APASTI Work Plan of Sustainable Energy Research (SCSER) 2016-2025

Thrust 1: Strengthen strategic collaboration among academia, research institutions, networks of centres of excellence, and the private sector to create an effective ecosystem for capability development, technology transfer and commercialization

No.	Expected Outputs	Specific activities/projects	Indicators	Implementing / cooperating bodies	Timelines									
					16	17	18	19	20	21	22	23	24	25
				Action 1.1 Intensify the engagement of academe, private sector and relevant partners in the planning, implementation and assessment of joint undertakings in human resource development, and research and development										
1.	Reports on the state of development (technology readiness) on the following: a. New and renewable/alternative energy such as biomass/biofuels, solar and energy storage systems; b. Clean energy and environment technology such as clean coal technology, nuclear technology and natural gas; and c. Energy efficient technologies such as cogeneration and energy management systems; d. Energy technology applications/solutions for remote areas	Undertake situation analysis on the state of development and technology readiness of AMSs in agreed priority areas Conduct regular consultations with the relevant experts	• The situation analysis is comprehensive and is well reviewed by experts • The reports published on time • The number of experts participating in consultations • The number of consultations conducted	SCSER ASEAN Centre for Energy (ACE) RE-SSN/SOME Dialogue Partners Academe Private sectors	x	x				x				
2.	New methodologies for improving energy efficiency	Joint R&D collaboration on renewable energy and energy efficiency including but not limited to: a. Research collaboration on biogas utilisation from palm oil b. Research collaboration on smart micro grid in remote areas	• Number of joint R&D collaboration implemented • Number of training workshops, conferences conducted • The number of new methodolo	SCSER Relevant COST Sub-Committees Centre of Excellence (COEs) in AMS Dialogue Partners Academe Private sectors	x	x	x	x	x	x	x	x	x	x

No.	Expected Outputs	Specific activities/projects	Indicators	Implementing / cooperating bodies									
			gies developed and implemented • The number of research centres join in the research collaboration • Number of papers published in AJSTD and/or referred journal • Number of IP submissions/granted											
3.	ASEAN Network for Nuclear Power Plant Research established	Conduct stock-taking activities to determine the readiness of AMSs Plan and implement collaborative activities related to nuclear energy research	• Number of Collaborative activities implemented • Reports on collaborative projects completed on time	SCSER ASEAN Centre for Energy (ACE) IAEA ASEAN NEC-SSN ASEANTOM Asian Nuclear Safety Network (ANSN) Dialogue Partners	x	x	x	x	x	x	x	x	x	X
4.	Recommendation on mechanism to facilitate / accelerate cross border technology transfer on sustainable / renewable energy	Organise workshop on sustainable / renewable energy with the view to addressing critical barriers in facilitating cross-border technology transfer in ASEAN as well as in the Asia Pacific region.	• Number of recommendations proposed • Number of recommendations adopted and implemented • Number of workshops conducted	SCSER Relevant COST Sub-Committees ASEAN Centre for Energy (ACE) Dialogue Partners Academe Private sectors	x	x	x	x	x	x	x	x	x	X

Action 1.2: Enhance and sustain the utilisation of the ASEAN Science and Technology Network (ASTNET) and strengthen other S&T networks to facilitate information sharing													
No.	**Expected Outputs**	**Specific activities/projects**	**Indicators**	**Implementing / cooperating bodies**	**Timelines**									
					16	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**

No.	Expected Outputs	Specific activities/projects	Indicators	Implementing / cooperating bodies	16	17	18	19	20	21	22	23	24	25
5.	Database of: a. Experts related on energy b. Renewable energy research c. Energy testing facilities and laboratories	Collecting, grouping, providing and validating data	• The database set up on time • Number of accessibility from AMSs	SCSER Relevant COST Sub-Committees ASEAN Centre for Energy (ACE) Dialogue Partners Academe Private sectors Other relevant institutions / organisations	x	(grouping/database structure)								
		Establish system for the maintenance and administration for the databases.	• The system for maintenance and administration for the databases established		x	x	x	x	x	x	x	x	x	X
6.	Platform in ASTNET for technology transfer and commercialisation	Modify and enhance the features of ASTNET to allow the establishment of the platform for technology transfer and commercialisation.	• The platform for technology transfer and commercialisation in ASTNET established • Number of visitors who accessed the platform	ASEAN Secretariat SCSER All COST Sub-Committees ASEAN Centre for Energy (ACE) Dialogue Partners Academe Private sectors Other relevant institutions / organisations		x								

Action 1.3: Establish policy frameworks including including IPR protection, risk and benefit sharing mechanisms for joint collaboration and technology transfer among centres of excellence

No.	Expected Outputs	Specific activities/projects	Indicators	Implementing / cooperating bodies	16	17	18	19	20	21	22	23	24	25
7.	Mechanism on IPR protection and sharing	Under the purview of SCIRD	• Refer to SCIRD Work Plan	Refer to SCIRD Work Plan	x	x	x	x	x	x	x	x	x	X

Action 1.4: Strengthen existing regional STI initiatives in priority areas including Sustainable Development Goals.

No.	Expected Outputs	Specific activities/projects	Indicators	Implementing / cooperating bodies	16	17	18	19	20	21	22	23	24	25
8.	Note: identified outputs and activities are consistent and supportive the SDGs	Identify STI initiatives/activities that support the SDGs	• Number of STI initiatives identified and implemented to support SDGs	All COST Sub-Committees	x	x	x	x	x	x	x	x	x	X

Thrust 2: Enhance mobility of scientists and researchers, people-to-people connectivity and strengthen engagement of women and youth in STI

Action 2.2: Establish scholarship, fellowship and/or attachment programs for students, researchers and other STI personnel;

No.	Expected Outputs	Specific activities/projects	Indicators	Implementing / cooperating bodies	Timelines									
					16	17	18	19	20	21	22	23	24	25
9.	Exchange Programme / Scholarship / Fellowship / Attachment programmes related to sustainable, renewable energy and energy efficiency established	• Data collection from universities/research institutions on the Exchange / Attachment Programmes / Scholarship / Fellowship • Develop the mechanism in setting up the Exchange / Attachment Programmes / Scholarship / Fellowship among AMSs • Disseminate the information on the Exchange / Attachment Programmes / Scholarship / Fellowship related to renewable energy and energy efficiency	• Number of the Exchange / Attachment Programmes / Scholarship / Fellowship established • Number of fellows/scholars accepted to the programme • Response of the participants from survey conducted	SCSER Relevant COST Sub-Committees ASEAN Centre for Energy (ACE) Dialogue Partners Academe Private sectors Other relevant institutions / organisations	x	X								
							x	x						
		• Conduct training programme on renewable energy • Disseminate materials from the training programmes to relevant stakeholders	• Number of training programme implemented • Materials from the training programme disseminated on time • Response of the participants from survey conducted				x	x	x	x	x	x	x	X
							x	x	x	x	x	x	x	X

Action 2.4: Expand opportunities for women, youth and the disadvantaged group to contribute in STI through incentives and support mechanisms.

No.	Expected Outputs	Specific activities/projects	Indicators	Implementing / cooperating bodies	Timelines									
					16	17	18	19	20	21	22	23	24	25
10.	Awards for Innovation in Renewable Energy and Energy Efficiency particularly for women, youth and the disadvantage group	Define the rules of procedures for granting of the awards Seek partnership with private sector, Dialogue and other partners	• The rules of procedure (ROP) for the granting the awards developed • The partnership with DPs and private sectors identified • Number of applications received	SCSER Relevant COST Sub-Committees ASEAN Centre for Energy (ACE) Dialogue Partners Academe Private sectors Other relevant institutions / organisations		x		x		x		x		x

Thrust 3: Establish innovative system and smart partnership with dialogue and other partners to nurture STI enterprises to support MSMEs, nurture knowledge creation and STI applications to raise competitiveness

Action 3.1: Establish support mechanism such as mentorship and incentive program to support and nurture STI enterprises from start-up to the next competitive level of development

No.	Expected Outputs	Specific activities/projects	Indicators	Implementing / cooperating bodies	Timelines									
					16	17	18	19	20	21	22	23	24	25
11.	Support and incentive mechanisms on sustainable energy for MSMEs, start-up companies	Undertake needs assessment of MSMEs and other stakeholders in the area of sustainable energy	• Needs assessment of MSMEs and other stakeholders implemented on time	SCSER Relevant COST Sub-Committees Dialogue Partners Academe, private sectors, MSMEs and other relevant institutions/ organisations	x	x	X							
		Study existing mechanisms and best practices	• Study on existing mechanisms implemented on time		x	x	x							
		Engage dialogue and other partners in identifying appropriate support and incentive mechanisms to promote new enterprise and support MSMEs	• Number of dialogue and other partners participated • Appropriate support and incentive mechanisms to promote programme identified			x	x	x	x	x	x	x	x
		Encourage/invite MSMEs to participate in ASEAN Science and Technology Week (ASTW) and other technology fairs	• Number of invitation disseminated • Number of MSMEs participating in ASTW			x	x	x	x	x	x	x	x

Action 3.2: Engage dialogue and other strategic partners in joint undertakings on appropriate and commercially viable STI initiatives

No.	Expected Outputs	Specific activities/projects	Indicators	Implementing / cooperating bodies	Timelines									
					16	17	18	19	20	21	22	23	24	25
12.	Sustainable energy technology adopted and commercialised	Identify technology needs for sustainable energy improvement in MSMEs	• Technology needs of MSMEs for sustainable energy identified	SCSER Relevant COST Sub-Committees Dialogue Partners Academe, private sectors, MSMEs and other relevant		x	x							
		Leverage the existing cooperation with Dialogue Partners	• Number of Dialogue Partners participating in the demonstrati			x	x	x						

Expected Outputs	Specific activities/projects	Indicators	Implementing / cooperating bodies	16	17	18	19	20	21	22	23	24	25
		on platform	institutions/ organisations										
	Organise Seminar/Workshop/Conference with the experts from Dialogue Partners	• Number of Seminar / Workshop / Conference conducted		x	x	x	x	x	x	x	x	x	x
	Commercialise the sustainable energy STI initiative	• Number of pilot / demonstration plants • Number of appropriate technologies commercialised					x	x	x	x	x	x	x

Thrust 4: Raise public awareness and strengthen STI enculturation to enhance ASEAN science and technology cooperation

No.	Expected Outputs	Specific activities/projects	Indicators	Implementing / cooperating bodies	Timelines									
					16	17	18	19	20	21	22	23	24	25
13.	Information materials to raise awareness of ASEAN STI initiatives particularly on the promotion and utilisation of sustainable energy	Participate in ASTW and other relevant technology fairs Note: • *SCSER recommends to change the frequency of conducting ASTW from once every three years to once every two years* • *Raise the visibility of ASTW events*	• Number of scientists, researchers and industries participated in ASTW and other technology fairs • Number of papers produced • Number of exhibition booths • Number of conferences organised	SCSER Relevant COST Sub-Committees Dialogue Partners Academe, private sectors, MSMEs and other relevant institutions/ organisations	x	x		x	x		x	x		

No.	Expected Outputs	Specific activities/projects	Indicators	Implementing / cooperating bodies	Timelines									
					16	17	18	19	20	21	22	23	24	25

No.	Expected Outputs	Specific activities/projects	Indicators	Implementing / cooperating bodies									
14.	Note: Under the purview of AJSTD editor	Note: • Recommend the conduct of information campaign to raise the profile of the AJSTD • Facilitate the review process for submitted articles											

Action 4.3: Leverage on the ASTNET in publicizing ASEAN initiatives in STI

No.	Expected Outputs	Specific activities/projects	Indicators	Implementing / cooperating bodies	Timelines									
					1 6	1 7	1 8	1 9	2 0	2 1	2 2	2 3	2 4	2 5
15.	Initiatives and information materials (Posters / Proceedings / Research Paper) related to sustainable energy research published in ASTNET	Collect and publish the initiatives and information materials related to sustainable energy research	• Number of initiatives and information materials related to sustainable energy research published in ASTNET • Volume of data/information made available in ASTNET • Number visitors accessed	SCSER Relevant COST Sub-Committees Dialogue Partners Academe, private sectors, MSMEs and other relevant institutions/ organisations	x	x	x	x	x	x	x	x	x	x

Action 4.4: Develop a resource database and network to facilitate information sharing and technical cooperation among agencies in the public and private sector

No.	Expected Outputs	Specific activities/projects	Indicators	Implementing / cooperating bodies	Timelines									
					1 6	1 7	1 8	1 9	2 0	2 1	2 2	2 3	2 4	2 5
16.	Database of experts related to energy, Renewable energy research and energy testing facilities and laboratories are established in ASTNET	Collect and publish data on experts related to energy, renewable energy research and energy testing facilities and laboratories	• Number of data on experts related to energy, renewable energy research and energy testing facilities and laboratories published and linked to ASTNET	SCSER Relevant COST Sub-Committees Dialogue Partners Academe, private sectors, MSMEs and other relevant institutions/ organisations	x	x	x	x	x	x	x	x	x	x

No.	Expected Outputs	Specific activities/projects	Indicators	Implementing / cooperating bodies	Timelines									
					1 6	1 7	1 8	1 9	2 0	2 1	2 2	2 3	2 4	2 5
17.	Note: under the purview of SCIRD	Note: • SCSER to provide comments/suggestion to improve the STI communication/enculturation plan • SCSER Focal Points can take part in the development of STI communication/enculturation plan	• Refer to SCIRD Work Plan											

Action 4.5: Engage relevant stakeholders in developing and implementing an effective communication and STI enculturation plan

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