IEA Technology Collaboration Program on High-Temperature Superconductivity (IEA HTS TCP)

ExCo Meeting
In Conjuction with EUCAS

20 September 2017

Geneva, Switzerland

ExCo Meeting Agenda

1. **Welcome, apologies for absence and agenda approval,** (Luciano)
2. **IEA Update** (Luis Munuera)
3. **Overview of the last ExCo meeting** (Yamada/Kinoshita)
4. **Approval of the minutes of the last ExCo meeting** (Brian)
5. **Financial report: HTS-TCP account status, collected fees and discussion of modified fees** (Luciano)
6. **New Member Engagement** (Brian)
7. **Review OA/ExCo activities** (Yamada/Brian)
8. **Proposed OA/ExCo activities for next fiscal year** (All)
9. **AOB (e.g., agreed Actions List, next steps, …)**
10. **Date and place of next ExCo meeting(s)**
11. **End of ExCo Meeting**

1. Welcome, Apologies for absence and Agenda approval

Welcome Luciano Martini, (RSE) IEA HTS TCP Chair

Apologies for absence:

- Sang Chul Han representing Korea
- Debbie Haught representing USA
- Guy Deutscher representing Israel
- Roland Bruniger representing Switzerland
- Gianni Grasso/Matteo Tropeano, Columbus (sponsor)

Welcome to:

- Jean-Maxime Saugrain (Nexans, France) – Observer
- **CERN**
- **China**

2. ExCo Meeting Agenda

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2. IEA Update

Presentation from Luis Munuera

3. Overview of Japan ExCo

Overview presentation by Yamada

4. Approval of the minutes of the Japan ExCo meeting

Kawasaki ExCo meeting minutes

5. Financial report: modified fees

The new fee would potentially go into effect in FY2018

Country/sponsor	GDP ($T)	Fee
USA	18.6	$30,000
Japan	4.9	$30,000
Germany	3.5	$30,000
France	2.5	$15,000
Italy	1.85	$15,000
Canada	1.53	$15,000
Korea	1.41	$15,000
Switzerland	0.66	$15,000
Israel	0.32	$15,000
Finland	0.24	$15,000
Sponsors fee	-	$10,000
		>$190,000

5. Financial report: modified fees

The new fee would potentially go into effect in FY2018

Country/sponsor	GDP ($T)	Fee	
USA	18.6	$30,000	30 k
Japan	4.9	$30,000	50 k
Germany	3.5	$30,000	30 k
France	2.5	$15,000	
Italy	1.85	$15,000	22 k
Canada	1.53	$15,000	15 k
Korea	1.41	$15,000	9 k
Switzerland	0.66	$15,000	10 k
Israel	0.32	$15,000	9 k
Finland	0.24	$15,000	8 k
Sponsors fee	-	$10,000	10 k
		>$190,000	193 k

6. New Member Engagement (Tier 1)

Potential Member	Country/ Organization	ExCo Member to follow-up	Notes
Jean Maxime	Nexans	Luciano	Luis is working to start paperwork
Pascal Tixador	France	Luciano	
	China/ Innopower	Yamada	
Luca Bottura/ Amalia Ballarino/ Lucio Rossi	CERN	Luciano/Bertrand	
Vitalo Visotsky	Russia	Luciano?	Adam Shelton (STI) is sending a another Russian contact
Knut Samdal	Norway	Jean-Maxime/ Luciano	
Dag Willen Asger Bech Abrahamsen	Denmark/nkt cables DTU Wind Energy		
Rob Ross Marc Dhalle Marcel ter Brake	Netherlands	Bertrand knows Marc and can also make a connection to Marcel	

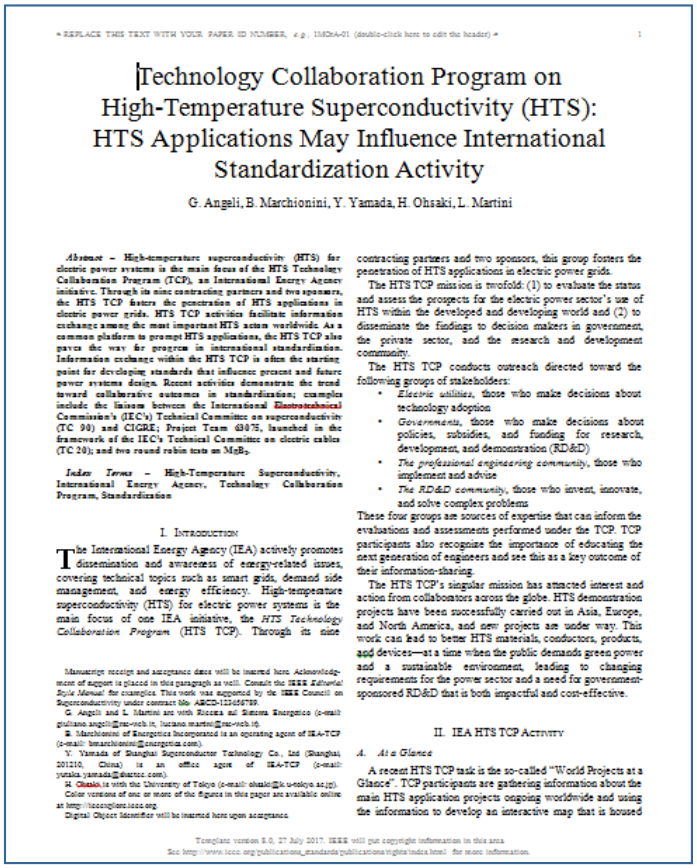
6. New Member Engagement (Tier 2)

Potential Member	Country/ Organization	ExCo Member to follow-up	Notes
David Cardwell Harold Ruiz Rondan	UK	Mathias Brian	
Nick Long	New Zealand	Tabea	
Venkat Selvamanickam	UH	Brian/ Luciano	
Richard Taylor	Australia/ Queensland University	Mathias	
Ali Gencer	Turkey	Luciano?	
Alexander Polasek	Brazil	Luciano and Mathias	
Michael Becker	Deutsch-Nano	Mathias	
Xavier Obradors	Spain	Luciano	

7. Operating Agent Activities

- EUCAS Publication
  - Paper
  - Poster
- Newsletters
- Fact sheets
- Annual report
- Technical meetings

7. OA Activities – EUCAS Publications



Technology Collaboration Program on High-Temperature Superconductivity (HTS): HTS Applications May Influence International Standardization Activity

G. Angeli, B. Marchionini, Y. Yamada, H. Ohsaki, L. Martini

Abstract – High-temperature superconductivity (HTS) for electric power systems is the main focus of the HTS Technology Collaboration Program (TCP), an International Energy Agency initiative. Through its nine contracting partners and two sponsors, the HTS TCP fosters the penetration of HTS applications in electric power grids. HTS TCP activities facilitate information exchange among the most important HTS actors worldwide. As a common platform to prompt HTS applications, the HTS TCP also paves the way for progress in international standardization. Information exchange within the HTS TCP is often the starting point for developing standards that influence present and future power systems design. Recent activities demonstrate the trend toward collaborative outcomes in standardization; examples include the liaisons between the International Electrotechnical Commission's (IEC's) Technical Committee on superconductivity (TC 90) and CIGRE; Project Team 63075, launched in the framework of the IEC's Technical Committee on electric cables (TC 20); and two round robin tests on MgB_2.

Index Terms – High-Temperature Superconductivity, International Energy Agency, Technology Collaboration Program, Standardization

I. Introduction

The International Energy Agency (IEA) actively promotes dissemination and awareness of energy-related issues, covering technical topics such as smart grids, demand side management, and energy efficiency. High-temperature superconductivity (HTS) for electric power systems is the main focus of one IEA initiative, the *HTS Technology Collaboration Program* (HTS TCP). Through its nine contracting partners and two sponsors, this group fosters the penetration of HTS applications in electric power grids.

The HTS TCP mission is twofold: (1) to evaluate the status and assess the prospects for the electric power sector's use of HTS within the developed and developing world and (2) to disseminate the findings to decision makers in government, the private sector, and the research and development community.

The HTS TCP conducts outreach directed toward the following groups of stakeholders:

- *Electric utilities*, those who make decisions about technology adoption
- *Governments*, those who make decisions about policies, subsidies, and funding for research, development, and demonstration (RD&D)
- *The professional engineering community*, those who implement and advise
- *The RD&D community*, those who invent, innovate, and solve complex problems

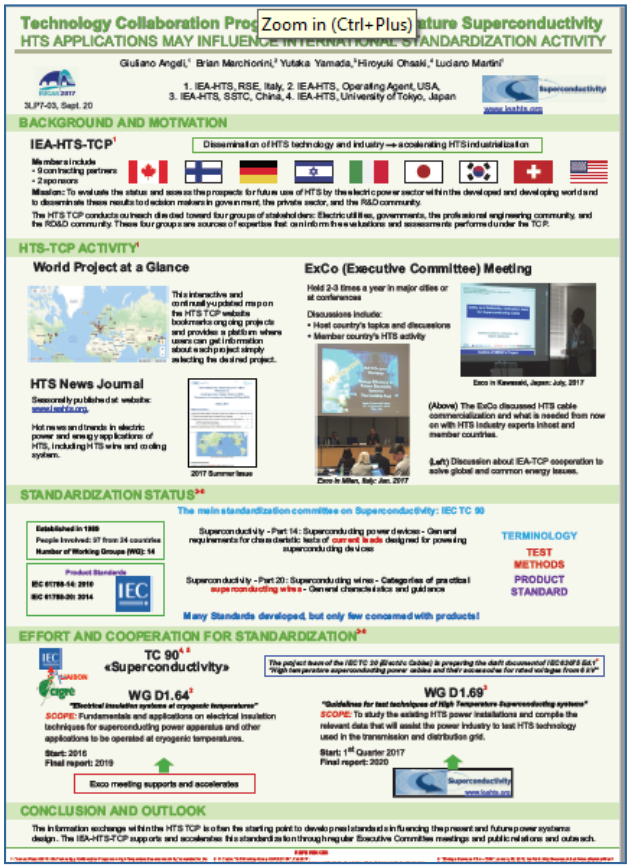
These four groups are sources of expertise that can inform the evaluations and assessments performed under the TCP. TCP participants also recognize the importance of educating the next generation of engineers and see this as a key outcome of their information-sharing.

The HTS TCP's singular mission has attracted interest and action from collaborators across the globe. HTS demonstration projects have been successfully carried out in Asia, Europe, and North America, and new projects are under way. This work can lead to better HTS materials, conductors, products, and devices—at a time when the public demands green power and a sustainable environment, leading to changing requirements for the power sector and a need for government-sponsored RD&D that is both impactful and cost-effective.

II. IEA HTS TCP Activity

A. At a Glance

A recent HTS TCP task is the so-called "World Projects at a Glance". TCP participants are gathering information about the main HTS application projects ongoing worldwide and using the information to develop an interactive map that is housed



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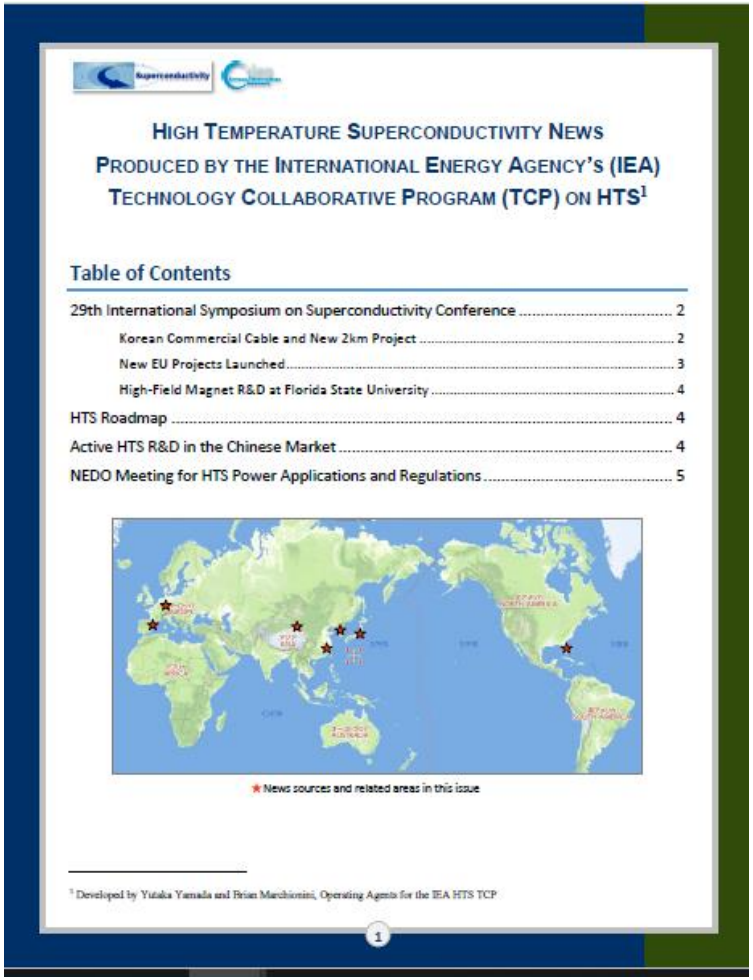
[Paper](#)

[Poster](#)

7. OA Activities - Newsletters



HIGH TEMPERATURE SUPERCONDUCTIVITY NEWS
PRODUCED BY THE INTERNATIONAL ENERGY AGENCY'S (IEA)
TECHNOLOGY COLLABORATIVE PROGRAM (TCP) ON HTS[1]

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★News sources and related areas in this issue

[1] Developed by Yutaka Yamada and Brian Marchionini, Operating Agents for the IEA HTS TCP

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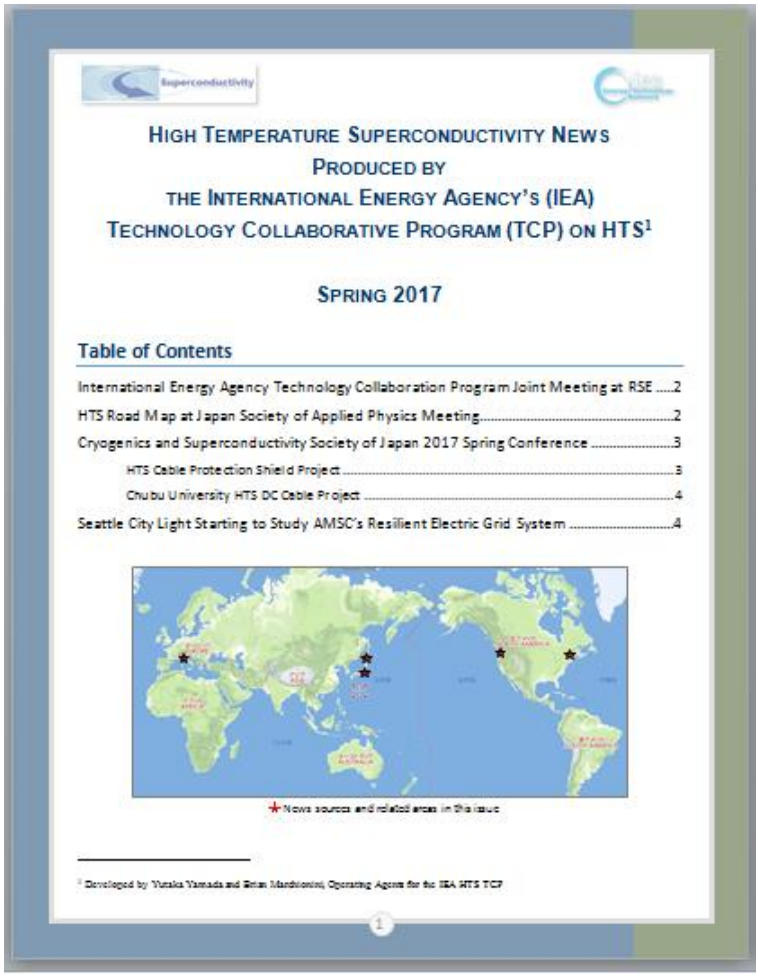

HIGH TEMPERATURE SUPERCONDUCTIVITY NEWS
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SPRING 2017

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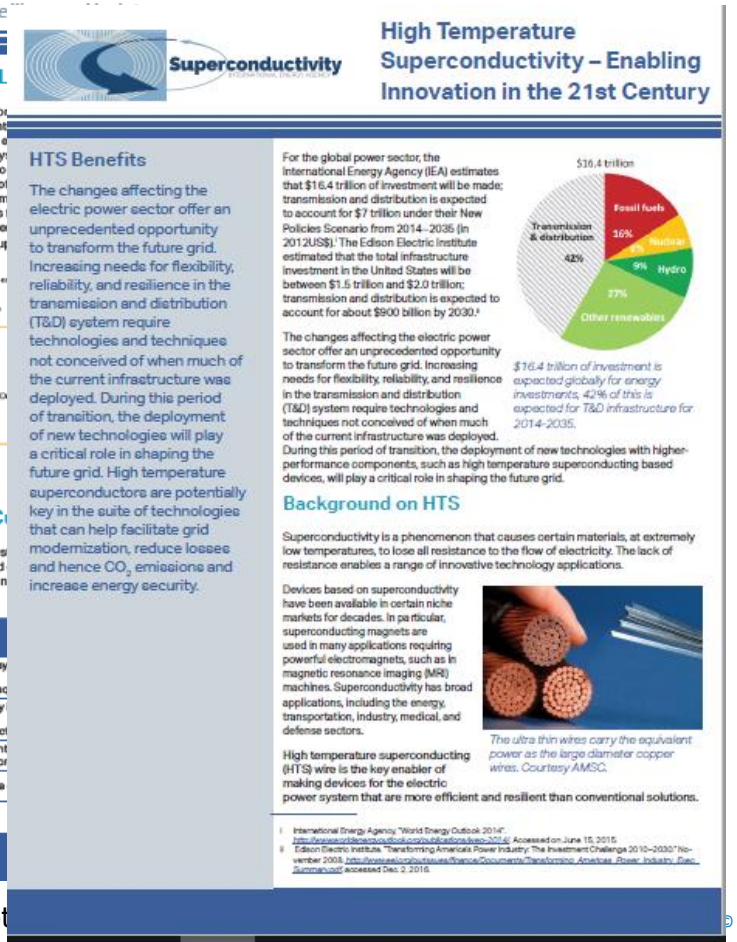
7. OA Activities - Fact Sheets

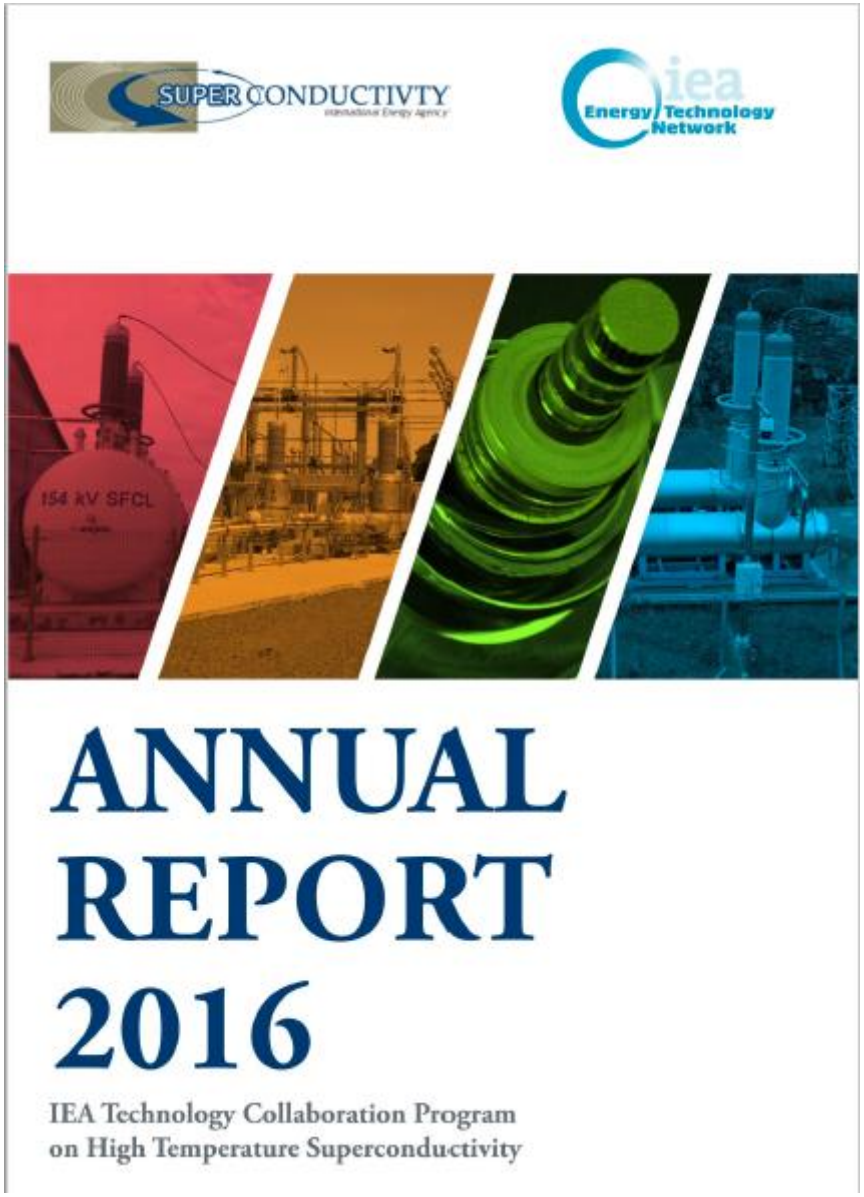
Cables

FCL

Policy



7. OA Activities - Annual Report



2016 Report

7. OA Activities - Technical Meetings

China update from Yamada

7. OA Activities - Technical Meetings

- **European Cryogenics Days 2017 and the 2nd International Workshop on Cooling Systems for HTS Applications, Sep 13-15**
- **First International conference on Cryogenics held Oct 2015 in Japan**
- **132 people at 2017 conference**
  - Cryogenics in Astrophysics, Particle Physics and Computing, Cryogenics in Transportation, Air Separation and Power Applications, Power Grid Applications, Novel Machinery, Small-scale Applications (SQUIDS, etc)
  - Technical Excursion to Karlsruhe Tritium Neutrino Experiment KATRIN and HTS lab

8. Proposed OA Activities for 2018

Task	Due Date	Status	Lead	EI	Yamada
Update website with new info Link to superconductivity news forum and need to update SNF with our latest website					
Fact sheet on rotating machines					
Fall HTS newsletter			Yamada		
Develop mailing list to distribute newsletter					
Develop new graphics – transmission right of way					
Identify conferences to attend and get on agenda to present					
Define appropriate person in China to join TCP in 2018			Yamada		
Update spreadsheet of projects			Yamada		
Develop abstract idea for ASC					
Logo rebranding			Brian/Anna		
Send password to restricted section to Luciano/Yamada			Brian		

9. AOB

Task	Due Date	Status	Lead
Email Selva about proposed dates + Send Doodle to ExCo to set next two mtg dates (April 4-6, April 9-11) 2.5 day mtg max and fall meeting at ASC (0.5-1 day meeting on Sat or Sun)	ASAP		Brian
Send msg to Luis to follow-up on status of France (letters, communication) (thank you for your presentation; we have comments; + membership of France ASAP)	ASAP		Brian
Follow-up with IEA contact for France incorporation	ASAP + 1 week		Brian/Luciano
Ask IEA what appropriate procedure is for engaging non OECD countries	2 weeks		Brian/Luciano
Circulate meeting minutes to ExCo members (send only to exco members that attended the meeting.	1 week		Brian/Anna
Send final draft minutes to all exco members and observers	1 month		Brian/Anna
Update FCL, Cable and Policy fact sheet	2 weeks		Brian/Anna
Wire update-place, material, tech characteristics	1.5 months		Yamada
Update website (world projects at a glance) with new info from EUCAS	1.5 months		
Preliminary Draft of Annual Report 2017 available to ExCo members	8 Dec		Brian/Anna
Explore and nurture relationship with CERN and NL. Keep			Bertrand

10. Date and Place of Next ExCo

- **March/April 2018**
  - **We need to agree on two dates and give them to Selva for confirmation**
- **Houston, TX**

- **Oct/Nov 2018**
  - **ASC 2018 – Oct 28 – Nov 2**
  - **Lausanne, Switzerland (TBC)**

Other Discussion Points

- **TCP Meeting**
  - **2nd Universal Meeting of IEA Technology Collaboration Programmes - Strategy Meeting to Further Strengthen Collaborative Energy Innovation**
  - **Monday, 9 October 2017 (09h30 – 17h45)**
  - **16 rue Jean Rey – 75015 Paris, France**
- **ASC 2018 – Oct 28 – Nov 2**
  - **Abstract Submission Opens - January 15**
  - **Abstract Submission Deadline - March 21**
  - **Interaction with organizers on special session**

Strategy Session

- **What should the ExCo be doing in the next 6-12 months to increase effectiveness and expand its reach?**
- **Strengths, Weaknesses, Opportunities, Threats analysis**

SWOT

Strengths

- IEA Support/backing
- Active members are leaders in the HTS application field

Weaknesses

- Not all members are active
- Members have very little time to devote to ExCo activities
- Website “hits” are very low

Opportunities

- New countries seem interested (FR, NZ)
- Counties with HTS activity (China, RU)

Threats

- Reduced interest by govt/industry leading to less funding

5. Financial Statement Account (first half 2017)

DATE	REVENUES	EXPENSES/ BANK FEES	BALANCE		USD	
01/01/17			149,775.13	balance december 31st 2016		
02/13/17		40.61	149,734.52	bank fees		
02/15/17	11,262.21		160,996.73	money transfer by PARTNER	12,025.00	BRUKER FY16
03/02/17		23,831.77	137,164.96	payment to ENERGETICS	25,000.00	
03/02/17		65.89	137,099.07	bank fees		
03/15/17	14,029.73		151,128.80	money transfer by PARTNER	15,025.00	SIEMENS FY16
03/15/17		46.64	151,082.16	bank fees		
03/24/17	27,780.86		178,863.02	money transfer by PARTNER	30,025.00	JAPAN FY17
04/10/17		87.43	178,775.59	bank fees		
04/28/17	8,657.30		187,432.89	money transfer by PARTNER	9,500.00	ISRAEL FY17
04/28/17		34.93	187,397.96	bank fees		
05/16/17	8,995.00		196,392.96	money transfer by PARTNER	9,801.00	SWITZERLAND FY17
05/16/17		19.61	196,373.35	bank fees		
05/19/17	7,498.00		203,871.35	money transfer by PARTNER	8,170.00	FINLAND FY17
05/22/17	13,766.00		217,637.35	money transfer by PARTNER	15,000.00	GERMANY ITP KIT FY17
05/25/17	-	33,466.30	184,171.05	money transfer to JAP GREEN ENERGY	37,281.00	
05/30/17	19,892.00	-	204,063.05	money transfer by PARTNER	21,675.00	ITALY RSE FY17
05/31/17	13,766.00	-	217,829.05	money transfer by PARTNER	15,000.00	GERMANY SIEMENS FY17
07/10/17		25.00	217,804.05	taxes		
07/10/17	-	66.59	217,737.46	bank fees		
09/06/17	-	8,354.67	209,382.79	payment to ENERGETICS	9,881.31	
09/12/17	7,719.78	-	217,102.57		9,385.00	KOREA FY17

5. Financial Statement Account: fees update (first half 2017)

PARTNER	USD	EUR	Payement date	Invoice date
JAPAN	30,025.00	27,780.86	28/03/2017	08/03/2017
ITALY RSE	21,675.00	19,892.00	30/05/2017	04/05/2017
SWITZERLAND	9,801.00	8,995.00	16/05/2017	04/05/2017
CANADA	15,025.00			04/05/2017
GERMANY ITP KIT	15,000.00	13,766.00	22/05/2017	04/05/2017
FINLAND	8,170.00	7,498.00	19/05/2017	04/05/2017
ITALY COLUMBUS	12,000.00	11,013.00		04/05/2017
GERMANY SIEMENS	15,000.00	13,766.00	31/05/2017	04/05/2017
ISRAEL	9,500.00	8,657.30	03/05/2017	21/02/2017
KOREA	9,385.00	7,719.78	12/09/2017	04/05/2017
USA	30,025.00			08/05/2017