

PARTICIPATION IN IEA TECHNOLOGY COLLABORATION PROGRAMMES (TCPs)

23 January 2018

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 Australia, Austria, Brazil, Canada, Chile, China, Colombia, France, Italy, Japan and Sweden joined TCPs focusing on technologies for end-use, fusion, renewable energy and hydrogen. New Sponsors joined TCPs focusing on fossil fuels, renewable energy and hydrogen. Details of participation are outlined below:

Natural Resources Canada became a Contracting Party to the **TCP on Gas and Oil (GOTCP)** on 17 January 2018.

The Ministry of Economic Affairs and Employment of Finland became a Contracting Party to the **TCP on Clean Energy Education and Empowerment (C3E TCP)** on 22 December 2017.

The Australian Nuclear Science and Technology Organisation (ANSTO) became a Contracting Party to the **TCP on Plasma Wall Interaction (PWI TCP)** on 7 November 2017.

FINEP of Brazil became a Contracting Party to the **TCP on Gas and Oil (GOTCP)** on 24 October 2017.

ECOPETROL of Colombia became a Contracting Party to the **TCP on Enhanced Oil Recover (EOR TCP)** on 10 October 2017. This is a first-time participation by Colombia in a Technology Collaboration Programme.

CEREMA of France became a Contracting Party to the **TCP on District Heating and Cooling (DHC TCP)** on 3 October 2017.

VTT Technical Research Centre of Finland became a Contracting Party to the **TCP on Buildings and Communities (EBC TCP)** on 25 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.

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

The new **Technology Collaboration Programme on Clean Energy Education and Empowerment (C3E TCP)**, was **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.

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

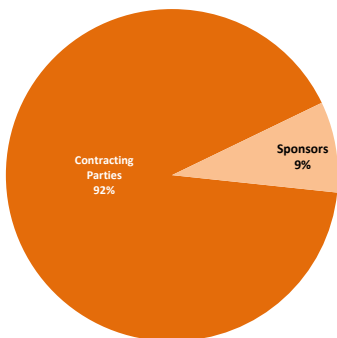
The **Government of Austria** became a Contracting Party to the **TCP on District Heating and Cooling (DHC TCP)** on 1 January 2017.

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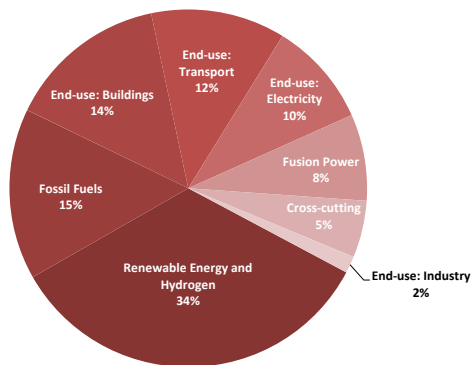
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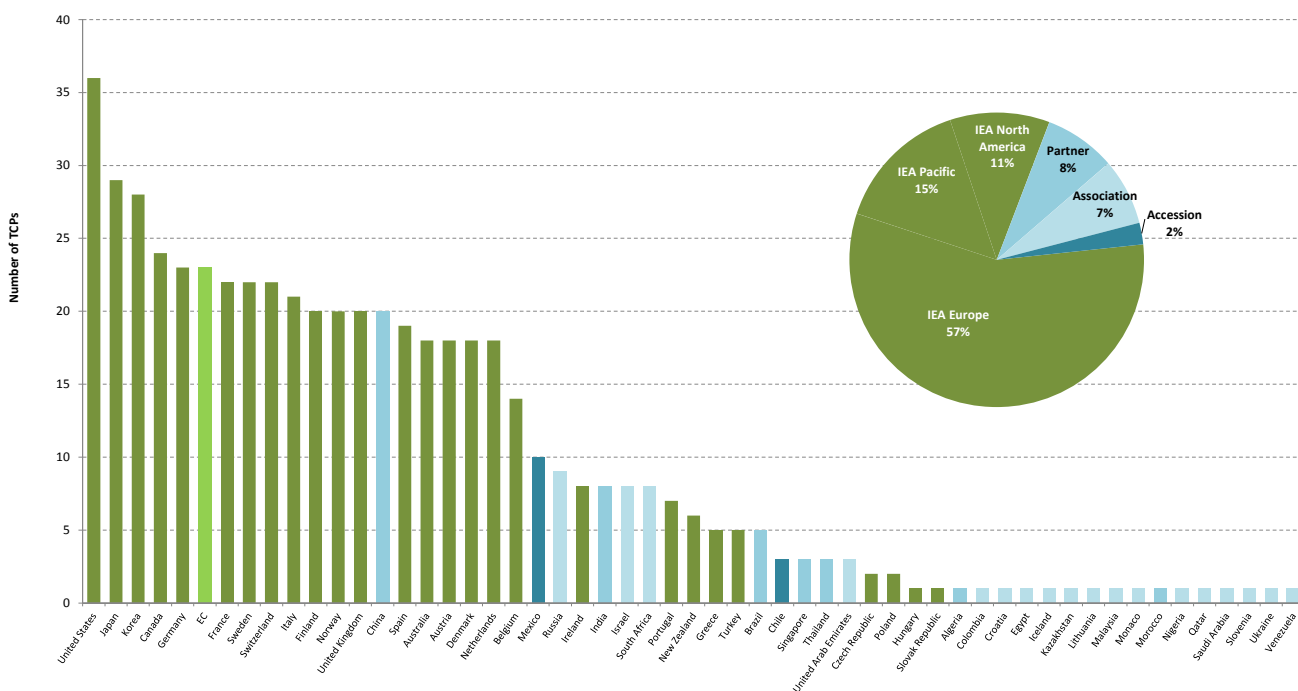
Participation by category



Participation by TCP grouping



TCPs in which countries participate



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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Entities from:	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		Renewables and hydrogen		
					Buildings		Electricity		Industry		Transport								
			CP	SP	CP	SP	CP	SP	CP	SP	CP	SP	CP	SP	CP	SP	CP		SP
IEA COUNTRIES	n.a	195	26	2	80	1	43	5	9		60	2	50	15	26		138	13	470
United States	36	14	1	1	5		3	1	1		5		4	5	8		8	5	47
Japan	29	17	1		5		2				5		4	2	8		7		34
Korea	28	11	1		5		3				5		3	1	4		7		29
Canada	24	8	1		5		2	1			3		4		3		5		24
Germany	23	13	1		4		3	1	1		5		1	2			8	2	28
France*	22	13	3		5		1				3		3	1			9		25
Sweden	22	4	2		6		2		1		4		2				6		23
Switzerland	22	3	1		4		3				4		2		1		7		22
Italy	21	9	2	1	3		3	1			3		2				8		23
Norway	20	6	1		4		2		1		1		3	1			9		22
United Kingdom	20	11	1		6		2				3		3	2			6		23
Finland	20	3	2		4		3				4	1	1				5		20
Spain	19	11	1		1	1	2				3	1	3				6	1	19
Australia	18	13	1		2		1				1		4		2		7		18
Austria*	18	9			4		2		1		3		3				5		18
Denmark	18	5	1		5		1		1		3		1				6		18
Netherlands	18	6	1		4		3		1		1		1	1			6	1	19
Belgium*	14	13	3		3		2	1	1		2						5	4	21
Ireland	8	2	1		1		2				1						3		8
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
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		1	1			8		13
Mexico	10	4					1				1		1	1			6		10
Chile	3	2									1						2		3
ASSOCIATION COUNTRIES	n.a	40			3		4				5		6	5	7		15	1	46
China	20	21			2		1				4		2	2	4		7	1	23
India	8	8					2						3	1	3		1		10
Brazil	5	3											1	1			3		5
Singapore	3	3			1		1										1		3
Thailand	3	3									1			1			1		3
Morocco	1	2															2		2
PARTNER COUNTRIES	n.a	31	2		2		3				3	1	6	4	5		17	1	44
Russia	9	6	1				1						2	1	4				9
Israel	8	3			1		1				3						3		8
South Africa	8	5					1						2	1			5		9
United Arab Emirates	3	2												2			1		3
Algeria	1	1															1		1
Colombia	1	1											1						1
Croatia	1	1															1		1
Egypt*	1	1															1		1
Iceland	1	1															1		1
Kazakhstan	1	1	1																1
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
Saudi Arabia	1	1									1								1
Slovenia	1	1			1														1
Ukraine	1	1												1					1
Venezuela	1	1											1						1
IGOs	n.a	n.a	1		1		1						4	1	9		10	1	28
Coal Industry Advisory Board (CIAB)	1	n.a												1					1
Economic Community of West African S	1	n.a															1		1
European Commission	23	n.a	1		1		1						3		8		9		23
ITER International Fusion Energy Organ	1	n.a													1				1
Organisation for Petroleum Exporting C	1	n.a											1						1
Regional Centre for Renewable Energy	1	n.a																1	1
TOTAL	n.a	n.a	29	2	86	1	52	5	9		70	3	67	26	47		188	16	601

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	26	2	28	--	--	--	--	--	2	--	2	1	--	1	29	2	31	
TCP on Energy Technology Systems Analysis	22	2	24	--	--	--	--	--	2	--	2	1	--	1	25	2	27	
TCP on Clean Energy Education and Empowerment	4	--	4	--	--	--	--	--	--	--	--	--	--	--	4	--	4	
End-use: Buildings	80	1	81	--	--	--	3	--	3	2	--	2	1	--	1	86	1	87
TCP on Energy Efficient End-use Equipment	12	--	12	--	--	--	--	--	--	--	--	--	--	--	12	--	12	
TCP on Buildings and Communities	25	--	25	--	--	--	2	--	2	1	--	1	--	--	28	--	28	
TCP on District Heating and Cooling	11	--	11	--	--	--	--	--	--	--	--	--	--	--	11	--	11	
TCP on Heat Pumping Technologies	16	--	16	--	--	--	--	--	--	--	--	--	--	--	16	--	16	
TCP on Energy Storage	16	1	17	--	--	--	1	--	1	1	--	1	1	--	1	19	1	20
End-use: Electricity	43	5	48	1	--	1	4	--	4	3	--	3	1	--	1	52	5	57
TCP on Demand-Side Management	14	3	17	--	--	--	1	--	1	--	--	--	--	--	15	3	18	
TCP on Smart Grids	18	--	18	1	--	1	3	--	3	2	--	2	1	--	1	25	--	25
TCP on High-Temperature Superconductivity	11	2	13	--	--	--	--	--	--	1	--	1	--	--	12	2	14	
End-use: Industry	9	--	9	--	--	--	--	--	--	--	--	--	--	--	9	--	9	
TCP on Industrial Technologies and Systems	9	--	9	--	--	--	--	--	--	--	--	--	--	--	9	--	9	
End-use: Transport	60	2	62	2	--	2	5	--	5	3	1	4	--	--	70	3	73	
TCP on Advanced Fuel Cells	10	2	12	1	--	1	1	--	1	1	--	1	--	--	13	2	15	
TCP on Advanced Motor Fuels	13	--	13	1	--	1	2	--	2	1	--	1	--	--	17	--	17	
TCP on Advanced Materials for Transportation	7	--	7	--	--	--	2	--	2	1	--	1	--	--	10	--	10	
TCP on Clean and Efficient Combustion	13	--	13	--	--	--	--	--	--	--	--	--	--	--	13	--	13	
TCP on Hybrid and Electric Vehicles	17	--	17	--	--	--	--	--	--	1	--	1	--	--	17	1	18	
Fossil Fuels	50	15	65	1	1	2	6	5	11	6	4	10	4	1	5	67	26	93
TCP on Gas and Oil	7	1	8	--	--	--	1	--	1	--	--	--	1	--	1	9	1	10
TCP on Clean Coal Centre	6	--	6	--	--	--	--	4	4	1	3	4	1	--	1	8	7	15
TCP on Enhanced Oil Recovery	10	--	10	1	--	1	1	--	1	3	--	3	--	--	15	--	15	
TCP on Greenhouse Gas R&D	12	13	25	--	1	1	3	1	4	1	1	2	2	1	3	18	17	35
TCP on Fluidised Bed Conversion	15	1	16	--	--	--	1	--	1	1	--	1	--	--	17	1	18	
Fusion Power	26	--	26	--	--	--	7	--	7	5	--	5	9	--	9	47	--	47
TCP on Plasma Wall Interaction	3	--	3	--	--	--	--	--	--	--	--	--	1	--	1	4	--	4
TCP on Stellarator-Heliotron Concept	3	--	3	--	--	--	--	--	--	2	--	2	1	--	1	6	--	6
TCP on Environmental, Safety, Economic Aspects of Fusion Power	4	--	4	--	--	--	1	--	1	1	--	1	1	--	1	7	--	7
TCP on Fusion Materials	5	--	5	--	--	--	2	--	2	1	--	1	1	--	1	9	--	9
TCP on Nuclear Technology Fusion Reactors	4	--	4	--	--	--	2	--	2	1	--	1	1	--	1	8	--	8
TCP on Reversed Field Pinches	2	--	2	--	--	--	--	--	--	--	--	--	1	--	1	3	--	3
TCP on Spherical Tori	2	--	2	--	--	--	--	--	--	--	--	--	1	--	1	3	--	3
TCP on Tokamak Programmes	3	--	3	--	--	--	2	--	2	--	--	--	2	--	2	7	--	7
Renewable Energy and Hydrogen	138	13	151	8	--	8	15	1	16	17	1	18	10	1	11	188	16	204
Bioenergy TCP	19	--	19	--	--	--	1	--	1	2	--	2	1	--	1	23	--	23
Hydrogen TCP	19	4	23	--	--	--	2	--	2	2	--	2	1	--	1	24	4	28
Hydropower TCP	6	--	6	--	--	--	2	--	2	--	--	--	1	--	1	9	--	9
TCP on Concentrated Solar Power	10	--	10	2	--	2	4	--	4	5	--	5	1	--	1	22	--	22
TCP on Ocean Energy Systems	17	--	17	1	--	1	3	--	3	3	--	3	1	--	1	25	--	25
TCP on Geothermal Energy	11	2	13	1	--	1	--	--	--	1	--	1	1	--	1	14	2	16
TCP on Photovoltaic Power Systems	19	4	23	2	--	2	2	--	2	3	--	3	1	--	1	27	4	31
TCP on Solar Heating and Cooling	17	2	19	1	--	1	1	--	1	1	1	2	2	1	3	22	4	26
TCP on Wind Energy	20	1	21	1	--	1	--	1	1	--	--	--	1	--	1	22	2	24
Grand Total	432	38	470	12	1	13	40	6	46	38	6	44	26	2	28	548	53	601

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