrogen	NA	NA	<i>Collecting relevant data from NDE Thailand, e.g., review on energy consumption and CO<sub>2</sub> emission of economic sectors</i>	<i>Challenge: Defining the level of details of the economic sub-sectors</i>
Activity 2.3: Finalize and select three key economic sub-sectors	<i>Number of other information materials created</i>	<i>1 assessment report</i>	<i>Analysing and selecting the top three sub-sectors in relevant measurements; Requesting local experts in Thailand to review the outcomes</i>	<i>Challenge: Data availability; Selection of and contacting experts</i>
Output 3: Identify the suitable technological options to produce and transport hydrogen	<i>Number of deliverables produced during the assistance</i>	<i>3 deliverables</i>		
Activity 3.1: Identify resources for production of hydrogen	<i>Number of other information materials created</i>	<i>1 report on resources</i>	<i>Document review; Analysing and identifying the best option</i>	<i>Challenge: Data availability</i>

Activity 3.2: Identify technologies for production of hydrogen	<i>Number of other information materials created</i>	<i>1 report on technology options</i>	<i>Document review; Analysing and identifying the best option</i>	<i>Challenge: Data availability</i>
Activity 3.3: Undertake cost estimation for production of hydrogen	<i>Number of other information materials created</i>	<i>1 report on cost estimation</i>	<i>Document review; Estimating CAPEX and OPEX for given options, configurations, and scenarios</i>	<i>Challenge: Data availability</i>
Output 4: Draft documents related to the National Hydrogen Strategy Vision	<i>Number of deliverables produced during the assistance</i>  <i>Anticipated number of policies, strategies, plans, laws, agreements or regulations proposed as a result of the TA</i>	<i>2 deliverables</i>  <i>1 policy / strategy</i>		
Activity 4.1: Draft a national action plan and technology roadmaps	<i>Number of tools and technical documents developed</i>	<i>1 national action plan including technology roadmaps</i>	<i>Document review; Referring to relevant plans developed in other countries; Collaborating with the stakeholders of Thailand</i>	
Activity 4.2: Draft a GCF Concept Note	<i>Number of tools and technical documents developed</i>  <i>Anticipated amount of funding/investment leveraged as a result of TA</i>	<i>1 GCF Concept Note</i>  <i>USD XXX (TBD)</i>	<i>Collaborating with the stakeholders of Thailand</i>  <i>Estimating the amount of funding based on the assistance results and expected scenarios</i>	
Output 5: Provide Capacity Building for Policy Makers	<i>Number of deliverables produced during the assistance</i>	<i>1 deliverable</i>		

Activity 5.1: Hold a workshop for Policy makers including private sector engagement	<i>Number of training organized by proponents and implementing partners</i>	<i>1 workshop</i>	<i>Organizing a two-day workshop</i>
	<i>Number of participants in training</i>	<i>50</i>	<i>Counting heads of the participants</i>
	<i>a) Number of men</i>	<i>35</i>	
	<i>b) Number of women</i>	<i>15</i>	
	<i>Number of institutions trained</i>	<i>10</i>	<i>Counting institutions of the participants</i>
	<i>a) Governmental</i>	<i>2</i>	
	<i>b) Private sector</i>	<i>5</i>	
	<i>c) Nongovernmental</i>	<i>3</i>	
	<i>Percentage of participants reporting satisfaction with CTCN training</i>	<i>80%</i>	<i>Survey results indicating 4+ on a 5-pt scale</i>
	<i>Percentage of participants reporting increased knowledge, capacity, and/or understanding as a result of CTCN training</i>	<i>80%</i>	<i>Survey results indicating 4+ on a 5-pt scale</i>
<i>a) Percentage of men</i>	<i>80%</i>		
<i>b) Percentage of women</i>	<i>80%</i>		
<i>Number of other information materials created</i>	<i>1 workshop report</i>	<i>Report summarizing workshop</i>	
<i>Anticipated number of direct and indirect beneficiaries as a result of the TA</i>	<i>100+</i>	<i>Estimating the anticipated number of people who will benefit from the workshop</i>	
<i>Number of participants visiting</i>	<i>2</i>		

	<p><i>Korea to exchange, study, and observe lessons on hydrogen development</i></p>			
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