TCP Request for Extension
Working Party Feedback Form

CERT PROCEDURE FOR A TECHNOLOGY COLLABORATION PROGRAMME REQUEST FOR EXTENSION
SUPPORTING DOCUMENTATION
SUMMARY
INFORMATION TO BE PROVIDED BY THE TECHNOLOGY COLLABORATION PROGRAMME

Legal name of the TCP	Implementing Agreement for a Co-operative Programme on **Energy Efficient End-Use Equipment**		
TCP acronym	**4E TCP**	**Website**	https://www.iea-4e.org/
Submitted by (name of Chair)	Hans-Paul Siderius	**Funding mechanism**	Cost-shared
Date the TCP was created	March 2008		
Date of current term	01 March 2019 – 29 February 2024	**Term requested**	1 March 2024 – 28 February 2029

INFORMATION TO BE PROVIDED BY THE WORKING PARTY

Working Party:	**Working Party on Energy End-Use Technologies (EUWP)**

WP Ratings in relation to the RfE request

Criteria	End-of-Term report				Strategic Work Plan				Notes
	Meets (M) or Exceeds (E) expectations	Improvements suggested	Serious issue identified	N/A	Meets (M) or Exceeds (E) expectations	Improvements suggested	Serious issue identified	N/A	
Strategic Direction	X				X				
Scope	X				X				Check possible overlaps with HP TCPs
Technology RDD&D	X				X				Consider investigation on Critical Raw Materials for digitalisation
Environmental protection	X				X				
Outcomes, successes and best practice	X				X				
Policy relevance	X				X				
Membership	X				X				PECTA as an opportunity for new members
Synthesising and disseminating results	X				X				

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	Totals	8			8			

Comments relative to the Questionnaire

Quantitative Section	
Work programme	4 Platforms (previous Annexes) and several tasks, covering different research areas
Outputs	More scientific journal articles than past term and workshops. Relevant number of other outputs and contributions/peer reviews to IEA publications/secretariat activities.
Membership	Key members joined (EU, China and New Zealand)
Costs of collaboration	Cost-shared. Unchanged fee (20.000 dollars/year) judged very cost-effective from all members and avoiding R&I duplications and costs at national level. Effective administration requiring 10% of the budget.
Qualitative Section	
Achievements of Energy Efficiency Appliance and Equipment Standards and Labelling Programs	Overview of key achievements of Appliance and Equipment EES&L programmes across 80+ countries, mainly resulting in: - evidence of the effectiveness of long-time running and well-conceived programmes - evidenced lack of proper Evaluation resulted in a 4E Guidebook. Possible developments: **Opportunity for further SSH investigation (multiple benefits)**
Round Robin of Variable Speed Drives for Motors	Development of a uniform method of test for the round robin of VSD for Motors leading to the revision of International Electrotechnical Commission IEC 61800-9-2. Relevant result in amending international standards applied in EU, Switzerland and the UK.
The Total Energy Model	Original and first in its kind model that shows energy used by end-use devices, data networks and data centres and improves insight to users Possible developments: **Sufficiency implications (i.e. on entertainment)**
Power Electronic Conversion Technology Platform	Co-ordination of technical and policy issues to bring together the WBG community to develop a coherent international approach.
Electronic Devices and Networks (EDNA)	-
Interlaboratory Comparison	-
Other comments	None

FEEDBACK

The 4E has got a broad **scope** on innovation for energy efficiency including priority-setting, test methods, capacity building, and robust policy analysis to formulate technology policy recommendations and contributing to standardization.

4E has produced a relevant number of **outputs** in the last term.

Links between technology issues and **environmental** concern are also taken into account (i.e. LCA for SSL, environmental impact of Wide Band Gap Based Semiconductor Technology in Chargers for Electronic Devices, ..)

4E TCP performance is proved by **impacts** on policy making (definition, monitoring and evaluation) and standardisation at national, supranational (i.e. EU) and international level (ISO), as they were well explained in the RfE supporting documents.

Policy relevance is demonstrated from the continuous contribution to IEA analyses (and IEA medium-term strategy for ER&T), engagement with a range of intergovernmental organisations and growing membership (+3 key members in the last term).

Strategy:

The strategic plan takes into great consideration both the changing environment (digitalisation and flexibility, affordability, wide band gap, circularity, just transition) and Monitoring & Evaluation (M&E) as the *weak link* in the policy chain.

The 4E TCP commitment on appliances and equipment to be used as a demand flexible (DF) resource reflects a priority in the global clean energy transition.

The new roles for both the EDNA platform (on flexibility, see the proposed new name) and SSL (new proposed name *Smart Sustainability in Lighting and Controls*) are strongly appreciated in this context.

The cross-cutting topics look very pertinent too.

4E TCP reputation and ability to partner with IEA and international organisations guarantee dissemination impacts in the future.

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Recommendations:
- Initiate discussion or interaction with other TCPs (e.g. EBC, USERS, ISGAN, IETS) on digitalisation of the energy system
- Establish collaborations with USERS TCP on Demand-response, social expectation of services and behaviour-change, with HEV TCP on charging infrastructure and power electronics, and with the Equality TCP on diversity and inclusion.
- Future work for improving energy efficiency testing for heat pumps for space conditioning is to be evaluated after a proper discussion with HPT TCP (and EBC annex 88) about possible overlaps and coordination.

RECOMMENDATION

Based on the WP ratings and feedback, the Working Party on Energy End-Use Technologies recommends that the Committee on Energy Research and Technology (CERT) approve the request for extension of the Technology Collaboration Programme on **Energy Efficient End-Use Equipment (4E TCP)** for the period 1 March 2024 to 28 February 2029.