

PARTICIPATION IN IEA TECHNOLOGY COLLABORATION PROGRAMMES (TCPs)

29 August 2017

Noteworthy developments since 1 January 2017

An active period for the TCPs, with creation of one new TCP and closing of two others. Governmental entities (Contracting Parties) from Austria, Canada, Chile, China, Italy and Sweden joined TCPs focusing on technologies for end-use, renewable energy and hydrogen. New Sponsors joined TCPs focusing on fossil fuels, renewable energy and hydrogen. Details of participation are outlined below:

The new **Technology Collaboration Programme on Clean Energy Education and Empowerment (C3E TCP)**, was announced at the 8th Clean Energy Ministerial in Beijing and it was formally established on 12 June 2017.

Natural Resources Canada became a Contracting Party to the **C3E TCP** on 1 June 2017.

The **Swedish Ministry of the Environment and Energy** became a Contracting Party to the **C3E TCP** on 12 June 2017.

The **Italian National Agency for New Technologies, Energy and Sustainable Economic Development (ENEA)** became a Contracting Party to the **C3E TCP** on 7 July 2017

To reflect the evolving policy priorities of its members, the **TCP on Climate Technology Initiative (CTI TCP)** and the **TCP on Renewable Energy Technology Deployment (RETD TCP)** were closed as of June/July 2017.

The **National Centre for Innovation and Promotion of Sustainable Energy (CIFES)** became a Contracting Party to the **TCP on Photovoltaic Power Systems (PVPS TCP)** on 4 May 2017.

The **Society of Engineers of China (SEA-China)** became a Contracting Party to the **TCP on Advanced Fuel Cells (AFC TCP)** on 5 April 2017.

The **National Centre for Innovation and Promotion of Sustainable Energy (CIFES)** became a Contracting Party to the **TCP on Concentrating Solar Power (SolarPACES TCP)** on 30 March 2017.

The **New Energy and Industrial Technology Development Organisation (NEDO) of Japan** became a Contracting Party to the **TCP on Wind Energy Systems (Wind TCP)** on 24 March 2017.

The **National Traffic Safety and Environment Laboratory (NTSEL) of Japan** became a Contracting Party to the **TCP on Advanced Motor Fuels (AMF TCP)** on 26 January 2017.

The **Government of Austria** became a Contracting Party to the **TCP on District Heating and Cooling (DHC TCP)** on 1 January 2017

GE Oil & Gas Engineering of the United States became a Sponsor to the **TCP on Gas and Oil (GOTCP)** on 3 April 2017.

Southern Company Services, Inc. of the United States became a Sponsor to the **TCP on Greenhouse Gas R&D (GHG TCP)** on 1 August 2017

Centro Nacional del Hidrogeno (CNH2) of Spain became a Sponsor to the **TCP on Advanced Fuel Cells (AFC TCP)** on 10 August 2017.

J-Power of Japan became a Sponsor to the **TCP on Greenhouse Gas R&D (GHG TCP)** on 2 August 2017

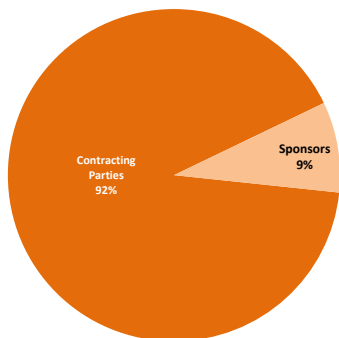
King Abdullah Petroleum Studies and Research Centre (KAPSARC) of Saudi Arabia became a Sponsor to the **TCP on Hybrid and Electric Vehicles (HEV TCP)** on 2 August 2017.

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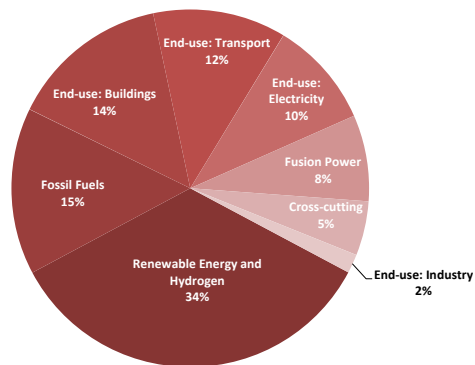
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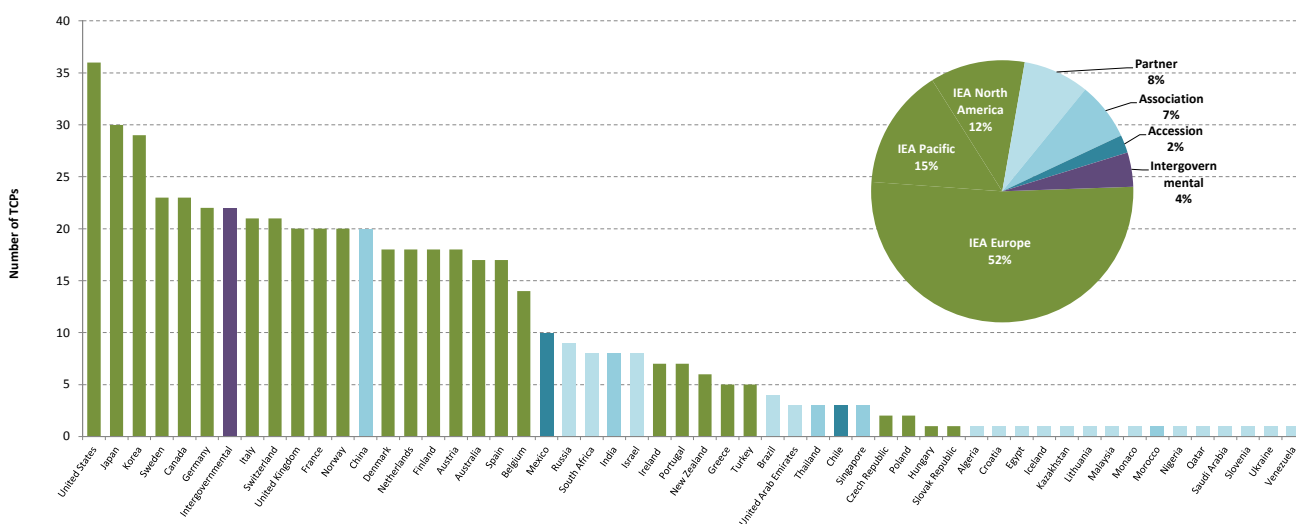
Participation by category



Participation by TCP grouping



Participation by country



Notes

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Participation of intergovernmental organisations, namely the European Commission (EC), the Economic Community of West African States (ECOWAS), ITER, and the Organisation for Petroleum Exporting Countries (OPEC), are reported under the category 'intergovernmental' rather than the country in which the organisation is located.

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	TCPs in which the country or entity participates	Distinct Entities	Participations in TCPs																Total participations in TCPs
			Cross-cutting		End-use efficiency								Fossil fuels		Fusion		Renew-ables and hydrogen		
					Buildings		Electricity		Industry		Transport								
<i>Entities from:</i>			CP	SP	CP	SP	CP	SP	CP	SP	CP	SP	CP	SP	CP	SP	CP	SP	
IEA COUNTRIES	n.a.	189	24	2	78	1	43	5	10		58	2	48	16	25		137	12	461
United States*	36	13	1	1	5		3	1	1		5		3	5	8		8	5	46
Japan	30	17	1		6		2				5		4	2	8		7		35
Korea	29	11	1		5		3		1		5		3	1	4		7		30
Sweden	23	4	2		6		3		1		4		2				6		24
Germany	22	13	1		4		3	1	1		5		1	2			8	2	28
Norway	22	7	1		4		2		1		1		3	1			9		22
Canada	22	7	1		5		2	1			3		3		3		5		23
Switzerland	21	5	1		3		3				4		2		1		7		21
Italy	21	9	2	1	3		3	1			3		2				8		23
France*	20	11	3		4		1				2		3	2			9		24
United Kingdom	20	11	1		6		2				3		3	2			6		23
Denmark	18	5	1		5		1		1		3		1				6		18
Netherlands	18	6	1		4		3		1		1		1	1			6	1	19
Finland	18	2	1		3		3				4	1	1				5		18
Austria*	18	10			4		2		1		3		3				5		18
Australia	17	12	1		2		1				1		4		1		6		16
Spain	16	8	1	1	2						2	1	3				6		17
Belgium*	14	12	2		3		2	1	1		2						5	4	20
Portugal	7	3			1				1				1				4		7
New Zealand	6	6			1		1										4		6
Greece	5	5	1										1				3		5
Turkey	5	4			1						1						3		5
Ireland	4	2	1		1		1				1						3		7
Czech Republic	2	2			1								1						2
Poland	2	2											2						2
Hungary	1	1											1						1
Slovak Republic	1	1															1		1
ACCESSION COUNTRIES	n.a.	6									1						2		3
Mexico	10	4									1						2		3
Chile	3	2																	
ASSOCIATION COUNTRY	n.a.	37			3		4				4		5	3	7		12	1	39
China	20	21																	
India	10	8			2		1				4		2	2	4		8	1	24
Thailand	3	3			1		1										1		3
Singapore	3	3															2		2
Morocco	1	2					2						3	1	3		1		10
PARTNER COUNTRIES	n.a.	31	2		2		3				3	1	4	3	5		19	2	44
Russia	9	6																1	1
South Africa	8	5										1							1
Brazil	4	2															1		1
United Arab Emirates	3	2					1						2	1			5		9
Algeria	1	1																	
Croatia	1	1												1			3		4
Egypt*	1	1															1		1
Iceland	1	1															1	1	2
Israel	1	3															1		1
Kazakhstan	1	1			1		1				3						3		8
Lithuania	1	1	1																1
Malaysia	1	1															1		1
Monaco	1	1															1		1
Nigeria	1	1															1		1
Qatar	1	1															1		1
Slovenia	1	1	1				1						2	1	4				9
Ukraine	1	1			1														1
Venezuela	1	1													1				1
IGOs	n.a.	22	1		1		1						4		9		9		25
EC	1	22	1		1		1						3		8		8		22
ECOWAS																	1		1
ITER															1				1
OPEC													1						1
TOTAL	n.a.	285	27	2	84	1	51	5	10		66	3	61	22	46		179	15	572

Participation represents the number of entities participating in each TCP. An entity may participate in more than one TCP.

*Participation of intergovernmental organisations located in this country is reported under the name of the organisation in the section IGOs.

Estonia and Luxembourg do not as yet participate in any TCPs.

Intergovernmental represents the European Commission (EC), the Economic Community of West African States (ECOWAS), ITER, and the Organisation for Petroleum Exporting Countries (OPEC).

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	Member			Accession			Association			Partner			IGO		TOTALS			
	CP	SP		CP	SP		CP	SP		CP	SP		CP	SP	CP	SP		
Cross-cutting	24	2	26	--	--	--	--	--	--	2	--	2	1	--	1	27	2	29
Clean Energy Education and Empowerment TC	3	--	3	--	--	--	--	--	--	--	--	--	--	--	--	3	--	3
Energy Technology Systems Analysis TCP	21	2	23	--	--	--	--	--	--	2	--	2	1	--	1	24	2	26
End-use: Buildings	78	1	79	--	--	--	3	--	3	2	--	2	1	--	1	84	1	85
Buildings and Communities TCP	24	--	24	--	--	--	2	--	2	1	--	1	--	--	--	27	--	27
District Heating and Cooling TCP	11	--	11	--	--	--	--	--	--	--	--	--	--	--	--	11	--	11
Energy Efficient End-use Equipment TCP	12	--	12	--	--	--	--	--	--	--	--	--	--	--	--	12	--	12
Energy Storage TCP	15	1	16	--	--	--	1	--	1	1	--	1	1	--	1	18	1	19
Heat Pumping Technologies TCP	16	--	16	--	--	--	--	--	--	--	--	--	--	--	--	16	--	16
End-use: Electricity	43	5	48	1	--	1	4	--	4	3	--	3	1	--	1	52	5	57
Demand-Side Management TCP	13	3	16	--	--	--	1	--	1	--	--	--	--	--	--	14	3	17
High-Temperature Superconductivity TCP	12	2	14	--	--	--	--	--	--	1	--	1	--	--	--	13	2	15
Smart Grids TCP	18	--	18	1	--	1	3	--	3	2	--	2	1	--	1	25	--	25
End-use: Industry	10	--	10	--	--	--	--	--	--	--	--	--	--	--	--	10	--	10
Industrial Technologies and Systems TCP	10	--	10	--	--	--	--	--	--	--	--	--	--	--	--	10	--	10
End-use: Transport	58	2	60	2	--	2	5	--	5	3	1	4	--	--	--	68	3	71
Advanced Fuel Cells TCP	10	2	12	1	--	1	1	--	1	1	--	1	--	--	--	13	2	15
Advanced Materials for Transportation TCP	7	--	7	--	--	--	2	--	2	1	--	1	--	--	--	10	--	10
Advanced Motor Fuels TCP	13	--	13	1	--	1	2	--	2	1	--	1	--	--	--	17	--	17
Clean and Efficient Combustion TCP	11	--	11	--	--	--	--	--	--	--	--	--	--	--	--	11	--	11
Hybrid and Electric Vehicles TCP	17	--	17	--	--	--	--	--	--	--	1	1	--	--	--	17	1	18
Fossil Fuels	48	16	64	1	1	2	5	4	9	5	5	10	4	--	4	63	26	89
Clean Coal Centre TCP	6	--	6	--	--	--	--	4	4	1	3	4	1	--	1	8	7	15
Enhanced Oil Recovery TCP	10	--	10	1	--	1	1	--	1	2	--	2	--	--	--	14	--	14
Fluidised Bed Conversion TCP	15	1	16	--	--	--	1	--	1	1	--	1	--	--	--	17	1	18
Gas and Oil TCP	5	--	5	--	--	--	--	--	--	--	--	--	1	--	1	6	--	6
Gas and Oil TCP	--	1	1	--	--	--	--	--	--	--	--	--	--	--	--	--	1	1
Greenhouse Gas R&D TCP	12	14	26	--	1	1	3	--	3	1	2	3	2	--	2	18	17	35
Fusion Power	25	--	25	--	--	--	7	--	7	5	--	5	9	--	9	18	17	35
Env., Safety, Economic Aspects of Fusion TCP	4	--	4	--	--	--	1	--	1	1	--	1	1	--	1	46	--	46
Fusion Materials TCP	5	--	5	--	--	--	2	--	2	1	--	1	1	--	1	7	--	7
Nuclear Technology Fusion Reactors TCP	4	--	4	--	--	--	2	--	2	1	--	1	1	--	1	9	--	9
Plasma Wall Interaction TCP	2	--	2	--	--	--	--	--	--	--	--	--	1	--	1	8	--	8
Reversed Field Pinches TCP	2	--	2	--	--	--	--	--	--	--	--	--	1	--	1	3	--	3
Spherical Tori TCP	2	--	2	--	--	--	--	--	--	--	--	--	1	--	1	3	--	3
Stellarator-Heliotron Concept TCP	3	--	3	--	--	--	--	--	--	2	--	2	1	--	1	3	--	3
Tokamak Programmes TCP	3	--	3	--	--	--	2	--	2	--	--	--	2	--	2	6	--	6
Renewable Energy and Hydrogen	138	12	150	8	--	8	13	1	14	20	2	22	9	--	9	7	--	7
Bioenergy TCP	19	--	19	--	--	--	--	--	--	3	--	3	1	--	1	188	15	203
Concentrated Solar Power TCP	10	--	10	2	--	2	3	--	3	6	--	6	1	--	1	23	--	23
Geothermal Energy TCP	11	1	12	1	--	1	--	--	--	1	--	1	1	--	1	22	--	22
Hydrogen TCP	19	4	23	--	--	--	3	--	3	2	--	2	1	--	1	14	1	15
Hydropower TCP	6	--	6	--	--	--	1	--	1	1	--	1	--	--	--	25	4	29
Ocean Energy Systems TCP	17	--	17	1	--	1	3	--	3	3	--	3	1	--	1	8	--	8
Photovoltaic Power Systems TCP	19	4	23	2	--	2	2	--	2	3	--	3	1	--	1	25	--	25
Solar Heating and Cooling TCP	17	2	19	1	--	1	1	--	1	1	2	3	2	--	2	27	4	31
Wind Energy Systems TCP	20	1	21	1	--	1	--	1	1	--	--	--	1	--	1	22	4	26
Grand Total	424	38	462	12	1	13	37	5	42	40	8	48	25	--	25	538	52	590

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