

# **Cleaner Energy Future Initiative for ASEAN (CEFIA)**

## **Collaboration Roadmaps**

**February 2023**

Note: The Collaboration Roadmap is a living document and will be continuously updated according to the progress of collaboration and AMS interest/ priorities/ suggestions.

Ver.1.2

## 1. Background

**The Cleaner Energy Future Initiative for ASEAN (CEFIA)** was launched at the 16th Association of Southeast Asian Nations (ASEAN)+3 Ministers on Energy Meeting (AMEM+3) in Bangkok in September 2019. The CEFIA is a platform which facilitates ASEAN to transition towards a decarbonised society. The transition will be achieved through introducing cleaner energy and decarbonising technologies and/or services, a.k.a. decarbonising solutions, new policies to accelerate the deployment of those technologies, and new financial frameworks to support the deployment. This CEFIA's goal has a significant synergy with the regional blueprint for the energy sector in ASEAN, called ASEAN Plan of Action for Energy Cooperation (APAEC). The APAEC is a series of guiding policy documents which aim to promote multilateral energy cooperation and facilitate deeper cooperation both within ASEAN and with other partners.

APAEC Phase II (APAEC II), implemented between 2021 and 2025, has seven programme areas, through which ASEAN energy cooperation will be advanced. Among them, three programme areas have a particular linkage with CEFIA, namely No. 4 Energy Efficiency and Conservation (EE&C), No. 5 Renewable Energy (RE), and 6. Regional Energy Policy and Planning.

Since the CEFIA and initiatives under APAEC II have common goals and themes, various CEFIA's activities will aim to align with the APAEC II. To facilitate such a collaboration, CEFIA collaboration roadmaps were proposed to be developed at the 2nd CEFIA Government-Private Forum in 2021.

## 2. Overview

CEFIA collaboration roadmaps will serve as a platform to facilitate three collaborations, i.e. collaborations between the private and public sectors, between CEFIA and APAEC II, and between finance, policy frameworks, and decarbonising solutions.

Three main activity pillars of CEFIA, namely CEFIA Flagship Projects (FPs), CEFIA Visualisation and CEFIA Finance, together will enable those collaborations. The following describes each activity pillar of CEFIA.

### 2.1 CEFIA Flagship Projects (FPs)

CEFIA will formulate and implement a series of projects which accelerate the adoption and wider deployment of selected decarbonising solutions. Those projects will be called CEFIA Flagship Projects (FPs) and one FP will be set up for each selected decarbonising solution. An FP will act as a hub, where stakeholders, including public, private, academic

and financial organisations, come together to implement the decarbonising solution, share experiences and knowledge, accumulate lessons-learned, and create solutions to overcome challenges for wider deployment of the decarbonising solution.

One collaboration roadmap will be created for each FP. All the current CEFIA FP collaboration roadmaps are described in the next section.

## 2.2 CEFIA Visualisation

CEFIA aims to realise the transition of ASEAN towards a decarbonised society. While the deployment of decarbonising solutions is the main driver for the transition, it is also vital to quantify and increase the visibility of the greenhouse gas (GHG) emission reductions that CEFIA's activities will have made. This would promote further emission reductions and help attract more climate finance for wider deployment of decarbonising solutions in the region. "CEFIA Visualisation" is therefore defined as a set of actions of both quantifying and increasing the visibility of CEFIA's contributions to GHG emission reductions. There will be one dedicated collaboration roadmap for CEFIA Visualisation, which is available in the next section.

## 2.3 CEFIA Finance

CEFIA will create an enabling business environment in ASEAN where finance is mobilised to accelerate the wider deployment of decarbonising solutions. This will be achieved through leveraging financial investment from both local and international financial institutions (FIs) in ASEAN. CEFIA Finance is a set of cross-cutting activities which support local FIs in the ASEAN region to develop capacities, appropriate policies and institutional frameworks, which allow them to identify and invest in decarbonising solutions projects to finance decarbonising projects. CEFIA therefore will act as a platform for FIs and project developers to strengthen their decarbonising solution project pipelines.

## 2.4 Five common action areas through different collaboration roadmaps

CEFIA collaboration roadmaps will have all or some of the five action areas described below. Each collaboration roadmap will be developed by a project implementer, who is often a decarbonising solution owner, stating detailed activities planned under each action area.

- A. Information sharing:** In this action area, CEFIA will conduct awareness raising, and share best practices, experiences and/or lessons-learned on a decarbonising

solution. This may be done through an in-person/online seminar or contents uploaded on the CEFIA Digital Platform (<https://www.cefia-dp.go.jp/>). Through conducting information sharing, CEFIA will endeavour to establish a network of public, private and academic sectors.

- B. Capacity building:** In this action area, local talents will be trained and developed into experts on a decarbonising solution or processes of deploying such a solution. Capacity building trainings will be designed in such way so that a new capacity and knowledge built the local talents will be disseminated further widely within ASEAN.
- C. Pilot projects/ support on project formulation:** In this action area CEFIA will demonstrate how well a decarbonising solution will work in a given ASEAN country and in different environments. Lessons will be learned and taken forward to develop a larger scale project and/or to be conducted in another country.
- D. Support on introduction of policy, framework, and finance:** New policies and frameworks will make solutions more widespread. In this action area, new policies, financial frameworks or any supporting frameworks will be created or improved, and introduced to help widespread decarbonising solutions.
- E. Evaluation:** Through this action area, GHG emission reduction made through introduction of a decarbonising solution will be evaluated.

### 3. Collaboration roadmaps for the three CEFIA pillars

Multiple collaboration roadmaps will be developed to detail activities for the three pillars of CEFIA, namely 1. CEFIA FPs, 2. CEFIA Visualisation, and 3. CEFIA Finance. For CEFIA Visualisation and CEFIA Finance, one collaboration roadmap will be developed for each of them. For CEFIA Flagship Projects, one collaboration roadmap will be developed for each of decarbonisation solutions which will be introduced as CEFIA FPs.

#### 3.1 Collaboration roadmaps for CEFIA FPs

The main objective of CEFIA FPs is to formulate and implement a series of projects which accelerate the adoption and wide deployment of decarbonising solutions.

One collaboration roadmap will be created per FP, and each collaboration roadmap will have different outcomes and actions.

As of December 2022, there are four CEFIA FPs, namely RENKEI, Zero Energy Building (ZEB), SteelEcosol, and Microgrid. CEFIA plans to introduce further decarbonising technologies as CEFIA FPs, taking into account results of the consultation meetings with the sub-sector networks (SSN) of EE&C and RE held in August and November 2022

respectively.

The below are brief explanations of the four technologies promoted under CEFIA FPs.

**RENKEI** : “RENKEI” is a control system to reduce energy consumption in power plants and entire business sites through IoT sensors. It is an advanced control technology that pursues cooperative energy efficiency optimisation, with two or more elements interacting with one another to provide the most efficient and effective power use. The key objective of RENKEI FP in CEFIA is to promote the wide deployment of the REKEI in utility plants and manufacturing plants.

**ZEB**: Zero Energy Building, in short ZEB, is a building where the net energy consumption is significantly reduced by combining energy saving and renewable energy technologies, and its final goal to achieve net zero energy consumption within the building. The ZEB can be achieved through step-by-step approach of energy efficient measures and low carbon technology in buildings. The key objective of ZEB FP in CEFIA is to accelerate the decarbonisation in the building sector in ASEAN by promoting the ZEB.

**SteelEcosol**: SteelEcosol aims to promote energy savings in the iron & steel manufacturing process by (1) conducting energy-saving diagnoses at iron & steel plants, (2) holding seminars/webinars on energy savings of the iron & steel industry, and (3) providing lists of energy efficient technologies for the iron & steel industry.

**Microgrid** aims to promote development of microgrid system combining various renewable sources, such as wind and solar power, as well as energy storage functions.

CEFIA FPs will contribute to achieving outcome-based strategies (OBS) of the APAEC II, particularly in the programme areas No4. Energy Efficiency and Conservation and No5. Renewable Energy. Collaboration roadmaps show linkage between CEFIA FPs activities and APAEC II OBS.

### **3.2 Collaboration roadmap for CEFIA Visualisation**

The main objective of CEFIA Visualisation is to quantify and increase the visibility of GHG emission reductions that CEFIA's activities have made in an easy-to-understand and transparent manner. This will be achieved through four action areas, including A. information sharing, B. capacity building, C. pilot study/ support on project formulation, and D. support on introduction of policy, frameworks and finance. Each action area has an outcome and a collection of activities, which will be detailed in the collaboration roadmap below.

CEFIA Visualisation will contribute to achieving OBS of Programme Area No.6 Regional Energy Policy and Planning, in particular OBS 4 “effectively manage the implementation of the APAEC” and OBS 6 “promote information sharing on the energy-climate nexus”. A collaboration roadmap will show a linkage between CEFIA Visualisation activities and APAEC II OBS.

### **3.3 Collaboration roadmap for CEFIA Finance**

The main objective of CEFIA Finance is to create an enabling business environment where finance is mobilised to accelerate the wide deployment of decarbonising solutions in the ASEAN region. This will be achieved through four action areas, including A. information sharing, B. capacity building, C. pilot study/ support on project formulation, and D. support on introduction of policy, frameworks and finance. Each action area has an outcome and a collection of activities, which will be detailed in the collaboration roadmap below.

CEFIA Finance will contribute to achieving OBS of Programme Area No.4. Energy Efficiency and Conservation, No.5 Renewable Energy and No.6. Regional Energy Policy and Planning. Alignment between CEFIA Finance and APAEC II is shown in the collaboration roadmap.

#### **4. Summary**

In summary, CEFIA is an initiative which facilitates ASEAN to transition towards a decarbonised society. The transition will be achieved through introducing cleaner energy and decarbonising technologies, a.k.a. decarbonising solutions, new policies to accelerate the deployment of those technologies, and new financial frameworks to support the deployment. Multiple collaboration roadmaps will be developed to detail actions for the three pillars of CEFIA, namely 1. CEFIA FPs, 2. CEFIA Visualisation, and 3. CEFIA Finance. Through conducting five different actions defined in collaboration roadmaps, CEFIA will contribute to achieving ASEAN's energy objectives defined in APAEC II. Further collaboration roadmaps will be developed as new decarbonising solutions are added as new CEFIA FPs.

## ANNEX 1.1 Collaboration roadmap for RENKEI FP

Overall target of the RENKEI FP collaboration roadmap:		Best practice and lessons learned are consolidated in a database, and a success story of RENKEI is disseminated widely					
Relevant programme area(s) of APAEC II		Programme Area No. 4 – Energy Efficiency and Conservation					
Action areas	Outcomes	Activities	Relevant APAEC II PA <sup>1</sup> , OBS <sup>2</sup> , and AP <sup>3</sup>	Implementation plan of activities:			
				2022	2023	2024	2025 H1
A. Info sharing	<b>Outcome 1.</b>  Network of private, public and academic sectors is established	<b>A1.1</b> Identify relevant organisations/ personnel in academic, public, and private sectors	<b>PA4, OBS2, AP2.1</b> Organise business forum and match making activities for EE&C projects  <b>PA4, OBS2, AP2.3</b> Establish at least two partnership schemes for EE&C with clusters, incubation centres, FIs and the private sector				
		<b>A1.2</b> Hold a forum to discuss current challenges/ expectation etc. related to RENKEI					
		<b>A1.3</b> Establish a partnership of private, public and academic sectors					
B. Capacity building	<b>Outcome 2.</b>  Engineers and experts are trained to operate RENKEI	<b>A2.1</b> Hold awareness raising seminars on RENKEI including introduction to a feasibility study, and development of training materials	<b>PA4, OBS5, AP5.1</b> Conduct capacity building and info sharing on EE&C best practices in industry				
		<b>A2.2</b> Conduct training programmes targeted on experts/ engineers from 10 AMS					

<sup>1</sup> Programme area (PA)

<sup>2</sup> Object based strategies (OBS)

<sup>3</sup> Action plan (AP)



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<b>C.</b> Pilot study/ Support on project formulation	<b>Outcome 3.</b>  Feasibility study and pilot project conducted with local companies and academic institutes	<b>A3.1</b> Develop a summary of best practices of RENKEI in existing industries and recommendations on how to implement RENKEI in ASEAN				
		<b>A3.2</b> Identify a partner to conduct a feasibility study (FS)				
		<b>A3.3</b> Conduct a FS and assess results				
		<b>A3.4</b> Develop a plan for conducting a pilot project and identify partners				
		<b>A3.5</b> Conduct a pilot project				
		<b>A3.6</b> Conduct assessment & analysis on the results and consolidate lessons-learned and success factors				
		<b>A3.7</b> Hold a forum to promote results of a pilot project and FS				
<b>D.</b> Support on introduction of policy, frameworks and finance	<b>Outcome 4.</b>  A recommendation for new policy/framework made to adopt RENKEI in a country/ region	<b>A4.1</b> Research on current policy/frameworks	<b>PA4, OBS2, AP2.5</b> Conduct information sharing on innovative EE financing mechanisms			
		<b>A4.2</b> Introduce an existing Japanese policy/framework related to energy management as an example, and how effective it has been				
		<b>A4.3</b> Develop a report summarising recommendations for new policy/framework to be adopted in ASEAN for wider dissemination of RENKEI				
	<b>Outcome 5.</b>  Tools/guidelines to assess effectiveness of an RENKEI is introduced	<b>A5.1</b> Develop a draft guideline to assess effectiveness of RENKEI based on previous experiences, incorporating local differences into a draft				
		<b>A5.2</b> Finalise and introduce the guidelines				
<b>E.</b> Evaluation	<b>Outcome 6.</b>  Contribution of RENKEI to EE&C is assessed	<b>A6.1.</b> Assess effectiveness of a pilot project for its EE&C ability using the guideline developed through Outcome 5				

## ANNEX 1.2 Collaboration roadmap for Zero Energy Building (ZEB) FP

Overall target of the ZEB FP collaboration roadmap		An enabling environment for ZEB is created where a knowledge hub, ZEB specialists, a supporting policy, and evaluation tools are available					
Relevant programme area(s) of APAEC II		Programme Area No. 4 – Energy Efficiency and Conservation					
Action areas	Outcomes	Activities	Relevant APAEC II PA, OBS, and AP	Implementation plan of activities:			
				2022	2023	2024	2025 H1
A. Info sharing	<b>Outcome 1.</b>  Best practices and applicable technologies of ZEB are consolidated and made available on the ZEB knowledge hub as part of CEFIA Digital Platform	<b>A1.1</b> Develop ZEB knowledge hub, including analysing, consolidating best practices and summarising them on the CEFIA Digital Platform	<b>PA4, OBS3, AP3.2</b> Conduct information sharing on sustainable EE in buildings initiatives				
		<b>A1.2</b> Develop a ZEB guidebook for financiers, building owners etc. to be shared on the CEFIA Digital Platform					
		<b>A1.3</b> Create a ZEB database for AMS					
B. Capacity building	<b>Outcome 2.</b>  ZEB specialists are trained and available to deliver a transition towards ZEB in new and existing buildings.	<b>A2.1</b> Conduct regional level workshop and country specific workshops. (Topics: ZEB's step-by-step approach based on ISO/TS23764 and best practices)  *ISO/TS 23764: Methodology for achieving non-residential ZEBs					
		<b>A2.2</b> Training programme: Conduct country specific and regional level workshops (Topics: technologies and products for achieving ZEB)					
		<b>A2.3</b> Develop an educational programme for ZEB specialists for the ASEAN region (professional level)					
C. Pilot study/	<b>Outcome 3.</b>	<b>A3.1</b> Conduct a study on financial models, including ESCO and reviewing	<b>PA4, OBS2, AP2.3</b> Establish at least two (2) partnership				

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support on project formulation	Commercial viability of both business and financial models, including the role of ESCOs in ZEB, is confirmed through a feasibility study, ZEB projects are formulated.	challenges of ESCO, to understand a flow of finance and how to make it profitable	schemes for EE&C with clusters, incubation centres, financial institutions, and the private sector				
		<b>A3.2</b> Develop an idea note for feasibility study					
		<b>A3.3</b> Conduct a feasibility study on business models of public and/or private buildings					
		<b>A3.4</b> Support preparation of ZEB projects					
D. Support on introduction of policy, frameworks and finance	<b>Outcome 4.</b>  Potential market demand for ZEB in new and existing buildings and urban development is increased	<b>A4.1</b> Review ZEB related policy measure for new and existing buildings	<b>PA4, OBS3, AP3.2</b> Conduct information sharing on sustainable EE in buildings initiatives				
		<b>A4.2</b> Identify policy options for reducing risks for finance and operation					
		<b>A4.3</b> Integrate ZEB concept into an urban planning policy for low carbon development					
E. Evaluation	<b>Outcome 5.</b>  ZEB's potential market size and potential GHG emission reduction from ZEB is evaluated.	<b>A5.1</b> Review evaluation tools for ZEB's GHG emission reduction ability					
		<b>A5.2</b> Conduct research to understand a potential market size of ZEB in ASEAN including its potential emission reductions from new buildings					
		<b>A5.3</b> Conduct research to understand a potential market size of ZEB in ASEAN including its potential emission reductions from existing buildings					
		<b>A5.4</b> Quantify GHG emission reduction from ZEB, and share the evaluation method					

## ANNEX 1.3 Collaboration roadmap for SteelEcosol (iron & steel) FP

Overall target of the SteelEcosol FP collaboration roadmap		Promoting introduction of EE&C technologies and providing support for operational improvements to the iron & steel industry of ASEAN to reduce energy consumption and GHG emission in ASEAN					
Relevant programme area(s) of APAEC II		Programme Area No. 4 – Energy Efficiency and Conservation					
Action areas	Outcomes	Activities	Relevant APAEC II PA, OBS, and AP	Implementation plan of activities:			
				2022	2023	2024	2025 H1
A. Info sharing	<b>Outcome 1.</b> The Technology Customised List (TCL) tailored to ASEAN, which summarises EE&C and environmental protection technologies for the iron & steel industry, is created	<b>A1.1</b> Conduct research on current status of the iron & steel industry in each ASEAN country, particularly their typical equipment configuration.	<b>PA4, OBS5, AP 5.1</b> Conduct capacity building and information sharing on EE&C best practices in industry				
		<b>A1.2</b> Develop a list of available technologies and Japanese suppliers, also known as technology customised list (TCL) through conducting research on Japanese suppliers with technologies which can provide EE&C benefits to the iron & steel industry in ASEAN (In the TCL, the effect of technology introduction is also listed for each country considering each country's energy cost, CO2 emission factor, etc.)					
		<b>A1.3</b> Publish the TCL on the CEFIA Digital Platform					
	<b>Outcome 2.</b> The latest Japanese trends of iron & steel related to EE&C /	<b>A2.1</b> Consult with Southeast Asia Iron and Steel Institute (SEAISI) on seminars/	<b>PA4, OBS5, AP 5.1</b> Conduct capacity building and information sharing on EE&C best practices				

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	CN policies and technologies is disseminated in ASEAN	webinars with a focus on public-private partnership	in industry				
		<b>A2.2</b> Prepare for seminars/webinars, including agenda, speakers, venue, and advertisement					
		<b>A2.3</b> Hold seminars/webinars on the latest Japanese trends of iron & steel related EE&C / CN policies and technologies with questionnaire to understand participants' interests, current & future policies and technologies					
		<b>A2.4</b> Conduct a follow-up on individual participants' interests to see potential collaboration opportunities via emails					
D. Support on introduction of policy, frameworks and finance	<b>Outcome 3.</b> Policy recommendations are developed to promote wider deployment of best practices of EE&C in the iron & steel industry (e.g. BAT introduction / operational improvements)	<b>A3.1</b> Understand the latest iron & steel related EE&C / CN policies and technologies in ASEAN from A2.3	<b>PA4, OBS5, AP 5.2</b> Promote energy management in industry to increase competitiveness and reduce energy consumption				
		<b>A3.2</b> Identify entry points in related policies/ financial mechanisms of ASEAN, where there is an opportunity to introduce best practices of EE&C					
		<b>A3.3</b> Discuss how best practices can be integrated in the current and future iron & steel related EE&C / CN policies with stakeholders					
		<b>A3.4</b> Develop policy recommendations to accelerate introduction of best practices in the iron & steel					

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		industry					
C. Pilot Projects/ support on project formulation	<b>Outcome 4.</b> Proposal and/or introduction of energy efficient technologies and/or operational improvements for a selected plant is created	<b>A4.1</b> Select a plant from a list of iron & steel plants in ASEAN which wish to be diagnosed through studying and dialogues					
		<b>A4.2</b> Conduct an approx. 4-day assessment and advisory package, which includes assessment of current operation and energy consumption, selection of appropriate technologies for EE&C improvement, and advisory on operational change to improve EE&C					
		<b>A4.3</b> Follow up those plants on how energy consumption and GHG emission have been reduced					
E. Evaluation	<b>Outcome 5.</b> Potential of energy consumption reduction/ GHG emission reduction is evaluated	<b>A5.1</b> Disseminate the ISO 14404 series through seminars/webinars/diagnosis of iron & steel plants, which defines the method for calculating energy consumption/GHG emission in iron & steel plants. Also, conduct activities to promote understanding of PWI 13055 (Guidelines for promoting comprehensive energy efficiency and conservation measures in iron & steel plants), which is newly proposed to ISO. (To be implemented as part of					

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		capacity building as well)					
		<b>A5.2</b> Organise methods for calculating reductions in energy consumption/GHG emission for an individual case by utilising standards mentioned in A5.1, and conduct evaluation of reduced energy consumption/GHG emission to be made through introduction of new energy efficient technologies/operational improvement					
		<b>A5.3</b> Finalise and publicise the results of A5.2					

## ANNEX 1.4 Collaboration roadmap for Microgrid FP

Overall target of the Microgrid FP collaboration roadmap:		Enabling environment for autonomous microgrids established in ASEAN countries					
Relevant programme area(s) of APAEC II		Programme Area No. 5 - Renewable Energy					
Action areas	Outcomes	Activities	Relevant APAEC II PA, OBS, and AP	Implementation plan of activities:			
				2022	2023	2024	2025 H1
<b>D.</b> Support on introduction of policy, frameworks and finance	<b>Outcome 1.</b> Financial mechanism introduced to accelerate installation of autonomous microgrid including renewable power generation	<b>A1.1</b> Consult with relevant stakeholders on potential financial mechanism options including “MG dissemination model” to explore available support	<b>PA5, OBS4, AP 4.1</b> Establish a nodal network with at least one national/ regional/ international financial institutions for RE financing				
		<b>A1.2</b> Identify/design a financial mechanism that is suited to the autonomous microgrid in key areas	<b>PA5, OBS4, AP 4.2</b> Develop RE support mechanism to promote bankable projects				
		<b>A1.3</b> Introduce the identified financial mechanism to operate the autonomous microgrid					
<b>C.</b> Pilot Projects/ support on project formulation	<b>Outcome 2.</b> Preparation for introducing autonomous microgrids optimal sites in ASEAN and operated to provide energy	<b>A2.1</b> Select key sites to establish autonomous microgrids based on the previous studies					
		<b>A2.2</b> Study business feasibility including environmental impact assessment, as well as installation schedule and plan					
<b>B.</b> Capacity building	<b>Outcome 3.</b> Local stakeholders (policy makers, engineers, etc.) are trained and equipped with know-how of renewable power	<b>A3.1</b> Identify local stakeholders to collaborate with through research and meetings	<b>PA5, OBS6, AP6.2</b> Conduct thematic capacity building and training annually				
		<b>A3.2</b> Hold workshops to share knowledge with policy makers and engineers of the autonomous	<b>PA5, OBS6, AP6.1</b> Enhance ACE capacity as the ASEAN RE				



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	generation systems, and microgrids	microgrids system with renewable power generation.	information and training centre				
E. Evaluation	<b>Outcome 4.</b> Effectiveness of autonomous microgrids in reducing GHG emissions evaluated	<b>A4.1</b> Identify data required to determine baseline energy consumption in key sites	<b>PA5, OBS6, AP6.3</b> Monitor the development and utilisation of Renewable Energy in the ASEAN region				
		<b>A4.2</b> Evaluate how much GHG emissions can be reduced by introduction of the autonomous microgrid					
		<b>A4.3</b> Create a guideline for GHG reduction evaluation for future operation					

### ANNEX 1.5 Collaboration roadmap for CEFIA Visualisation

Overall target of the Visualisation collaboration roadmap		Positive impacts of a decarbonising solution is widely known and the concept to calculate them is widely disseminated					
Relevant programme area(s) of APAEC II		Programme Area No. 6 – Regional Energy Policy and Planning					
Action areas	Outcomes	Activities	Relevant APAEC II PA, OBS, and AP	Implementation plan of activities:			
				2022	2023	2024	2025 H1
C. Pilot study/ Support on project formulation	<b>Outcome 1.</b> Basic concept of visualisation for CEFIA activities is outlined	<b>A1.1</b> Draft a basic concept of visualisation					
		<b>A1.2</b> Circulate a draft basic concept of visualisation with key member states and exchange comments					
		<b>A1.3</b> Share understanding of the basic concept of visualisation with the wider public					

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		<b>A1.4</b> Finalise and outline the basic concept of visualisation in a document					
	<b>Outcome 2.</b>  Potential GHG reduction from an FP pilot project are quantified in an easy-to-understand manner	<b>A2.1</b> Coordinate with FP stakeholders, including the decarbonising solution owners and users, to decide the scope of “impacts” to be calculated.					
		<b>A2.2</b> Obtain data from an FP and calculate “impacts” using the draft basic concept of A1.2					
		<b>A2.3</b> Feedback any challenges to A1.3					
		<b>A2.4</b> Finalise impacts calculation using the basic concept from A1.4					
A. Info sharing	<b>Outcome 3.</b>  Knowledge and best practices on quantification of solution impacts are disseminated	<b>A3.1</b> Identify industries and stakeholders who might be using the basic concept of visualisation previously developed (A1.1)	<b>PA6, OBS6, AP6.3</b> Organise regional seminars on ASEAN Low-Carbon Transition  <b>PA6, OBS6, AP6.1</b> Share information and best practices on energy-climate nexus, including through policy dialogues				
		<b>A3.2</b> Conduct research on and summarise how the basic concept can be replicated and disseminated for wider use					
		<b>A3.3</b> Hold a forum to share and discuss the developed concept, its best practices, tips, etc.					
B. Capacity building	<b>Outcome 4.</b>  Stakeholders are equipped with knowledge/ skills on decarbonisation technologies and quantification of their impacts	<b>A4.1</b> Identify specific countries/organisations/industrial sectors who might be interested to develop the impact quantification capacity among their employees/students					
		<b>A4.2</b> Create a training material					
		<b>A4.3</b> Conduct capacity building trainings offline/online					

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		<b>A4.4</b> Check the participants understanding through discussion					
<b>D. Support on introduction of policy, frameworks and finance</b>	<b>Outcome 5.</b> Regulations, incentives and financial frameworks to promote impact visualisation are introduced	<b>A5.1</b> Conduct research on current policy/ frameworks	<b>PA6, OBS6, AP6.1</b> Share information and best practices on energy-climate nexus, including through policy dialogues				
		<b>A5.2</b> Develop a policy recommendation regarding a new framework for wider dissemination of a developed concept, incorporating the results of A5.1					
	<b>Outcome 6.</b> Guidelines to use appropriate quantification tools are established	<b>A6.1</b> Develop draft guidelines to help understand how impact calculation links to existing/newly developed policies/ frameworks					
		<b>A6.2</b> Gain and incorporate stakeholders feedback on draft guidelines					
		<b>A6.3</b> Finalise and introduce the guidelines					

## ANNEX 1.6 Collaboration roadmap for CEFIA Finance

Overall target of the Finance collaboration roadmap:		An enabling environment is created where finance is mobilised to accelerate the deployment of cleaner energy and decarbonising solutions, and the financing mechanism is widely known within AMS					
Relevant programme area(s) of APAEC II		Programme Area No. 4 – Energy Efficiency and Conservation Programme Area No. 5 – Renewable Energy Programme Area No. 6 – Regional Energy Policy and Planning					
Action areas	Outcomes	Activities	Relevant APAEC II PA, OBS, and AP	Implementation plan of activities:			
				2022	2023	2024	2025 H1
A. Info sharing	<b>Outcome 1.</b>  An information sharing platform is established for local FIs in ASEAN to share knowledge and good practices for bankable projects	A1.1 Conduct research on potential financial mechanism options under CEFIA activities	<b>PA5, OBS4, AP4.1</b> Establish a nodal network with at least one (1) national / regional / international financial institutions for RE financing  <b>PA6, OBS5, AP5.2</b> Conduct a workshop on evaluating financial sustainability to enable bankability of power projects				
		A1.2 Hold a forum and/or workshop for knowledge sharing of financial mechanisms					
		A1.3 Disseminate the results and summary of the discussions of A1.2 on the CEFIA Digital Platform					
B. Capacity building	<b>Outcome 2.</b>  Capacity of local FIs is enhanced to assess bankability of RE and EE&C projects	A2.1 Conduct a baseline survey on the local FIs to understand their needs	<b>PA6, OBS5, AP5.2</b> Conduct a workshop on evaluating financial sustainability to enable bankability of power projects  <b>PA4, OBS2, AP2.5</b> Conduct information sharing on innovative EE financing mechanisms				
		A2.2 Create contents for the capacity building trainings based on A 1.1 and A 2.1					
		A2.3 Conduct a capacity building training for local FIs with a partner organisation as required for financing RE and EE&C projects, followed by a simple					

		understanding checking					
<b>C.</b> Pilot study/ Support on project formulation	<b>Outcome 3.</b>  A new financing mechanism design is confirmed for its viability	<b>A3.1</b> Identify potential options of financing mechanisms for FPs building on findings from A1.1					
		<b>A3.2/4.2</b> Conduct a pre-feasibility study of the proposed mechanism through discussions with potential partners (national/regional/international FIs, etc.).					
		<b>A3.3/4.3</b> Conduct and summarise the results of a pilot study to validate the proposed mechanism.					
<b>D.</b> Support on introduction of policy, frameworks and finance	<b>Outcome 4.</b>  A new financing mechanism is established and promoted to accelerate financing bankable decarbonising solution projects, including RE and EE&C.	<b>A4.1</b> Conduct research on financing mechanisms based on the needs identified from A1.1, A3.1.	<b>PA4, OBS2, AP2.3</b> Establish at least two partnership schemes for EE&C with clusters, incubation centres, FIs and the private sector  <b>PA5, OBS4, AP4.2</b> Develop RE support mechanism to promote bankable projects				
		<b>A4.2/A3.2</b> Same activity as A3.2					
		<b>A4.3/3.3</b> Same activity as A3.3					
		<b>A4.4</b> Based on the results of the pilot study, finalise the mechanism and agree on its operation with partner organisations.					
		<b>A4.5</b> Launch the new financing mechanism and ask for applications					
	<b>Outcome 5.</b>  Needs and recommendation are identified for policy improvement/ changes to accelerate introduction of a	<b>A5.1</b> Identify needs for a supporting regulation/ incentive framework for the financing mechanism from A1.1, A2.1 and A3.2/A4.2					
		<b>A5.2</b> Develop a report summarising needs and					

	newly established financing mechanism	recommendation for policy improvement/changes to accelerate introduction of a newly established financing mechanism					
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