

MINUTES

17 – 18 April 2018 Bergen, Norway

51st Executive Committee Meeting

IEA Demand Side Management Technology Collaboration Programme



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1. GENERAL BUSINESS

Welcome

The meeting was opened by Even Bjørnstad, Vice Chairman, who welcomed the participants to Bergen, Norway on behalf of Enova SF, the host for the meeting. David Shipworth, Vice Chairman, welcomed Tony Fullelove, Monash University, Australia, as an Observer. Mark Robertson, EfficiencyOne, Nova Scotia attended in the absence of Chuck Faulkner and Sarah Mitchell.

In the past six months Mehmet Bulut, Swedish Energy Agency, Sweden has been appointed as the alternate Executive Committee member for Sweden and Gerdien de Weger, Netherlands Enterprise Agency, The Netherlands, has been appointed to be ordinary Executive Committee member for the Netherlands.

The meeting was attended by 10 out of 18 countries/sponsors. Austria, Finland, India, New Zealand, Spain, Switzerland, USA, the European Copper Institute were unable to attend the meeting.

European Copper Institute, New Zealand, Switzerland and USA, voted by proxy (e-mail). See Attachment (E).

The participants are listed in Attachment (A).

Pre-Meeting Information

Anne Bengtson, the Executive Secretary, provided via e-mail to all members and Operating Agents, a Pre-Meeting Document (PMD) in two parts, containing material associated with the Executive Committee meeting.

Adoption of the Agenda

The agenda was reviewed and approved at the meeting as shown in Attachment (B).

Approval of the Minutes from the 50th Executive Committee Meeting

The Minutes from the 50th Executive Committee Meeting were distributed earlier and were approved at the meeting, provided the participation table is updated.

Addition of a glossary to the Minutes

The Executive Committee members decided to add a glossary to all future Minutes, to explain the numerous abbreviations of the Technological Collaboration Programme, other TCPs, organisations and working groups. See Attachment (C).

Status of the Agreement

- ➤ Hans Nilsson attended the EUWP meeting in Vienna, 20-22 March 2018
- > Even Bjørnstad attended the BCG meeting in Vienna, 25 January 2018
- Australia has shown interest in the DSM TCP and Tony Fullelove, Monash University attended the meeting

- ➤ Rob Kool (former Chairman) attended the Future Building Forum in Singapore 24-25 October.
- Sweden informed the Secretary that an ordinary Executive Committee member for Sweden, Ms Kajsa-Stina Benulic has been appointed and the formal paperwork is underway.
- The New Zealand government is expected to appoint a new Contracting Party in summer 2018.
- ➤ The Steering Committee met with Green Technology Center, Korea, who have shown interest in most of the current Tasks
- ➤ The Desk Officer suggested that the DSM TCP join the second day of the next EE Ministerial meeting in Paris (October 2018) and present the DSM TCP. Executive Committee members thought it was too early considering the current status of the TCP.

It was noted that China, India, Indonesia, Morocco, Brazil, Thailand and Singapore are now association countries to the IEA and be natural new partners also to the DSM TCP. We may have to find means to appeal to these new countries with our activities, past and present.

Several countries are not participating in any Tasks at the moment and were reminded that all participating countries and sponsors need to participate in at least one Task. These countries and sponsors are: Finland, India, Italy, Nova Scotia, Spain, UK and USA. These countries are encouraged to delve deeper into the material of new Tasks, find funding and join a Task.

Vote for a one year extension

The Main issue for requesting an extension is that the DSM TCP does not have a Chairman and cannot therefore successfully apply for a new 5-year term. The Steering Committee has taken Sam Thomas on board to conduct a review of the TCP that will be finalised by October 2018.

Clair Hilton, IEA Legal Office (via phone) went through the proposed steps for the DSM TCP to apply for a one-year extension. Claire explained that it was an exceptional situation and the first that had occurred under the Request for Extension (RfE) Guidelines adopted by CERT in 2016.

1. ExCo vote

The DSM ExCo unanimously votes to agree to request a one-year extension. (Under Article 15(b) of the DSM Implementing Agreement all decisions about RfE must be unanimously agreed by the ExCo).

2. DSM TCP submits a letter of explanation to the EUWP

If approved, the DSM Chair (if one has been elected) and/or Vice Chairs send a comprehensive letter to the EUWP Chair requesting a one-year extension on the current DSM TCP term. The letter will need to outline the reasons for requesting the one-year extension as well as the steps being taken to address the difficulties being faced by the DSM (e.g. review by Sam Thomas, election of a Chair). The IEA Legal Office will assist with this letter of explanation.

The standard RfE process requires TCPs to fill out what is known as 'Supporting Documentation' which includes a Strategic report, communications report and filling out a questionnaire. The letter of explanation should address some of the topics /subjects in the Supporting Documentation. The Supporting Documentation does not need to be attached to the letter of explanation.

3. EUWP review and recommendation

The letter of explanation should be sent to the EUWP. If the EUWP receive the letter in time for their next meeting in September, they could consider it at that meeting. A DSM TCP representative should attend the meeting to provide a brief presentation/explanation (5 minutes) as to why the DSM TCP is requesting the one-year extension and answer any

additional questions. The EUWP may then recommend the letter be passed to the CERT for consideration.

4. CERT consideration

CERT is meeting at the end of October so could consider the letter then. Likewise, a DSM TCP representative should attend the meeting to provide a brief presentation/explanation (5 minutes) as to why the DSM TCP is requesting the one-year extension and answer any additional questions. It is then up to the CERT to make a decision on the one-year extension proposal.

It is possible that the one-year extension may not be recommended or approved by EUWP or CERT. If there are concerns, hopefully providing additional information will assist otherwise the DSM TCP should be prepared that they may have to complete the RfE Supporting Documents within a condensed timeframe. This would need to be discussed with the relevant body, if this situation arises.

Chair/Operating Agent

Claire briefly discussed the role of Chair and Vice Chair, explaining that only a government representative from a DSM TCP Contracting Party could hold the position of Chair or Vice Chair. This role cannot be fulfilled by a hired third party, however, the role of Operating Agent can be filled by a contracted third party.

The Executive Committee thanked Claire Hilton for her explanation, voted and unanimously decided to apply for a one-year extension. The IEA Legal Office and Desk Officer offered their support with the application for an extension.

Decision:

Executive Committee unanimously decided to apply for a one-year extension.

Action:

- Send a comprehensive letter to the EUWP Chair requesting a one-year extension on the current DSM TCP term.
- Fill out what is known as 'Supporting Documentation' which includes a Strategic report, communications report and filling out a questionnaire. The letter of explanation should address some of the topics /subjects in the Supporting Documentation. The Supporting Documentation does not need to be attached to the letter of explanation.

IEA Secretariat News

An IEA Secretariat overview report of current and future energy efficiency projects (published December 2018) was provided by the IEA Secretariat and was included in the Pre-Meeting Document. See pages 11-15 in the Pre-Meeting Document (PMD). Desk Officer Jeremy Sung distributed an updated version of the Secretariat news at the meeting (published March 2018), See Attachment F.

Jeremy Sung started his presentation by highlighting some of the recent developments within the IEA:

- ➤ Re-election of the IEA Executive Director: The IEA Governing Board has re-elected by unanimity Dr. Fatih Birol as Executive Director for a second four-year term.

 http://www.iea.org/newsroom/news/2018/january/iea-governing-board-re-elects-dr-fatih-birol-as-executive-director.html
- Mexico officially became the IEA's 30th member country on 17th February 2018, and it's first member in Latin America. Mexico's accession is a cornerstone of the IEA's on-going modernisation strategy. http://www.iea.org/newsroom/news/2018/february/mexico-officially-joins-iea-as-30th-member-country.html

- > IEA launches online resource for Sustainable Development Goal 7: http://www.iea.org/sdg/
- Launch of the new World Energy Outlook site: https://www.iea.org/weo/
- The IEA recently launched the IEA Energy Efficiency Indicators Online Training Courses, the first professional online courses to be delivered by the IEA. These two e-learning courses will provide statisticians and policymakers with the tools to collect the information necessary to create energy efficiency indicators.
 https://www.iea.org/newsroom/news/2018/march/iea-launches-energy-efficiency-indicators-online-training-courses.html
- ➤ IEA Global Exchange Platform for Energy Efficiency: A new online tool, the IEA Global Exchange Platform for Energy Efficiency, announced at the 2017 IEA Ministerial, aims to be the premier global source of energy efficiency information and data. The Platform is currently in beta testing phase but is expected to launch during the 2nd Quarter 2018.

A priority of the IEA is to strengthen and accelerate co-operation with non-member countries. At present there are six Association countries, namely: China, India, Indonesia, Morocco, Singapore, and Thailand (countries participating in a programme of association with the IEA) and would be natural new partners to the DSM TCP.

Committee on Energy Research and Technology (CERT)

Proposed Action Plan for TCP Enhancement

CERT discussion on the proposed *Action Plan for TCP Enhancement* continues. There are four action areas:

- > Enhanced IEA-TCP collaboration
- > Engagement with governments and industry
- > Interactions with multilateral initiatives
- > Awareness, communication, visibility

Further to discussions at the 2017 TCP Universal Meeting, CERT delegates considered the proposed Action Plan for TCP Enhancement at the last meeting in February 2018. The draft document is available at the TCP Forum and it is hoped to be adopted in the 2nd Quarter 2018: http://www.iea.org/media/protected/iaforum/DRAFTActionPlanforTCPEnhancement.pdf

New CERT Task Forces

In February 2018, following a strategic discussion on CERT priorities for 2018 and beyond, the IEA Secretariat is supporting the creation of three Task Forces with shared leadership and participation of CERT delegates:

Task Force 1 will examine potential linkages/synergies with other partnerships and initiatives, including Mission Innovation and the Clean Energy Ministerial;

Task Force 2 will consider ways to make CERT processes and operations more dynamic; and **Task Force 3** will provide guidance for TCP enhancement, notably through the implementation of the Action Plan including its funding and resources.

CERT Strategic discussion on transport (14 February 2018)

Six TCPs presented their "Status Updates" as part of a CERT strategic discussion on transport at the CERT meeting in February 2018.

CERT-SLT workshop (5 June 2018, Paris)

The annual joint CERT-SLT workshop will focus on digitalisation and energy as proposed by Denmark, Estonia, and Switzerland and with substantial contributions by Italy and India.

Technology Collaboration Programmes (TCPs)

Raising visibility of the TCPs on the IEA website

Work has begun to increase TCP visibility on the IEA website, enhance accessibility of data and information on TCPs, and redesign individual TCP web pages. Further information is available in the presentation made by the IEA Head of Communication and Information Office at the TCP Universal Meeting: http://www.iea.org/media/workshops/2017/tcps/RebeccaGaghen.pdf

The Secretariat will be contacting TCP representatives over the coming months to discuss content for the individual TCP pages on the IEA website.

Modernisation of the TCP legal mechanisms

At the TCP Universal Meeting in October 2017, a message emerged that the changing landscape of energy technology innovation had made collaboration across TCPs and with outside entities increasingly important and that the existing TCP legal mechanisms, which originated in 1974, were not necessarily in sync with the realities of today's world. The IEA Secretariat is considering whether modernization of the TCPs' legal mechanisms is required in order to simplify procedural requirements and enable new types of collaboration in a changing energy landscape. Kenneth (KC) Michaels and Claire Hilton (IMPAG.legal@iea.org) are leading this activity.

Jeremy held two presentations during the meeting: (1) Key demand-side issues: An IEA perspective; and (2) Energy Efficiency 2018. The presentations can be found in the ExCo secure library on the DSM website.

Jeremy continued his presentation by stating that several of the DSM TCP Tasks are in line with current work at the IEA and highlighted the presentation made by Task 16 at the EUWP meeting held in Vienna in March 2018.

Contacts with interested countries and sponsors

In the past six months renewed contacts with India and Spain were established by the Advisor, however the Advisor did not attend the meeting to tell the members more. There has been interest in the TCP from the Australian Government. Tony Fullelove, Monash University, who will be the designated entity said that they will have a budget to participate in three Tasks. The paperwork will soon be underway to formalise their participation in the TCP.

Contacts with the National Development and Reform Commission (NRDC) China, EGAT in Thailand, Chile and Mexico have been maintained via e-mail and China, Hungary, Thailand, Taiwan, Japan, Mexico and Singapore were invited to the meeting in Bergen as observers but were unable to attend.

Vice Chairs met with the Green Technology Center, Korea, prior to the Executive Committee meeting. They have shown interest in all the current Tasks of the TCP. They will discuss their participation with the current contracting party for Korea, The Korea Energy Agency and decide whether to become sponsors or work together with the Korean Energy Agency.

A brief round table discussion revealed that although many of the Executive Committee member organisations belong to several TCP's, in general there is very little internal communication regarding the different TCP's within the member organisations.

David Shipworth pointed out that it is crucial that we work closely with countries beyond our current membership.

David Shipworth stated that the IEA requires that all countries invited to participate in the DSM TCP be formally invited and recorded in the Minutes on a regular basis. Therefore, the Executive Committee decided to again formally invite the following countries to join the IEA DSM TCP either as a Contracting Party or Sponsor:

IEA Member countries that are not yet participating in the DSM TCP are:

Australia, Canada, the Czech Republic, Cyprus, Germany, Greece, Hungary, Japan, Poland, Slovakia, Portugal and Turkey.

Non-member countries that participate in other TCPs:

Russia, South Africa, Mexico, Venezuela, Algeria, Brazil, Peoples Republic of China, Croatia, Egypt, Israel, Lithuania, Taiwan, Ukraine and the United Arab Emirates (UAE).

APEC countries:

Chile, Estonia, Hong Kong, China, Singapore, Kuwait and Thailand

Non-OECD countries:

Saudi Arabia Serbia

The Executive Committee members renewed their invitation to the above-mentioned countries and/or any entity they may designate, to become Contracting Party to the DSM TCP.

The Executive Committee unanimously:

RESOLVED that:

(1) (hereafter 'The Potential Sponsor') be invited to join the DSM TCP for Co-operation on Technologies and Programmes for Demand-Side Management on the terms as set out below:

If the Potential Sponsor joins the IEA DSM TCP, they will:

- a) Have no greater rights or benefits than Contracting Parties from OECD member countries.
 No representative of any Sponsor may be designated as Chair or Vice Chair of the TCP,
 nor vote on the accession of new Sponsors or Contracting Parties or on the election of
 existing Sponsors or Contracting Parties;
- b) Pay an annual fee of USD 11,000 to the Common Fund
- c) Be recognized as a Sponsor from the date they sign the TCP;
- d) Be entitled to send a representative and an alternate representative to the twice-yearly Executive Committee meetings of the IEA DSM TCP;
- e) Have a full single vote in the Executive Committee, equal to that of a Contracting Party on matters pertaining to the IEA DSM TCP Programme of Work. This will enable Sponsors to make proposals for the work Programme, participate in the voting on all topics and all other matters excepting those items defined in item a) above; and
- (2) RESOLVED that David Shipworth, Vice Chairman of the DSM Executive Committee, will expedite and finalise the formal procedures of membership on behalf of the Executive Committee.

DECISION:

- unanimously resolved to invite non-participating countries and sponsors to participate in the DSM TCP (see above list of countries)
- renewed Executive Committee approval of the resolution to invite Sponsors

ACTION:

 maintain contacts with China (NDRC), Thailand (EGAT), Chile, Mexico, Taiwan, Japan, Singapore and Australia.

TCP relations, BCG and ECG

Even Bjørnstad, Vice Chair attended the latest Buildings Co-ordination Group (BCG) meeting in January 2018.

Hans Nilsson attended the EUWP meeting in Vienna in March 2018.

Executive Steering Committee (ESC) report

Davis Shipworth, Vice Chair informed the Executive Committee members that the Project Preparatory Committee has changed names to the Executive Steering Committee (ESC) consisting of the Chairman, the Vice-Chairs, and the Advisor. The aim of the group is to prepare work prior to Executive Committee meetings to avoid duplicate reporting and solve common problems that Tasks may have.

The report was submitted and included in the pre-Meeting document on page 16 and was presented by David Shipworth. The ESC has held 7 conference calls in the past six months and exchanged numerous e-mails to primarily discuss: (1) search for new Chairman; (2) extension for new 5-year term; (3) strengthen TCP and TCP portfolio; (4) new membership; (5) new Tasks; (6) next meeting in Norway; (7) finances; (8) website; (9) communication; and (10) collaboration with other TCPs.

The Executive Committee approved the ESC Report

DECISION:

Executive Committee members approved the ESC report

2. OPERATING AGENTS MEETING

A brief Operating Agents meeting was held prior to the Executive Committee meeting. The Operating Agents of Tasks 16, 17 and 25 attended as well as the two Vice Chairs, Sam Thomas, Josephine Maguire and Anne Bengtson.

Operating Agents voiced concerns over:

- the direction of the TCP
- difficulty in finding funding
- Executive Committee members lack a clear mandate when they come to meetings

Operating Agents also expressed concern over the frequency of decision-making meetings and the difficulties in progressing decisions on Task's status between Executive Committee meetings.

3. EXTENSION OF WORK AND NEW WORK

Task 17: Integration of Demand Side Management, Energy Efficiency, Distributed Generation and Storage – Responsive Prosumer Networks (Phase 4)

A proposal for Task 17 Phase 4 was provided on pages 17-24 in the Pre-Meeting Document (PMD) and was presented by René Kamphuis, TNO and Anna Kosek, TU, Eindhoven The Netherlands.

The strategic discussion at the Executive Committee meeting in October 2016 revealed that there is a clear requirement for an interdiciplinary approach between technological and behavioral scientists in an innovation eco-system context. Task 17 Phase 4 will try to follow this in the DSM-Programme portfolio by considering three aspects:

- **Responsive.** Responsive here reflects pro-activity and reactivity of the technological endnodes but also of the (aggregated) users in providing responsiveness to different types of stakeholder requests in the energy commercial system and physical infrastructure.
- Prosumer. Prosumer, here, reflects part of the energy transition viz. the increased and, from a grid stability perspective, possibly disruptive production capabilities of small

- dispersed producers and also the increasing use of the electricity grid due to the increased electrification with HVAC (heat pumps) and electric mobility (EVs).
- **Networks.** The scope of networks considers the role of the physical grid, the aggregator and the, mostly rural, community/smart city dimension. Physical aggregation as well as virtual aggregation are considered.

The following Subtasks further structure the activities to handle this emerging DG-RES and demand side challenge:

Subtask 14: Context analysis, use cases and SmartCity pilots positioning

Subtask 15: Metering, monitoring and coordination methods required to increase prosumer responsiveness

Subtask 16: Coupling to innovative user feedback, billing and transactive energy schemes

Subtask 17: Conclusions and recommendations

Work during the past six months

Task 17 has been actively seeking definitive commitment from possible participating countries. There have been a number of web conferences with interested countries and organisations. A meeting with RVO and Dutch IEA-Tasks has been held. A meeting with Belgian stakeholders and Executive Committee members is planned for end of April in Brussels.

Work in the next six months

Kick-off planned for June 2018.

There was generally a positive response from the participants with possibly 4 countries able to fund the Task by mid-year. It was decided to send out a ballot to obtain a firm decision in June 2018.

The Executive Committee members **approved** the proposal and urged the Operating Agent to get four countries on board and start Phase 4 in June.

DECISION:

The Executive Committee:

• **Approved** the proposal and urged Operating Agent to get four countries on board and start Phase 4 before June 2018.

ACTION:

• Operating Agent should work on getting four countries on board and start Phase 4 before June 2018.

Concept paper: Global peer-to-peer observatory

The concept paper on Global peer-to-peer observatory was provided on pages 26 - 29 in the Pre-Meeting Document and was presented by David Shipworth, UCL Energy Institute.

David started his presentation by stating that the concept paper draws on the work in the Draft Strategic Work Plan, particularly the section under 'Emerging technology case studies'. It is a proposal for a 'Global peer-to-peer observatory'. This will identify and examine existing and emerging demonstration and real projects in peer-to-peer energy trading throughout current and accession IEA member countries. It will have a substantial focus on the policy and regulatory enablers and constraints to the application of this this technology in the context of the business models and technology clusters deployed. It will be complementary to activities across the existing

Tasks of the DSM TCP and will seek approval of, and report into, ISGAN Annex 2.

This work is complementary to work now being instigated by the Digital Single Market Directorate, DG CONNECT, European Commission through which a European Blockchain Observatory has been established. While this is tracking developments in all applications of blockchains – what is proposed here is focused on peer-to-peer energy trading. While much of this will make use of distributed ledger technologies – it is not limited to this class of technologies. These initiatives are complementary and would seek to work together.

Objectives in the context of the DSM TCP

- A targeted activity focused on a specific application of an emerging technology with substantial behavioural sensitivities and with potential global impact.
- A cross-cutting activity designed to complement existing DSM Tasks. Drawing from, and feeding into, the work of Tasks 17, 24 and 25.
- A strong policy and regulatory focus identifying those factors acting to support uptake and deliver defined policy benefits.
- A strong analytical component applying Systematic Review methods to identify common traits in the literature, and using Qualitative Comparative Analysis to draw generalised lessons from an international population of case studies.
- A multi-disciplinary case-based activity focused on integrating from insights from analysis of all aspects shaping adoption and uptake of peer-to-peer models.
- A user-centred design activity where the user is the policy maker/regulator. Elicitation of policy makers' evidence needs and policy epistemology.
- > A IEA Global Exchange Platform activity Outputs tailored for adoption on this platform.

Aim and objectives

- > To conduct elicitation of policy maker's evidence requirements for regulatory change in support of wider deployment of peer-to-peer energy trading in different regulatory regimes.
- ➤ To conduct a systematic, OECD wide, study of the relationship between the design of peer-to- peer and other blockchain-enabled energy retail market structures and energy policy outcomes.
- > To identify the factors leading to successfully uptake of peer-to-peer in different contexts.
- To develop a global community of researchers and practitioners working on peerto-peer within a pre-competitive environment to share best practices and inform the development of policy and regulation.
- > To bring new countries and companies into the DSM TCP
- > To formally integrate related activities in the DSM and ISGAN TCPs, and to ensure alignment with related activities in EBC, PVPS, 4E and ECES TCPs
- Produce policy relevant outputs for the IEA Global Exchange Platform.

The work will consist of: (1) a systematic review of existing literature on peer-to-peer energy trading; (2) a set of global case studies of peer-to-peer energy trading and (3) a synthesis of finding from these case studies.

Expected outcomes

- A systematic review of the factors governing successful implementation of peer-topeer energy trading in participating member states.
- A suite of case-studies of pilot or commercial peer-to-peer energy trading trials across the major world markets where they are being deployed. These will be written up in a standard format developed in conjunction with the IEA's Global Exchange Platform to ensure consistency of data gathered across cases, as well as the policy, regulatory and commercial relevance of the outputs.
- An International Qualitative Comparative Analysis of case studies across all participating countries to identify common success factors for deployment of peerto-peer.

- > Development of quantitative graphical statistical models of the comparative influence and interaction between factors governing uptake of peer-to-peer.
- > Establishment of an international community of researchers willing to share learnings on peer-to- peer energy trading in a pre-competitive collaborative environment.
- Development of global metrics for tracking the uptake of peer-to-peer energy trading.
- Introduction of new countries and companies into the IEA DSM family

Matters for the ExCo

Format of activity. It is proposed that this is a new format of activity distinct from a Task. It serves the function of drawing from the deep technical expertise of existing Tasks (17, 24 & 25) and focuses these around case studies as the unit of analysis. This raises two questions: (1) Should this be independent – or integrated in an activity like Task 17? and (2) Should this be a Task in its own right?

Relationship with other TCPs. This has clear overlaps with other TCPs such as ISGAN. This raises three questions: (1) Should this be primarily housed within the DSM TCP?; (2) How should reporting to other TCPs be handled (should the OAs attend the ExCos of other TCPs to report, if so how many TCPs are relevant to attend) and (3) As representatives of member nations – are the outputs of interest and relevance to your work?

Funding and participation There is likely to be considerable commercial interest in the outcomes of this activity. This raises two questions: (1) What conflicts of interest arise through introducing different companies into the work of the DSM TCP? and (2) can funding structure be tiered according to the class of membership (different fees for participation by nations compared to companies)?

Australia, Ireland, Netherlands, Sweden, Switzerland, UK and USA showed interest in the topic moving forward as a Task and finding the time and National Experts necessary to develop a full proposal.

Australia needs to know the boundaries of the concept paper by June before voting on Task 17.

The Executive Committee **agreed** to the development of a full proposal to be presented at the next Executive Committee meeting.

DECISION:

The Executive Committee **agreed** to the development of a full proposal and present at the next ExCo meeting.

ACTION:

 David Shipworth should develop a full proposal and present at the next Executive Committee meeting

3. CURRENT TASKS - LOAD LEVEL CLUSTER

Task 16 – Innovative Energy Services - Phase 4- Life-Cycle Costing; 'Deep Retrofit'; Simplified M & V; Crowd-Financing & Energy Services Taxonomy

Task 16, Phase 4, Task Status Report was provided on pages 30 - 37 in the Pre-Meeting Document and was presented by Jan W. Bleyl, Energetic Solutions, Austria.

Jan started his presentation by stating that the extension of Phase IV has continued with the well-established structure already available in earlier Phases of Task 16. Phase IV focuses on Life-Cycle Cost Appraisals; 'Deep Retrofit'; Simplified M&V; (Crowd)-Financing for EE & RE projects & Energy Services Taxonomy and is partially disseminated via the DSM University. Phase IV was initiated in July 2015 and will end June 2018.

Four countries are committed: Belgium (since 2016) Germany (co-op Annex 61), GIZ (for 9 months), Nova Scotia (in kind only), Netherlands, Norway and Switzerland.

Work accomplished in the past six months:

Subtask 19 Energy Service Expert Platform: (1) a series of teleconferences with Task 16 experts have been held to further develop a joint paper on life cycle cost benefit analyses of building deep energy retrofit in combination with Multiple Benefits; and a series of teleconferences with Task 16 experts was held in order to further develop a joint paper on simplified Measurement & Verification (sM&V).

Subtask 19 + 23 Stakeholder workshops (national & international):

(1) presentation of Task 16 inputs for a national 'Facilitator' workshop in the Netherlands (www.rvo.nl/epc-facilitators), have been held on October 6 in Utrecht; (2) preparation and presentation of a second opinion for the selection of an EPC pilot project for the Swiss Federal Office of Energy and its collaborating ministries have taken place; and (3) presentation of Life Cycle Cost motivational talk ("Lebenszykluskosten und was wir von Eisbergen lernen können") at the annual Energy Efficiency conference in Vienna, Austria has been made.

Subtask 20 Think Tank for innovative energy services:

(1) further development of the Task 16 paper on Building Deep Energy Retrofits: Using dynamic cash flow analyses and Multiple Benefits to convince investors for publication in the Energy Efficiency journal (the ECEEE paper was invited for publication in a special edition of the Energy Efficiency journal). Joint work together with all Task 16 experts and inclusion of cooperation with researchers from the Central European University, Hungary on valuation of Multiple Benefits on the microeconomic level; (2) preparation of a DSM university on the above paper; and (3) progress on our Simplified Measurement and Verification Using Quality Assurance Instruments: A Proposed Concept for Energy, Water and CO₂-Saving Projects paper: The manuscript was returned from journal 'Applied Energy' editor and invited for enhancement and re-submission for peer-review and (hopefully) publication to the journal. In close cooperation with EfficiencyOne, Nova Scotia, Canada. We also received an invitation for publication of the sM&V paper in the planned IPMVP journal which will be exclusively dedicated to measurement and verification topics.

Subtask 21 Coaching of individual National Implementation Activities (NIA): (1) implementation of the individual NIA plans to develop know how and energy service markets were followed up, the experts gave presentations and exchanged experiences and good practices during the last platform meeting and through teleconferences in between meetings; and (2) preparation and presentation of a second opinion for the selection of an EPC pilot project for the Swiss Federal Office of Energy and its collaborating ministries.

Subtask 22 Dissemination and cooperation: Publications and presentation at various national and international conferences and seminars have been given.

Work planned for the next six months includes:

Subtask 19 Energy Service Expert Platform: (1) continue to hold expert platform teleconferences (e.g. on selected Think Tank topics such as Eurostat guidance note on accounting of "on-balance" and "off-balance" accounting treatment of investments); and (2) preparations for the 21st experts meeting in spring 2018 (exact date and location tbd, possibly back to back with eceee industrial summer study 11–13 June 2018 in Berlin). The main agenda items will be presentation and discussion of national implementation activities, discussions on current Think Tank topics (Deep Energy Retrofit, Life cycle cost appraisals, Multiple Benefits) and dissemination activities => tbd after ExCo meeting.

Subtask 19 + 22 Stakeholder workshops (national & international): (1) preparation of a Life Cycle Cost presentation for the "Energy in Hospitals" conference in Austria (http://energieimkrankenhaus.at/programm/), to be held 18 May in Vienna.

Subtask 20 Think Tank for innovative energy service models and support tools: (1) finalization of the Task 16 revised paper re-titled Office Building Deep Energy Retrofit: Life Cycle Cost Benefit Analyses using Cash Flow Analysis and Multiple Benefits on Project Level for publication in a special edition of the Energy Efficiency journal. Joint work together with all Task 16 experts and inclusion of cooperation with researchers from the Central European University, Hungary on valuation of Multiple Benefits on the microeconomic level; (2) re-submission of Simplified Measurement and Verification Using Quality Assurance Instruments: A Proposed Concept for Energy, Water and CO₂-Saving Projects. Further development and follow-up of resubmission for peer-review and (hopefully) publication to the journal 'Applied Energy'. In close cooperation with EfficiencyOne, Nova Scotia, Canada; and (3) review and preparation of the Facilitator paper to be published in a peer-reviewed journal.

Subtask 21 Coaching of individual National Implementation Activities (NIAs): (1) continue implementation of individual NIA plans to develop energy services know how and markets; and (2) follow-up the experts who will give detailed presentations and exchange experiences and good practices during the next platform meeting and through teleconferences in between meetings.

Subtask 22 Dissemination and cooperation: several publications, presentations and workshops are planned for the next six months.

Subtask 23 Management and reporting

Preparation of Phase 5, if initiated by the Executive Committee.

Task 16 Phase 5 ends in June 2018. The Executive Committee members were asked for guidance regarding further work and Jan Bleyl provided a list of topics and research questions for Phase 5 suggested by Executive Committee members, national experts and the Operating Agent. Executive Committee members were encouraged to provide further ideas directly to Jan.

The Executive Committee members **approved** the Task Status Report.

DECISION:

➤ The Executive Committee members **approved** the Task Status Update.

ACTION:

➤ The Executive Committee members are encouraged to provide ideas to Jan for possible further work in Task 16 – Phase 5.

Task 25 – Business models for a More Effective Market Uptake of DSM Energy Services for SMEs and Communities – Task Status Report Phase 1

Task 25 Business models for a more effective market uptake of DSM Energy Services – Task Status Report was provided in the Pre-Meeting Document on page 38 by Ruth Mourik, DuneWorks, the Netherlands.

This phase of the Task focussed on identifying existing business models and customer approaches providing EE and DSM services to SMEs and residential communities, analysing promising effective business models and services, identifying and supporting the creation of national energy ecosystems in which these business models can succeed, provide guidelines to remove barriers and solve problems, and finally working together closely with both national suppliers and clients of business models.

Work accomplished in the last six months

Phase 1 ended on 31 December 2017. Since the last Executive Committee meeting further dissemination activities continued and two academic publications and a spotlight article were finalised. Many meetings and discussions have taken place with potential funders of Phase 2 of the Task

Task 25 – Business models for a More Effective Market Uptake of DSM Energy Services for SMEs and Communities – Phase 2

The proposal on Task 25 Business models for a more effective market uptake of DSM Energy Services – Phase 2 was provided in the Pre-Meeting Document on pages 39 - 52 by Ruth Mourik, DuneWorks, the Netherlands.

Ruth Mourik started her presentation by providing a background overview of previous work in the Task and suggested issues of training and MOOC facilities.

The second Phase of Task 25 would continually contribute to its earlier set objective of identifying an existing variety of service and use phase oriented business models providing EE and DSM services to SMEs and residential users (individuals and communities), analysing promising effectives business models and services for different sectors, identifying and supporting promising national energy ecosystems in which the most promising business models can succeed, providing guidelines to remove barriers and solve problems, and finally working together closely with both national suppliers and clients of business models. The longer-term aim of this Task is to contribute to the growth of the supply and demand market for energy efficiency and DSM amongst SMEs and communities in participating countries.

The benefits for the participating countries and for the DSM TCP will encompass: (1) Overview of existing existing business models and best practice strategies; (2) Training and exchange of valuable knowledge and learnings; (3) A national dialogue between context players about their role in facilitating more service oriented business models and entrepreneurs; (4) Capacity building of relevant business developers and other relevant stakeholders; (5) Access to relevant stakeholders, documents, and state of the art in the research field; (6) Best practice guidelines for policy makers and institutional stakeholders; (7) Developed and tested framework for effective business models for demand response/circular//data driven and peer2peer type of services; and (8) New knowledge on the working mechanisms of the service oriented business model

The principal deliverables for Task 25 Phase 2 will be:

- D7: visual and pragmatic overview of business model strategies (business model, entrepreneurial capabilities and context stretch and fit actions) for each investigated sector or type of business, including a comparative analysii across countries; in addition a more detailed report will be provided
- D8: Overview of the different types of policy and institutional support available to the different types of business models, where relevant country context and sector context sensitive;
- D9: Training road show and living lab interventions
- D10: Outreach and dissemination material, including at least 2 academic/journal publications, potentially MOOC and other outreach material highlighting the Task's work.

Italy is interested in being part of Task 25 Phase 2, however they have no budget at present. Participation of Italy in the Task will be on the basis of a letter of commitment stating that they will put effort into finding funds for Task 25 in 2019.

Task 25 Phase 2 will start on 1st May 2018 and be finalised 30 April 2020.

Participating countries in Task 25 Phase 2 are:

Australia (when they have formally joined the TCP) Italy (conditional)
Netherlands
Sweden

The Executive Committee members approved the start of Task 25 Phase 2 on 1 May 2018.

DECISION:

 The Executive Committee members approved the start of Task 25 Phase 2 on 1 May 2018.

4. CURRENT TASKS - LOAD SHAPE CLUSTER

Task 24 – Behaviour Change in DSM – Helping the Behaviour Changers

The Task 24 Phase II Status Report on Behaviour Change in DSM – Helping the Behaviour Changers was provided on pages 53-58 in the Pre-Meeting Document and was presented by Sea Rotmann, New Zealand via Skype.

Sea Rotmann started her presentation by saying that Phase II of Task 24 takes theory into practice, building on the solid theoretical foundations of Phase I. Phase II is looking at the: Subtasks 4 and 6) What? - The Issues; Subtasks 5 and 7) Who? - The People; Subtasks 4 and 8) How? - The Tools; and Subtasks 3 and 9) The Measures; and Subtask 10 So What? - 'The Story'.

Progress towards objectives during the past six months include:

Subtask 5 – Subtask 5 has: (1) published a big report on Subtask 11 – CHS case study: Designing a successful behavior change programme for hospital building staff; (2) an IEA DSMU webinar has been presented in collaboration of Task 24, Atrium Healthcare and ACEEE, 21 December 2017; (3) the Operating Agent co-edited two peer-reiewed papers for the high-profile Journal of Energy Research and Social Science (ERSS) – the ERSS Special Issue on "Storytelling and Narratives in Energy and Climate Change Research"; (4) published the Austrian final report, a more detailed report on the Austrian case study to its funding agency (in German) and the Austrian Policy Brief: and (5) will soon publish another technical report on Green Leasing in Sweden and an international cross-country case study comparison for the Irish Energy Saving Kit Programme.

Subtask 6 – Subtask 6 has now had almost 30 workshops, in NL, NZ, CA, SE, IE, US, AT and at the ECEEE summer study (twice) and Energy Cultures, BECC and BEHAVE conferences. Another 4 workshops will round out this Subtask. We have started collecting lists of DSM interventions and energy efficiency and behaviour priorities in most of these countries and have created a report template.

Subtask 7 – Behaviour Changers have been identified for the top issues decided on in Subtask 6 for Canada, Sweden, Ireland, the Netherlands, Austria, US and New Zealand. Their sector stories have been told during workshops and we have initiated deep discussions around relationships, mandates, stakeholders, restrictions and value propositions for each of the Behaviour Changers using the 'Behaviour Changer Framework' during workshops. Subtasks 6 and 7 go hand-in-hand and will be reported on together. A 150+ page Workshop Minutes document is available to all project funders.

Subtask 8 – The Special Issue on Storytelling for the Journal of Energy and Social Science Research provides a very detailed and in-depth overview of research on storytelling, including our

own use of the fairy tale story spine. The 'Behaviour Changer Framework' collaboration tool was published at the <u>ACEEE summer study</u> and the <u>BEHAVE conference</u> and won an award at the eceee Summer Study 2017.

Subtask 9 – Karlin (the Principal Investigator of this Subtask) et al. have published papers at the IEPEC conferences in August 2015 and 2016. These peer-reviewed papers outline the basics of the Beyond kWh toolkit they are developing for Subtask 9. The results from the psychometric testing were published by the IEA DSM Task 24. This work was co-funded to the tune of ~US\$100,000 by PG&E and Southern California Edison.

Subtask 10 – This Subtask will slowly be collated into a draft report, based on the outstanding country reports from Subtasks 6&7, the 4 remaining workshops and final toolkit report. A draft will be available to funders by mid 2018.

Work planned for the next six months include:

Subtask 5: (1) presentation of ACEEE Summer Study paper; (2) hold workshop at BEHAVE conference; and (3) present paper at BEHAVE conference.

Subtask 6: (1) finalise issues reports and collate DSM lists in NZ, NL, SE, IE and US; and (2) write policy briefs for each country.

Subtask 7: (1) hold workshops in the next six months (New Zealand, California and at the BEHAVE conference); and (2) workshop notes will be written up, workshop protocol finalised and evaluation of tools fed into toolkit.

Subtask 8: (1) draft toolkit report available by mid 2018

Subtask 9: (1) Analysis of Irish beyond kWh data, including triangulation with qualitative data from focus groups, surveys and interviews and cross-country comparison with NZ energy saving kit programme; and (2) paper for BEHAVE conference and possible technical, peer-reviewed paper on statistical methods in 2019.

The Operating Agent asked participating Executive Committee members to agree to extend the final reporting until end of 2018 due the United States joining Task 24.

Acceptance of the Task 24 Status Report could not be finalised during the ExCo meeting due to inclusion of the request for a six-month unfunded extension and the need for further clarification of the reporting procedures in the close-down of Task 24 Phase II. That the Task 24 Status Report was subsequently accepted on agreement that a final report be submitted at the 52nd ExCo Meeting in October 2018, and that an addendum be added to that by the end of 2018 including the US work, and that the extension of the Task, and inclusion of the US as a new Task member, in no way detrimentally impacts on the commitments of the operating agent to other current and historic funders of the Task.

• Executive Committee members **approval** of the Task 24 Status Report was accepted on agreement that a final report be submitted at the 52nd ExCo Meeting in October 2018, and that an addendum be added to that by the end of 2018 including the US work, and that the extension of the Task, and inclusion of the US as a new Task member, in no way detrimentally impacts on the commitments of the Operating Agent to other current and historic funders of the Task.

6. PROGRAMME VISIBILITY

Programme Visibility Report

The Programme Visibility Report was provided on pages 90-93 in the Pre-Meeting Document and was briefly presented by Josephine Maguire. The Visibility Committee will be re-organised as soon as a third Vice Chairman is selected and elected.

Annual Report

The 2017 Annual Report, including a Theme Chapter on "What is the benefit of collaboration for your country in the DSM TCP" was made available electronically to Executive Committee members, Operating Agents and the EUWP and EEWP by the end of January 2018 and was uploaded to the IEA DSM website.

It was decided at the Executive Committee meeting in Stockholm, March 2016 that printed copies will not be available any longer, however the IEA would like to be able to print on demand and Anne Bengtson confirmed that a printable pdf version from the desktop publisher will be provided every year.

Spotlight Newsletter

In the past six months two issues of the Spotlight Newsletter (Issues 67 and 68) have been published and posted on the IEA DSM website and distributed electronically. Executive Committee members were reminded that the Spotlight Newsletter should be distributed widely.

Topics in Issue 67/December 2017:

- > The final Liberation of Adam Smith
- > Task 17 New partners welcome in new Phase of DSM, DG and storage integration work
- Peer-to-peer Energy Trading using Blockchains Part 1
- DSM University
- > India: Perform, Achieve and Trade (Pat): An innovative programme to promote industrial energy efficiency
- New reports now online

Issue 68/March 2018 was published in March and was not included in the Visibility Committee report.

Topics in Issue 68/March 2018:

- ➤ The Role of Climate Finance to Enhance Demand-Side Management in Developing Countries
- > Task 25: new Business Models Needed for New Energy Services
- Peer-to-peer Energy Trading using Blockchains Part 2
- DSM University
 - Norway: Smarter power management can save Norway billions
- New DSM publications

Next dates for submission to the Spotlight Newsletter:

Issue 69/June 2018 – articles due May 1 Issue 70/September 2018 – articles due August 1 Issue 71/December 2018 – articles due November 1

The next issue of the Spotlight Newsletter will be distributed in June 2018. Four issues of the Spotlight Newsletter are scheduled for 2018. However, this is only possible if everybody

contributes. The Spotlight Editor Pam Murphy is looking for articles on DSM work in different countries and other work Operating Agents and Executive Committee members are involved in.

The IEA DSM Technology Collaboration Programme (TCP) has tremendous news to share so please continue to think about, suggest and submit future articles to pmurphy@kmgrp.net

Programme Brochure

The main inserts and Task flyers were last updated in March 2018.

Key Publications

During the past six months several key publications have been added to the website: See latest publications: http://www.ieadsm.org/publications/key-publications/

<u>Task 25 – Conference paper: Mind your business: entrepreneurs, their dynamic capabilities, context and new business models for energy efficiency services</u>

Task 24 - Policy Brief

Task 25: Effective business model design and entrepreneurial skills for energy efficiency services

Task 25 – Swedish context analysis

Task 25 – Swiss context analysis

Task 25 - Dutch context analysis

Task 24: Designing a Behaviour Change Programme for Hospital Facilities Staff

Results and outlook Task 25

Task 24 - Final Report Austria

Task 25: Overview of cases and strategies per country

Task 25: Deliverable 2: report Korea

Task 25: Deliverable 2: Report Austria

Task 25: The 4 strategies to effective delivery of energy efficiency services

Task 25: Deliverable 2: Report Sweden

Executive Committee members and Operating Agents are reminded that it is up to them to nominate publications to become "key".

Website

The website has been updated and has been operational since July 2015. It has undergone annual maintenance and upgrades. All ExCo delegates and Operating Agents are strongly encouraged to review the whole website regularly, particularly areas relevant to their activities. It is very easy for information to become out-dated and it is particularly important to upload any new reports and publications as soon as they come out (also include them as headline news items by ticking the appropriate box). Operating Agents have considerable freedom to keep their own Task areas up to date, but other feedback, reporting of functions that appear not to work and suggestions for further improvements should be made via Anne Bengtson anne.bengtson@telia.com and/or the Visibility Committee. In particular, it would be interesting to know how useful the social network links are.

Statistics

Website traffic from September 1 2017 to March 1 2018:

4,630 Sessions with 2,909 unique users Averaging 25.5 hits per day Average time spent on site: 2:44 84.4% New visitors

Of note is the spike in engagement from Australia, who for this period have the 5th most visits. Australia also show longer than average session duration at just under 4 minutes, with 5.93% of users downloading at least one report.

South Korean users spent significantly longer on-site than average at 6min 48 seconds and showed strong engagement with 7.7% of users downloading a report. Of the top 20 countries visiting the site, Austria and New Zealand showed the most interest in publications with 9.2% of users downloading files.

Users from the UK, despite providing the 2nd most traffic showed low engagement, with an average session time of just under 2 minutes and 1% of users downloading a publication.

Report Downloads for Tasks - Report and other Publication downloads are up, with 403 downloads since September 1 (up from 258).

The top 5 topics for report downloads were:

Topic	Downloads
Task 25	73
Task 24	72
EGRD	46
Participation Information	21
Legal Text	19

Maintenance

The maintenance contract for the website was up for renewal in June. The hosting charges have slightly increased and the outstanding costs have now been paid. From now on, there will be a slightly higher yearly charge to continue hosting the site.

Members should review the website regularly and update their own work/interests, especially reports, any filmed workshops for youtube, presentations for slideshare etc. The website is only as good as there is frequently updated content available. Most updates are from Task 24 and the IEA DSM Secretary.

Social Media

The IEA DSM Technology Collaboration Programme is getting more traction on social media. We now have a presence on:

- <u>Facebook</u> (IEA DSM Group) with 203 members and growing. Even though most posts are by Anne Bengtson, Rob Kool and Hans Nilsson, there are regularly posts and questions by other participants;
- LinkedIn (IEA DSM Group) closed as it was not utilised.
- Twitter (@IEADSM) with 529 followers and 1555 Tweets. This is the fastest growing social
 media platform and has fostered a lot of good engagement, re-tweets and mentions.
 Especially the Academic and Industry sectors seem to respond to this medium. Dr Sea
 Rotmann is at present posting for this group.

- IEA DSM YouTube Channel with 66 videos 35 are Task 24 videos and 39 are DSM University webinars. We need more content from other Tasks. If we start filming some Executive Committee workshops, this would be a great channel to distribute visual information fast.
- IEA DSM SlideShare already highly successful. 142 slide shares.
- Task 24 Expert Platform 245+ members, invite-only (www.ieadsmtask24.ning.com). Very successful multi-media platform to distribute findings from Task 24. The platform is also linked to a dropbox, a Wiki (www.ieadsmtask24wiki.info) and a Twitter account.
- **Templates** Templates have been developed for reports and power points, please use them and make sure to use the ones with correct fonts (NOT HelveticaNeuSt).

A few Executive Committee members commented on that the website needs a major overhaul and has an out-dated 1990's look, and is also not easy to navigate. The website is up for renewal in June 2018 and the Executive Committee members **decided** that this re-newal needs to be looked closer at and a decision made at the next Executive Committee meeting.

DECISION:

Look closer at the renewal contract for the website and make a decision on how to proceed at the next Executive Committee meeting.

DSM University

The Status Update Report for the DSM University was provided on pages 63-74 in the Pre-Meeting Document and was presented by Josefine Maguire in the absence of Hans Nilsson, Advisor to the DSM TCP.

Josefine started her presentation by saying that the DSM University is developing largely according to plan and in a steady pace where we can deliver in a way that creates confidence from users and interested parties. The "Heartbeat" of the DSM-U is the webinars that are delivered once a month.

Objectives for the last six months

Up to March 2018, 39 webinars have been arranged.

Leonardo changed the platform for administering all webinars where all webinars are announced (http://www.leonardo-energy.org/calendar) and it looks as if this has given us a wider audience (see attachment in PMD on pages 69-71).

The webinars are recorded and both slides and supporting material are made available for registered users. A flyer has been produced (http://www.ieadsm.org/wp/files/DSMU-flyer-December-2016-corr.pdf) that provides data on past webinars and on where material can be found for registration and downloading from Leonardo and from YouTube.

Objectives for the next six months

Webinars

The webinars will be arranged and announced in a rolling 6 months plan.

Other guest opportunities:

- a) Guest TCPs: 4E. ISGAN
- b) Policy issues: Club of Rome (Wijkman), Municipalities (Mayor NN), EE in buildings (Adrian Joyce)
- c) Planning and integration follow up on DSMU 31: Peter Lund (Helsinki University)
- d) Address flexibility (Demand Response) and VPP more explicitly

Use of Behavioural Economics for shaping incentives

Attraction-knowledge

Problem: High quality content remains underexploited.

Solution: develop short policy briefs (~2 pages) post-webinar to re-promote content.

A "test" package of past webinars have been composed and sent to some universities as a teaser (Attachment 2)

"Tracks, programmes and Certification"

Tracks: DSM for regulators, DSM for utility engineers

Future: Organising webinars into learning programs leading to certification

DSM 101: Basic elements of DSM and energy efficiency explained in short presentations that can

be downloaded at any time.

Outreach

The next issue is to find "outlets" willing to engage in making use of the material and put it into use in their regular activities. The organizations mentioned above have all shown interest but could be prompted further in particular now when our substance mass has reached some maturity.

The webinars will be more actively promoted on Facebook and LinkedIn.

Steps on the ladder

From this first step follows two more that successively builds the DSMU

1. Platform (to share)

Presently there have been 32 webinars most of them based on material from tasks that have been performed and some on-going. This makes the platform for the DSMU and it has been shared with organisations that have similar objectives such as ISGAN, eceee, IPEEC, RAP and S3C (an EU project). Thereby the outreach is widened and the DSMU made relevant for bigger audiences.

The webinars are recorded and available both on LEONARDO and on YouTube. The Leonardo source also contains slides from presentations and extra material such as task-publications and articles/papers of relevance.

2. Substance (themes)

Next step, creating a substance of text-presentations that can be replicated and used by interested parties according to their own wish, is in preparation. It goes under the work name "DSM 101" and will be a series of internet-based short courses (20-30 minutes each) on the themes for DSM:

- The logic of DSM
- Governance
- Energy efficiency Load level (technical issues)
- Flexibility Load shape (technical issues)
- Integration (with RES and distributed generation)
- Business models

Ideas for new work can be found on pages 66-67 in the Pre-meeting Document.

3. Consolidation

Finally there is a need for consolidation so (a group of) participants can rely on that the information provided is stable and meaningful in its communication. This may call for a system of examination and that there is a responsibility for maintenance and updating. Preferably this will be established in cooperation with a university or an organisation that has reputation in the field of energy efficiency. Several of the operating agents for different Tasks have such roles and might serve as "midwifes" for this final step.

Some comments during discussions raised the issue of how useful the webinars are and can they be used for training purposes, one member considered the DSMU webinars to not be structured enough. Hans Nilsson was urged to look at IEA courses and webinars for inspiration. It was also suggested that Alumni networks could distribute DSM TCP DMSU webinar movies.

There were also discussions on how to start defining an audience for the DSMU in Social Media and how to incorporate DSMU with the IEA.

The Executive Committee members approved the Status Report.

DECISION:

The Executive Committee:

approved the Status Report

ACTION:

 Hans De Keulenaer and Hans Nilsson should continue to move forward as planned with the DSM University

7. ADMINISTRATIVE MATTERS

Task Zero - Running the DSM TCP

The Task Zero Update was not presented as Hans Nilsson, Advisor, fell ill shortly before the meeting.

Future of the DSM TCP

Samuel Thomas led a session on the Review of the DSM TCP, setting out his initial feedback from Phase I, which was commissioned by the ESC. During Phase I, Samuel has conducted 21 interviews with people connected to the DSM TCP and IEA staff. Feedback highlighted the growing consensus around a focus on the interaction between people and end-use technologies; tensions around the scope of activities; and issues related to governance procedures and their implementation.

Two distinct views on the scope of future work had emerged from both the interviews and the earlier discussion at the Executive Committee meeting (tight electricity focus vs. whole energy system focus), albeit with both approaches emphasising a user-centred approach. As a way of eliciting more information about members underpinning views on the potential scope of IEA DSM activities, Samuel asked the table to divide into small groups and define the term DSM. The Executive Committee returned with four definitions:

- DSM refers to technologies, actions and programmes on the demand side of energy meters that seek to manage or decrease energy consumption in order to decrease total expenditures or meet policy objectives such as emissions reductions or balancing supply and demand.
- A focus on how to activate support and understand energy users through the provision of technology, incentives and services
- All the actions that involve the modification the pattern of consumption of energy end users.
- Intersection of technology and behaviour that provides a demand side solution to a policy problem.

All four definitions were broadly compatible with one another. Interestingly, none of the four definitions referred to electricity or power.

Next Samuel asked Executive Committee members to focus on what they should be building on and what they want to be good at in five years' time. The current facets of the TCP that people felt should be built upon related to its:

 characteristics (link to the IEA; multidisciplinary nature; international coverage; technology neutrality; system view with end-users at the centre; long history); and work (on behaviour; business models; and multiple benefits).

The ambitions for the TCP looking forward five years spoke to the nature of the Tasks and projects that should be developed, i.e. designed to meet the needs of target audiences, very often policy makers. The seven ambitions identified by Executive Committee members were:

- Being instrumental in the design and testing of new systems with users at the heart;
- Through combining user perspectives and technologies, providing solutions to a lot of challenges through specific and wide-ranging Tasks;
- Discovering and promoting best practices to influence consumer choices in order to accelerate the transition to cost-effective and sustainable energy services;
- Providing the nature, volume, quality and depth of DSM policy research to support policy making and underpin measurably impactful outcomes;
- > Developing insight on financial systems that do or could enable energy efficiency investments (e.g. changing the value the proposition through multiple benefits);
- Identifying best practices with respect to the delivery agents that should be involved in the delivery of energy services; and
- Understanding whether case studies are transferable to other countries, specifically at the policy level.

Next, Samuel fed back his initial findings on the governance of the TCP before presenting a case study of the way in which the IEA Energy Efficiency End-use Equipment (4E) TCP is managed. IEA 4E employs an Executive Committee OA, has member-led Annexes (Tasks) and clear management processes in place. The slide deck presented at the session, and available on the members' website, provides further details of the 4E management structure and processes. Samuel explained that he would be examining other TCP management approaches during Phase II of the project and making recommendations to IEA DSM.

Finally, Samuel presented two options for Phase II of the Review (see slide deck uploaded to the Executive Committee secure library on the DSM website). The Executive Committee **decided** to pursue Option B, which involves further interviews and research, followed by assisting the Executive Committee in implementing the findings over the period to October 2018, subject to the following conditions:

- > The provision of greater clarity over the nature of the work to be done;
- > The holding of a series of conference calls to check on progress;
- > The inclusion of a stage gate for Executive Committee approval; and
- > An expansion of research to assess the IEA DSM website and communications.

Decision:

The Executive Committee **decided** to pursue Option B, which involves further interviews and research, followed by assisting the Executive Committee in implementing the findings over the period to October 2018, subject to the following conditions:

- The provision of greater clarity over the nature of the work to be done;
- The holding of a series of conference calls to check on progress;
- The inclusion of a stage gate for Executive Committee approval; and
- An expansion of research to assess the IEA DSM website and communications.

Action:

Sam Thomas should continue with a second phase of the Review, (Option B), stretching until October 2018 and present during the next Executive Committee meeting

Strategy discussion - special session

The Strategic Communication plan and draft Strategy Work Plan was prepared by David Shipworth and Even Bjørnstad and led the discussion at the meeting.

A Strategic Communication plan and draft Strategy Work Plan was provided on pages 75 – 80 in the Pre-Meeting Document. The 2-page strategic communication plan has already been sent to the IEA in time for the February 2018 deadline.

Jeremy presented "Key demand-side issues: An IEA perspective" to start the discussion. The presentation has been uploaded to the Executive Committee secure library on the DSM website.

Executive Committee members split up in 4 different groups. Notes taken during the workshop will be summarised and analysed further and included in the draft Strategic Work Plan.

Work on the Strategic Work Plan will continue in the months ahead and a consultation round with Executive Committee members will take place before including the SWP and Strategic Communication together with the application letter to the EUWP for a one-year extension.

Action:

- Summary of notes taken during the strategic discussion will be incorporated in to the Draft Strategic Work Plan and distributed to the Executive Committee members as soon as possible.
- Arrange consultation round with Executive Committee members

Financial Report 2017 and Budget 2018

Even Bjørnstad, Vice-Chairman, with support from Anne Bengtson, Executive Secretary prepared the Financial report. The Financial report was provided in part 2 of the Pre-Meeting Document and was presented by Even Bjørnstad.

The report focussed on the financial performance of the DSM TCP during 2017. Performance for the period 1 January – 17 March 2018 was also provided but not studied in detail.

2017 Result and Balance

The net result – income less expenses – is USD 60 054, which adds to the balance to yield an end of year balance at USD 241 054.

Overall, the financial situation for the TCP is relatively strong.

Even pointed out that there is a deviation between outgoing and ingoing balances in 2016/17 and 2017/18 and said he is in a dialogue with the account manager to explain this and will report on the finding as soon as possible.

There is a growing recognition that the current arrangement regarding our account management is suboptimal. We have received clear signals from our accountant (Accountax Enterprises Inc.), situated in the USA, that it is desirable that a more suitable arrangement is found.

The VC for finances, in cooperation with the executive secretary, are working to set up a new arrangement, located in Norway. This will most likely involve: 1) registering the IEA DSM TCP as a voluntary non-commercial (not for profit) organisation in the National Register. An organisation number will be issued. 2) obtain an account in a Norwegian bank and 3) hire a new accountant to keep our books.

The Executive Committee was asked to approve that this change is initiated.

The Executive Committee **agreed** that DSM TCP's funds will be temporarily transferred to Pam Murphy (KM Group), and authorizes Even Bjørnstad to establish a not for profit organization within Norway (or an alternative location) to manage the accounts in the long term.

The issue of the Spotlight newsletter being too expensive was addressed again and suggestions

were that there are online "newspaper" formats that can be used instead of an InDesign professional, to cut costs. Pam should look in to finding another solution for editing/producing the Spotlight Newsletter.

Executive Committee members should let Anne Bengtson know as soon as an invoice has been paid.

Executive Committee members approved the 2017 Financial report and 2018 budget.

DECISION:

- Executive Committee members **approved** the financial report 2017 and budget 2018.
- Executive Committee members agreed that DSM TCP funds will be temporarily transferred to Pam Murphy (KM Group) and authorizes Even Bjørnstad to establish a not for profit organisation within Norway (or an alternate location) to manage the account in the long term.

ACTION:

- Even Bjørnstad should hire an accountant, open a not for profit organisation and open a Norwegian bank account
- Executive Committee members should let Anne Bengtson know as soon as an invoice has been paid
- > Pam Murphy should look into options of editing/producing the Spotlight Newsletter online

Common Fund Payments

India and Spain have not paid their 2015, 2016, 2017 and 2018 invoices. Belgium, India, Norway, Spain and the US have not paid their 2018 invoice yet. The Executive Secretary will continue to send out reminders to those failing to pay, until payments are received.

ACTION:

Executive Committee secretary should keep reminding those who have outstanding payments

Plans for the Fifty Second and Fifty Third Executive Committee meetings

The 52nd Executive Committee meeting will be held in the UK. Date to be decided via a Doodle Poll.

The 53rd Executive Committee meeting. Australia offered to look in to hosting the 53rd Executive Committee meeting.

8. OTHER MATTERS

The Executive Committee members thanked Even Bjørnstad for the excellent meeting arrangements and the Vice Chairs adjourned the meeting.

9. ACTION ITEMS RESULTING FROM THE FIFTY FIRST EXECUTIVE COMMITTEE MEETING DRAFT

17-18 April, Bergen, Norway

WHO	ACTION	WHEN
India Spain	Pay Common Fund invoice for 2015	ASAP
India Spain	Pay Common Fund invoice for 2016	ASAP
Belgium India Spain	Pay Common Fund for 2017	ASAP
Anne Bengtson	Keep reminding those who have outstanding payments to the Common Fund	On-going
David Shipworth Even Bjørnstad	Write letter to the EUWP requesting a one year extension	ASAP
David Shipworth Even Bjørnstad	Maintain contacts with China (NDRC), Thailand (EGAT), IBM (Germany), Australia, Portugal and Chile.	On-going
Hans Nilsson Hans de Keulenaer	Move forward with the DSM University according to plan – as well as continue to plan/hold webinars the first weeks of every month	On-going
Operating Agents	Update a more clear definition in Legal Annex text of their Task	ASAP
Matthias Stifter Markus Bareit	Further proposal for a Task on Big Data and present at the next ExCo meeting	On-going
Anne Bengtson Peter Warren	Prepare administrative details for the Fifty second Executive Committee Meeting in Bergen, Norway	August 2018
Anne Bengtson	Send out invitations first week of August	August 2018
ExCo members	Review website regularly and suggest further developments	On-going
ExCo members	Suggest topics for the Spotlight Newsletter and provide input for those articles to Pam Murphy	On-going
All	Suggest recommendations to update the website	On-going
Operating Agents	Prepare Task Information Plans and include in each Task Status Report.	On-going
Pam Murphy	Distribute issues of the DSM Spotlight Newsletter	June 2018 September 2018
Operating Agents	Include 1-2 slides in Task presentation, highlighting the main findings to date in respective Task(s).	Present at next ExCo meeting
ExCo members	Provide ideas to Jan Bleyl, Task 16 for further work	On-going
All	Provide input to the 2018 Annual Report	15 November 2018
ExCo members	Those who are interested in participating in Task 17 should contact Anna Kosek for a meeting to set up the Task Definition stage – alt conf. call	On-going

Hans Nilsson	Task Zero: Prepare Task Status Report and send to Anne Bengtson for inclusion in the Pre-Meeting Document.	Friday 31 Sept 2018
Hans Nilsson Hans de Keulenaer	Prepare Status Report on the development of the DSM University and send to Anne Bengtson for inclusion in the Pre-Meeting Document (PMD).	Friday 31 Sept 2018
Jan Bleyl- Androschin	Prepare a Final Management report for Task 16 Phase 4 and send to Anne Bengtson for inclusion in the Pre-Meeting Document (PMD).	Friday 31 Sept 2018

Anna Kosek	Prepare Status Report for Task 17 Phase 4 and send to Anne Bengtson for inclusion in the Pre-Meeting Document (PMD).	Friday 31 Sept 2018
Even Bjørnstad David Shipworth	Prepare ESC progress report and send to Anne Bengtson for inclusion in the Pre-meeting Document (PMD).	Friday 31 Sept 2018
Markus Bareit Matthias Stifter	Prepare concept paper on Big Data for Energy Efficiency and send to Anne Bengtson for inclusion in the Pre-meeting Document	Friday 31 Sept 2018
Sea Rotmann	Prepare Task Status Report Task 24 Phase II and send to Anne Bengtson for inclusion in the Pre-Meeting Document (PMD).	Friday 31 Sept 2018
Ruth Mourik	Prepare Task Status Report for Task 25 and send to Anne Bengtson for inclusion in the Pre-Meeting Document (PMD).	Friday 31 Sept 2018
Even Bjørnstad Anne Bengtson	Prepare Financial Report and send to Anne Bengtson for inclusion in the Pre-Meeting Document	Friday 31 Sept 2018
David Shipworth Even Bjørnstad Josephine Maguire	Prepare Visibility Report for inclusion in the Pre-Meeting Document.	Friday 31 Sept 2018
Weber Web	Provide statistics for every Task every six months and send to David Shipworth/Even Bjørnstad/Anne Bengtson for inclusion in the Pre Meeting Document.	Friday 31 Sept 2018
Anne Bengtson	E-mail pdf file of Pre-meeting Document for the Fifty Second ExCo meeting to the Executive Committee members and Operating Agents.	Monday 10 Sept 2018

10. ATTACHMENT A

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Executive Committee Members DSM Technology Collaboration Programme

*Participants at the Executive Committee meeting 17-18 April, 2018, Bergen, Norway

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Position to be filled

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DSM Implementing Agreement on Demand Side Management Technologies and Programmes – Operating Agents

* Participated at the Executive Committee meeting 5 – 6 October, The Hague, The Netherlands

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11. ATTACHMENT B

Agenda

IEA Demand-Side Management Energy Technology Initiative Fifty First Executive Committee Meeting

16 - 18 April, 2018 Bergen, Norway

Monday 16 April

09:00 – 15:30 DSM Day Workshop

Clarion Hotel Admiral, C. Sundts gate 9, Bergen

16:00 – 17:00 Operating Agents Meeting

Visibility Committee Meeting

Tuesday 17 April

09:00 - 10:30

1. GENERAL BUSINESS/WELCOME

1a. Welcome - Even Bjørnstad, David Shipworth

1b. ExCo approval of the Agenda

1c. **ExCo approval** of the Fiftieth ExCo meeting Minutes – The Hague, Netherlands

1d. Status of the Implementing Agreement

- Vote for 1-year extension

1e. IEA Relations

- Secretariat news

- Contacts with possible sponsors/new participants

- Even Bjørnstad

- IA relations, BCG and ECG, - Even Bjørnstad

- Report from the ExCo Steering Committee

– David Shipworth

- Operating Agents meeting report – Even Bjørnstad

10:30 – 11:00 **Coffee break**

11:00 – 12:30 **2. NEW WORK**

2a. Task 17 Phase 4 – Responsive prosumer networks Task Status Report and updated Work Plan

- René Kamphuis, TNO, the Netherlands

2b. Concept paper: Global peer-to-peer observatory- David Shipworth, UCL Energy Institute

The proposed New Tasks discussion will aim at one of the following decisions:

- 1. Decide to **initiate the new Task** based on work done to date.
- 2. Decide to initiate the **Task Definition** for a new Task. Interested countries must be prepared to assign the appropriate expert(s) to participate in that process.
- 3. Decide that additional work is needed on the **concept paper**. Interested countries must be prepared themselves, or to assign the appropriate Experts to help further develop the concept.
- 4. Decide to pursue the subject in co-operation with other parties within the IEA or elsewhere
- 5. Rejection (or moth-balling)

12:30 – 13:30 **Lunch**

3. CURRENT TASKS - LOAD LEVEL CLUSTER

13:30 – 14:00	3a. Task 16 – Phase 4 – Competitive Energy Services – Task Status Report – <i>Jan W. Bleyl, EnergeticSolutions, Austria</i>		
14:00 – 14:30	3b. Task 25 Business models for a more effective market uptake of DSM energy services. Task Status Report – Task Status Report and Phase 2 Work Plan – Ruth Mourik, DuneWorks, the Netherlands		
14:30 – 15:00	Coffee break		
	4. CURRENT TASKS – LOAD SHAPE CLUSTER		
15:00 – 15:30	4b. Task 24 Closing the Loop – Behaviour Change in DSM: Helping the Behaviour Changers – Phase II. Task Status Report – Sea Rotmann, SEA - Sustainable Energy Advice, New Zealand		
15:30 – 17:00	Future of the DSM TCP – afternoon discussion New topics		
19:00	Hosted dinner		

19:00 Hosted dinner

Wednesday 18 April

09:00 – 9:30 **5. PROGRAMME VISIBILITY**

5a. Programme Visibility Report

– Josephine Maguire

5b. Development of the DSM University – Hans Nilsson

6. ADMINISTRATIVE MATTERS

6a. Task Zero, status report

6b. Financial Report 2017 – Even Bjørnstad Accountax Status Report Status of Common Fund payments

6c. Plans for the Fifty Second ExCo meeting October 2018 (tentative offer from UK)

6d. Plans for the Fifty Third ExCo meeting (April 2019)

10:00 – 10:30 **Coffee break**

10.30 – 12:30 **7. End of Term 2014-2019 and application for a new Term**

7a. Strategic Communication7b. Strategy Work Plan7c. Discussion

8. Other matters

APPENDIX TO THE AGENDA "Issues for the decisions and the process to reach decisions"

The delegates are URGED to prepare their responses to presentations carefully and primarily by

contacting possible stakeholders before the meeting. The format for these proposed New Tasks will be a brief presentation that focuses on the:

- **Motivation** for the proposed work (what issues does it tackle?) what is it trying to achieve? Who is the target audience?;
- Objectives:
- Approach to accomplishing the proposed work;
- Expectations/Results and Deliverables
- Dissemination plan what will need to be done to get the results adopted? Who will do it?
- Required resources

Concept and Task Definition Papers (Process and phases)

Before a new Task is starting the concept has to be defined and presented in order to attain the interest of possible participants.

PHASE 1: IDENTIFY NEW ACTIVITIES

Resulting in a CONCEPT PAPER (2-5 pages) containing

- Motivation
- Objectives
- Approach
- Expectations/Results

PHASE 2: DEFINE NEW ACTIVITIES

Requiring an EXPERTS MEETING to propose

Table 1. Task Work Plan Resource needs: Task or cost sharing

Table 2. Dissemination, Task Information Plan

CONTENTS OF PROPOSALS FOR NEW WORK

The document that will propose the new work to the Executive Committee could be organized and have the

Following contents:

- 1. Background and motivation
- 2. Objectives
- 3. Issues for the new work (scope)
- 4. Structure (sub-tasks)
- 5. Management (responsibilities of the Operating Agent, Subtask leaders and Experts)
- 6. Deliverables (for whom, target groups)
- 7. Time Schedule and milestones
- 8. Funding and Commitments (Resources needed)
- 9. Meetings plan
- 10. Information activities
- 11. Co-operation with other IA's, the Secretariat and other interested parties
- 12. Country contributions to funding and Tasks

Annexes: Detailed description of Subtask

12. ATTACHMENT C

Glossary

Abbreviation	Explanation		
APEC	Asia-Pacific Economic Cooperation		
BCG	Buildings Co-ordination Group (consists of 7 Implementing Agreements)		
CERT	Committee on Energy Research and Technology in the IEA		
CIGRE	International Council on Large Electric Systems		
CTI	Implementing Agreement on Climate Technology Initiative		
DHC	Implementing Agreement on District Heating and Cooling		
DSM	Implementing Agreement on Demand-Side Management		
EC	European Commission		
ECEEE	European Council for an Energy Efficient Economy		
ECES	Implementing Agreement on Energy Storage		
ECI	European Copper Institute		
EEWP	Energy Efficiency Working Party in the IEA		
ENARD	Electricity Networks Analysis, Research & Development		
EOT	End of Term		
ESD	Energy Services Directive in the European Commission		
ETE	Energy Technology Essentials (3-4 page briefs)		
ETSO	European Transmission System Operators		
EU	European Union		
EUWP	End-Use Working Party in the IEA		
FBF	Implementing Agreement on Future Buildings Forum		
GHG	Green House Gas		
HPC	Implementing Agreement on Heat Pump Centre		
ICLEI	International Council for Local Environmental Initiatives		
IEA	International Energy Agency		

IPCC	Intergovernmental Panel on Climate Change
ISGAN	International Smart Grid Action Network (ISGAN)
JFS	Japan Facility Solutions (Japanese Sponsors participating in Task XVI)
KEA	Korea Energy Agency
KIER	Korea Institute of Energy Research
NEET	New and Emerging Environmental Technologies (IEA networking project - Gleneagles G8)
NDRC	National Development and Reform Commission, China
PMD	Pre-Meeting Document
PVPS	Implementing Agreement on Photovoltaic Power Systems
REEEP	Renewable Energy and Energy Efficiency Partnership
SANEDI	South African National Energy Development Institute
SANERI	South African National Energy Research Institute
SHC	Implementing Agreement on Solar Heating and Cooling
TSO	Transmission System Operators

If you would like to add to the glossary send your suggestion to anne.bengtson@telia.com

13. ATTACHMENT E

Votes via e-mail from members

Matters for the ExCo

 responses from countries not attending the 51st ExCo meeting in Bergen Norway 17-18 April 2018

IEA Secretariat News

New Zealand

We would like to join the Secretariat in welcoming Mexico as a new country member and the new TCP on Clean Energy Education and Empowerment (C3E TCP).

DSM TCP ExCo Steering Committee Report Document C - page 16

Switzerland

→ Approve the Task Status Report
② Switzerland approves the Task Status Report

USA

Approve the Task Status Report USA VOTES TO APPROVE

New Zealand

ExCo Steering Committee: Has a new Chairman been found? We do not support hiring a Chairman if no ExCo member is willing to step up as a viable alternative. We do, however, strongly support the independent review undertaken by Mr Thomas and would be willing to change our views depending on the discussion in Bergen, and his recommendations.

It is unclear who the "Strategic Communication" has been submitted to on Feb 1 and should ExCo members have been able to provide input? Do you require ExCo member input into End of Term report and RfE? What are the timelines?

Re; "get other players involved" – the NZ OA's proposal for a new workstream in the Hague put forward mechanisms for how this could be resolved. Has this option – e.g. for an "entrepreneurial Task model" with industry co-funding been re-considered – e.g. as part of the IEA DSM case studies?

Re; "Resolve status of Task 24" – what is the implication of this and how can NZ and the NZ OA contribute to this resolution (seeing the proposed <u>Exco survey</u> to help resolve the Task 24 status was rebuffed by the ESC)?

New Zealand is currently reviewing its DSM membership and expresses concerns about viability of the DSM TCP going forward (no Chair, procedural issues and concerns, lack of viable Tasks and lack of funding by other ExCo members, including countries who have not funded Tasks in

a long time). We do support the independent review and want to thank the VCs for starting to address some of these issues. For New Zealand participation, the continued ability to co-fund with industry, is important.

ECI

Approves the report

Proposal Task 17 – Integration of Demand Side Management, Distributed Generation, Renewable Energy Sources and Energy Storages – Phase 4 – Responsive prosumer networks. Document D – pages 17-24

Switzerland

Approve the Task Status Report

®Switzerland approves the Task Status Report

©Switzerland will not participate in Phase III of Task 17. We informed René in January by email.

USA

Approve the Task Status Report USA NOT PARTY TO THIS TASK SO NOT VOTING

New Zealand

Generally, the investigation into responsive prosumer networks is very interesting. However, there are some concerns about the number of hours and intradisciplinary expertise, particularly in relation to end user behaviours and motivations. More information is needed to mitigate concerns that these broad and complex goals may not be able to be fulfilled in the time and with the resources proposed here. It is unclear, for example, how exactly the behavioural parts of Subtasks 14 and 15 are planned to be undertaken and with what inter-disciplinary approaches and resources? Similarly with part of Subtask 16 "Analyze the influence of instant feedback and micro-transactions on user behaviour and responsiveness" – how will this be analyzed? Is this based on existing research in the participating countries or new research developed by Task 17? If so, 250 hours for this objective alone may not be sufficient. It would have been good to show how the NE hours are spread between the Subtasks, and if NEs with specific behavioural capabilities will be sought. NZ participation: NO.

ECI

Approves the report

Concept paper: Global peer-to-peer observatory – Document E – pages 26-29

Switzerland

Approve the concept paper and further development

®Switzerland approves the concept paper.

PFurther input:

- o Peer to peer energy trading gains importance and is a very important research topic.
- o The business is growing quite fast. It will be very difficult to follow this pace in a new task. Somehow it has to be assured that the conducted work is not outdated before it is terminated.
- o Distributed ledger (Blockchain) and Peer to Peer trading is a big "hype" at the moment and many efforts of different parties are already taking place. This needs to be considered if we decide to start this new work. What will be the

- additional outcome to the work that is already going on?
- o SFOE is supporting a demonstration project on peer to peer trading in Switzerland that just started. This project could serve as one of the case studies.
- o Other topics:
 - Deeper focus on regulatory aspects would be interesting for Switzerland.
 - Does peer to peer trading only work in micro grids? What other business cases exist and what are the added values?
 - What will be the role of the DSO in the different business models?
 - When does the use of Blockchain make sense and when is it better to use other technologies?

Format of activity

It is proposed that this is a new format of activity distinct from a Task. It serves the function of drawing from the deep technical expertise of existing Tasks (17, 24 & 25) and focuses these around case studies as the unit of analysis. This raises two questions:

- Should this be independent or integrated in an activity like Task 17?
 - ②t depends what the interests of the participating countries are. I would prefer it to be a separate Task. I propose to have smaller and shorter Tasks. Tasks should not be overloaded – quality instead of quantity – so they don't need to last for 2-3 year and the outcome will not already be out-dated. ...and the Tasks can be conducted with a lower budget which makes it easier to find participating countries.
- Should this be a Task in its own right?

PYes, see above

Relationship with other TCPs

This has clear overlaps with other TCPs such as ISGAN. This raises three questions:

- Should this be primarily housed within the DSM TCP?
 - **P**yes
- How should reporting to other TCPs be handled (should the OAs attend the ExCos of other TCPs to report, if so how many TCPs are relevant to attend).
 - (a) don't know. Is there already experience? Travel Expenses should be kept on a minimum otherwise the task gets too expensive.
- As representatives of member nations are the outputs of interest and relevance to your work?

Funding and participation

There is likely to be considerable commercial interest in the outcomes of this activity. This raises two questions:

- What conflicts of interest arise through introducing different companies into the work of the DSM TCP?
 - (P) don't know how this works. Companies could participate as sponsors as far as I know.
- Can funding structures be tiered according to the class of membership (different fees for participation by nations compared to companies)?
 - P guess the ExCo can decide on that.

LISA

Approve the concept paper and further development USA VOTES TO APPROVE

Format of activity

It is proposed that this is a new format of activity distinct from a Task. It serves the function of drawing from the deep technical expertise of existing Tasks (17, 24 & 25) and focuses these

around case studies as the unit of analysis. This raises two questions:

- Should this be independent or integrated in an activity like Task 17?
 USA WOULD WANT TO HEAR THE PRO/CON DISCUSSION BEFORE FORMING AN OPINION, SO SINCE CANT BE AT EXCO, GIVES THE CHAIRMAN HIS PROXY
- Should this be a Task in its own right?

USA WOULD WANT TO HEAR THE PRO/CON DISCUSSION BEFORE FORMING AN OPINION, SO SINCE CANT BE AT EXCO, GIVES THE CHAIRMAN HIS PROXY

Relationship with other TCPs

This has clear overlaps with other TCPs such as ISGAN. This raises three questions:

- Should this be primarily housed within the DSM TCP?

 <u>USA WOULD WANT TO HEAR THE PRO/CON DISCUSSION BEFORE FORMING AN OPINION, SO SINCE CANT BE AT EXCO, GIVES THE CHAIRMAN HIS PROXY</u>
- How should reporting to other TCPs be handled (should the OAs attend the ExCos of otherTCPs to report, if so how many TCPs are relevant to attend).
- As representatives of member nations are the outputs of interest and relevance to your work?

USA SAYS YES

Funding and participation

There is likely to be considerable commercial interest in the outcomes of this activity. This raises two questions:

- What conflicts of interest arise through introducing different companies into the work of the DSM TCP? USA NOTES THAT CONFLICTS WOULD INDEED ARISE. IS THERE WAY A WAY TO MITIGATE THEM? DON'T KNOW.
- Can funding structures be tiered according to the class of membership (different fees for participation by nations compared to companies)?

New Zealand

Concept note: global peer-to-peer observatory: This is an interesting field of research and seems to be a similar model to what was proposed by the NZ OA in the last ExCo meeting in the Hague (which was on a "people-focused" work stream). Further consideration of how this, and the "people-focused" work could be integrated in the DSM TCP (if it is indeed deemed as the right vehicle) could be undertaken by a similar ExCo survey as proposed by Task 24 OA, earlier? This would ensure all ExCo members, including the ones not present at meetings, have the ability to partake in the discussion of shaping such work streams, either as Tasks or overarching themes. Would they be partly paid out of the ExCo common fund? This again would be a similar concept to that proposed by the NZ OA (like having an "ambassador for the human side of the energy system"). Both seem valid considerations to explore further from the NZ perspective.

ECI

• on the Blockchain proposal, it is a hot topic and a bit of a hype. As we tend to focus on market-ready solutions, I'm afraid that it is too early for ECI to engage with this topic beyond the occasional webinar.

Task 16 – Phase 4 – Innovative Energy Services – Life-Cycle cost; 'Deep Retrofit'; Simplifies M&V; (Crowd)-Financing & Energy Services Taxonomy – Document F – pages 30-37

Switzerland

- Recommend the ExCo to approve the Task Status Update Report.
- → Provide guidance on future work after June 2018 please, if desired by the ExCo, otherwise Task 16 will be terminated by end of June this year.

®Switzerland approves the Task Status Report

@Switzerland is very much in favour to continue this important Task. We like to thank Jan for his big efforts he makes and congratulate him for all his achievements especially the well-received presentation at the IEA head quarter in march (Beyond energy savings: The multiple benefits of energy efficiency).

•We support the proposed topics for phase V and are looking forward to continue this successful collaboration.

USA

- Recommend the ExCo to approve the Task Status Update Report.
- Provide guidance on future work after June 2018 please, if desired by the ExCo, otherwise

Task 16 will be terminated by end of June this year. USA HAS NO OPINION AND THUS

New Zealand

Task 16: We would like to congratulate the Task 16 OA for the excellent work undertaken by this Task and except the Task Status Update. Unfortunately, New Zealand still does not operate much in the EPF space and will thus unfortunately not be able to participate in an extension of this Task.

ECI

• regarding Task 16, we like the Task very much, but think that it is too early to convert product offerings into business services. In a couple of years, it may be more opportune to have a project on this topic. If the Task is closed, we hope it doesn't take so long by then to start up a new Task. Or possibly the exco can invite a proposal on this topic?

Task 25 – Business Models for a More Effective Market Uptake of DSM Energy Services – Document G pages 38-51

Switzerland

Approve the Task Status Report and Phase 2 Work Plan

(Switzerland approves the termination of phase I but will not participate in phase II

LISA

Approves the Task Status Report and Phase 2 Work Plan USA NOT PARTY
TO THIS TASK SO

New Zealand

Task 25: Is Australia now an official DSM member? And is there some overlap in the work proposed here under Subtask 2 (new actors new business models) with the P2P observatory concept paper? It is unclear if there is industry co-funding in the training and living lab development of real-life interventions – seeing these are quite expensive and may beyond the hours provided here? Similar work seems to be undertaken right now by the H2020 UtilitEE project. New Zealand is a NO.

EC

Approve the Task Status report

Task 24 – Behaviour Change in DSM: Helping the Behaviour Changers – Phase 2 Document H pages <u>53-59</u>

Switzerland

Approve the Task Status Report

®Switzerland does not participate in this Task

USA

 Approve the Task Status Report <u>USA VOTES TO APPROVE BUT REQUESTS TASK</u> <u>STATUS REPORT BE CORRECTED TO INDICATE THAT THE USA'S CONSORTIUM</u> <u>FOR ENERGY EFFICIENCY HAS 90 INSTEAD OF 186 MEMBER UTILITIES.</u>

New Zealand

Task 24: Accept Status Report and extension for US participation reports until end 2018. New Zealand is still interested in potentially developing more human-centered work, either as a Task extension, new Task, case study or overarching platform, similar to what was proposed in the Hague. We support both, an ExCo survey on interest and possible topics, and an independent review of Task 24 and its value to the DSM TCP, as proposed by Mr Thomas.

ECI

Approves the Task Status report

Programme Visibility Report Document I – pages 60-63

Switzerland

Approve the Status Report

®Switzerland approves the Status Report

@s it possible to decide on the theme chapter of the annual report earlier in the year?

USA

Approve the Status Report USA VOTES TO APPROVE

New Zealand

Visibility Committee Report: Accepted. New Zealand would like to thank former VC chair Dr Sea Rotmann for her 5 years of work, especially during the difficult website re-development.

ECI

Approves the visibility committee report

DSM University Document J pages 64-75

Switzerland

pprove the Status Report

(To be presented during the ExCo meeting)

@We do not understand the Finance chapter. 111k \$ is considered as too high concerning the support of the copper institute and the yearly reduction of their yearly contribution to the common fund.

USA

Approve the Status Report **USA VOTES TO APPROVE

New Zealand

DSMU: New Zealand would like to propose a webinar on storytelling by Task 24, as well as a review of overall outcomes from 7 years of researching "behaviour change in DSM". We still believe that the substance (6 themes) fails to reflect the end-user side of the energy system. There are more references to business and market models in different themes than user behaviours or motivations. Contributing to being a "midwife" to help bring the human aspect of DSM into DSMUs and summarise behavioural insights from webinars, could, for example, be part of an "ambassador" role for the human aspect of energy use. Task 24 has clear insights, networks and connections to elaborate on this important aspect of the energy system. Have all the deliverables outlined in the old budget been completed? Why are OA duties included in the budget if they are part of task sharing? What is the in-kind contribution of e.g. ECI moderator and dissemination time? We would like to see a more clearly defined and detailed budget and proposal for future development of the DSMU.

EC

We remain committed with DSM University and see this continuing in the future, provided that we can keep finding topics.

Task Zero

Switzerland

Approve the Task Zero Status Report



PMD Part 2: Financial Report 2017 and current financial status 2018

Switzerland

Approve the financial report 2017 and current financial status 2018

- Thanks to Even for his work.
- Our financial situation looks very good. If there are no special expenses planned for the next years I suggest to decrease the common fund again so the countries have more budget to finance new Tasks.
- Will India and Spain ever pay the common fund again for how long do we list them as members?

USA

Votes to approve

USA VOTES TO APPROVE USA VOTES TO APPROVE

Strategic Communication Document K - pages 76-77

Switzerland

Comments

Switzerland supports the strategic communication document

The focus on the end user is very important. However also technology and business models that can influence the end user and its behaviour need to be considered within the DSM TCP. These topics lead to interferences with other TCP (e.g. ISGAN) which need to be solved.

USA

USA thanks for the putting down on paper an informal shift that has been occurring in the work of our IEA DSM TCP. Its good to have such a shift in direction in our TCP openly discussed and debated at the ExCo.

- USA notes that the document changes, or perhaps the word is "sharpens," the future focus of our TCP.
- The document lays out a logical and well-reasoned argument for a new mission of our IEA DSM to be "[a] behaviour change approach will be at the core of all future tasks." The USA supports this new mission.
- However, such a shift may have an impact on some of the ExCo members, either they themselves not being the appropriate person to represent their country in this new mission OR a member country may be less interested in this new mission (India?), which is frankly quite "edge-of-the-state-of-the-art," and more so than the more traditional aspects of DSM. See next comment.
- Not accurate is this statement: "the end user is becoming a far more active and dynamic participant in the energy system moving beyond being a mere consumer..."

More accurately is this: "the end users increasingly have the ability, if they chose to, of becoming a far more active and dynamic participant in the energy system moving beyond being a mere consumer..." Why more accurate?: The USA is finding that many electricity customers want simple plain vanilla-

flavored electricity and thus DO NOT WANT OR SEEK to be a "more active and dynamic participant in the energy system, even though new

technologies may give them the ability to do so. This has important implications for social equity considerations by regulators and

policymakers as technologies can increase divisions between "haves" and "have nots." We in the USA already are seeing this occur in State-level

electricity legislation and regulation. The distinction that not all end users seek to participate, whether because they are not tech-savvy, upper-income,or dont want to be bothered, needs to be kept in mind as the ExCo decides to approve the next direction for the IEA DSM TCP in Document K

New Zealand

Strategic communication: New Zealand is thrilled that the end user will be at the center of the new strategy going forward and that a new Chair will be voted in April. How will the ExCo countries who are not present in Bergen be able to vote?

We propose a change to the following sentence: "Policies, products and programmes intended to influence end use energy demand in ways that serve societal objectives [...]" in order to reflect our role as a TCP.

We hope that New Zealand and the Task 24 OA and her wide network of experts can contribute to the "Further development of energy behaviour change theory and tools, evaluating their applications in different contexts, providing policy relevant outputs applicable in different countries and expanding the range of innovative policy instruments of relevance to DSM" as well

as "Using behavioural approaches in research on all technology tasks undertaken within the DSM TCP, so that an end-user view is incorporated into research findings and solutions." The Task 24 Behaviour Changer Framework would also lend itself particularly well to the proposed short case study analyses contributing to the IEA Global Exchange Platform. New Zealand is particularly interested in mobility as a service topics. How were the proposed two case studies chosen and what is the process to decide future case study themes? What is the expected input from interested countries into those case studies? Who will lead their development and who will fund them?

Strategy Work Plan – End of Term 2014-2019 and application for new Term Document L pages 79-81

Switzerland

Comments, additions to the discussion of the draft Strategy Work Plan

@Switzerland supports the strategic work plan

Purther topics that should be mentioned are:

- Energy storage and convergence of energy systems (e.g. power to x)
 DSM is connected to the flexibility of the energy system and this can be achieved by steering the production or consumption or by storing the energy in a battery or transform it to another energy source/sector (e.g. gas, electric vehicles, etc.)
- o The overlaps with other TCP should be addressed and shown how we deal with it
- o Besides the different business models to achieve DSM, DSM can be a business model itself. By adjusting production, consumption and storage prosumers can profit from price fluctuations.
- o We need to strongly highlight our unique selling proposition the focus on the end user in order to differentiate our TCP from others.

USA

• If the ExCo goes forward with Document K, then the Strategy Work Plan is fine.

New Zealand

Strategic work plan 2019-2024: The strategy initially seems to imply that any future exploration into the behavioural science field will discontinue the broader examination of trans-disciplinary and collaborative approaches employed by Task 24 and focus more narrowly on behavioural economics and game theory, instead? We believe that this alone will not suffice to fulfil the broader strategic goals of a user-centered approach that takes all actors' behaviours along the service provision supply chain into account. It would be a shame to lose the strong networks and institutional knowledge built by Task 24 exactly around these approaches, from the TCP.

New Zealand continues to support the idea proposed by SEA and SCI in the Hague for a more "entrepreneurial model" to be able to co-fund and explore more deeply real-life behavioural problems, with the relevant actors in the field. The only way to truly understand the different actors along the service provision supply chain is to include them in the design, implementation and evaluation of behavioural interventions in real-life case studies and interventions. The added cost of field research pilots could be supplied by a co-funding model with industry and other non-state actors. The recent Task 24 addition of 10 major US utility members (with access to 186 members, all up) via the Consortium for Energy Efficiency (CEE) provides a possibly highly fruitful platform for such collaboration.

A proposal for a possible case study focusing on Energy Saving Kits (building on the Irish case study examined in Task 24 Phase II) is under development (this could either form basis of Phase

III or a stand-alone, industry co-funded case study). It would be good to receive ExCo input into potential interest for such a proposal. New Zealand has interested project partners to co-fund NZ participation.

Further Comments

New Zealand

Further comments: The actions pertaining to Dr Sea Rotmann as now former Visibility Committee Chair need to be updated/removed. ExCo members need to be updated (e.g. Rob Kool as Chair and Simon Arnold as NZ primary ExCo need to be removed). The only time NZ ExCo Alternate and Task 24 OA Dr Sea Rotmann can be in Europe for the next meeting is either the week beginning September 10, or 17. We have not yet found another primary ExCo and this, and the future NZ participation in this TCP will depend on the outcome of discussions in Bergen, and Mr Thomas' review.

14. ATTACHMENT F

Report from the IEA Secretariat (March 2018)

1st Quarter 2018

- 1. IEA Secretariat
- 2. Committee on Energy Research and Technology (CERT)
- 3. Working Parties and Experts' Groups
- 4. Technology Collaboration Programmes (TCPs)
- 5. IEA Publications

The IEA Secretariat report provides an overview of recent developments within the Energy Technology Network (ETN) and the IEA Secretariat that are of interest to all Technology Collaboration Programmes (TCPs). This report is designed to complement the information provided by your Desk Officer related to IEA analysis and projects (current and planned) of relevance to individual TCPs. If you have comments or questions, please forward to TCP@iea.org.

1. IEA SECRETARIAT



Re-election of the IEA Executive Director
The IEA Governing Board has re-elected by unanimity Dr. Fatih
Birol as Executive Director for a second four-year term:

http://www.iea.org/newsroom/news/2018/january/iea-governing-board-re-elects-dr-fatih-birol-as-executive-director.html

Mexico joins the IEA

Mexico officially became the IEA's 30th member country on 17 February 2018, and its first member in Latin America. Mexico's accession is a cornerstone of the IEA's on-going modernisation strategy:







indicators-online-training-courses.html

IEA launches online resource for Sustainable Development Goal 7 The IEA provides annual country-by-county data on access to electricity and clean cooking (SDG 7.1) and is the main source for tracking progress towards renewables (SDG 7.2) and energy efficiency (SDG 7.3) targets. http://www.iea.org/sdg/

Launch of the new World Energy Outlook site
The new World Energy Outlook site is now up and running: https://www.iea.org/weo/

IEA launches energy efficiency indicators online training courses
The IEA recently launched the IEA Energy Efficiency Indicators Online Training Courses, the first professional online courses to be delivered by the IEA. These two elearning courses will provide statisticians and policymakers with the tools to collect the information necessary to create energy efficiency indicators.

https://www.iea.org/newsroom/news/2018/march/iea-launches-energy-efficiency-





IEA Global Exchange Platform for Energy Efficiency

A new online tool, the IEA Global Exchange Platform for Energy Efficiency, announced at the 2017 IEA Ministerial, aims to be the premier global source of energy efficiency information and data. The Platform is currently in beta testing phase but is expected to launch during the 2nd Quarter 2018.

2. COMMITTEE ON ENERGY RESEARCH AND TECHNOLOGY (CERT)

Proposed Action Plan for TCP Enhancement

CERT discussion on the proposed *Action Plan for TCP Enhancement* continues. There are four action areas:

- 1. Enhanced IEA-TCP collaboration
- 2. Engagement with governments and industry
- 3. Interactions with multilateral initiatives
- 4. Awareness, communication, visibility

Further to discussions at the 2017 TCP Universal Meeting, CERT delegates considered the proposed *Action Plan for TCP Enhancement* at the last meeting in February 2018. The draft document is available at the TCP Forum and it is hoped to be adopted in the 2^{nd} Quarter 2018:

http://www.iea.org/media/protected/iaforum/DRAFTActionPlanforTCPEnhancement.pdf

New CERT Task Forces

In February 2018, following a strategic discussion on CERT priorities for 2018 and beyond, the IEA Secretariat is supporting the creation of three Task Forces with shared leadership and participation of CERT delegates:

Task Force 1 will examine potential linkages/synergies with other partnerships and initiatives, including Mission Innovation and the Clean Energy Ministerial;

Task Force 2 will consider ways to make CERT processes and operations more dynamic; and **Task Force 3** will provide guidance for TCP enhancement, notably through the implementation of the *Action Plan* including its funding and resources.

CERT-SLT workshop (5 June 2018, Paris)

The annual joint CERT-SLT workshop will focus on digitalisation and energy as proposed by Denmark, Estonia, and Switzerland and with substantial contributions by Italy and India.

CERT Strategic discussion on transport (14 February 2018)

Six TCPs presented their "Status Updates" as part of a CERT strategic discussion on transport at the CERT meeting in February 2018: AFC TCP, AMF TCP, Bioenergy TCP, Combustion TCP, GOTCP, and Hydrogen TCP. CERT delegates and the IEA Secretariat were highly appreciative of the insightful presentations provided by the TCPs representatives. The strategic discussion with TCPs informed the work of the IEA Secretariat as well as relevant national processes, and it also saw country reports from Italy, Japan, Morocco, plus the European Commission. All presentations are available on the Forum:

http://www.iea.org/tcp/forum/recenthigh-

leveleventstoraiseawareness/certstrategicdiscussionontransport/.

3. WORKING PARTIES AND EXPERTS' GROUPS

Fusion Power Co-ordinating Committee (FPCC)

• The ITER facility in Cadarache, France welcomed the most recent FPCC meeting on 24-25 January 2018. The meeting included a strategic session on 'Fusion R&D, costs and benefits' (presentations are available at http://www.iea.org/workshops/fusion-rd-priorities.htm. Jean Jacquinot, Scientific Advisor to the French High Commissioner for Atomic Energy, and Senior Advisor to the ITER Director-General, was elected as the new Chair for a three-year term. Six of the eight fusion TCPs presented their Annual Briefings in person during the meeting.

Working Party on Energy End-Use Technologies (EUWP)

- The 73rd meeting of the EUWP took place in Vienna on 20-22 March 2018. The event began with a conference organised by the Austrian Ministry of Transport, Innovation and Technology on "Highlights of Energy Research 2018 System Integration and Sector Coupling". Presentations are available here: https://nachhaltigwirtschaften.at/de/iea/veranstaltungen/2018/20180320-highlights-energieforschung-2018.php. During the plenary meeting representatives from the Austrian Energy Agency presented first results of a mapping exercise of TCP activities designed to visualise gaps and overlaps in TCP activities with a particular focus on end-use and renewable energy TCPs. All 14 end-use TCPs submitted their Annual Briefings for year 2017.
- Buildings Co-ordination Group (BCG): The 2018 BCG meeting was held on 25 January in Vienna and attended by eight TCPs. Included in the discussions was a report on the 6th Future Buildings Forum (FBF) Think Tank Workshop focussing on "Transforming cities in hot and humid climates towards more efficient and sustainable energy use". This twoday workshop set out to discuss the challenges, opportunities and R&D priorities that would inform the development of the respective buildingsrelated TCPs strategic plans for the coming five years. The report is available on the EBC TCP website:

http://www.iea-ebc.org/Data/Sites/1/media/docs/FBF/future-building-forum-report-2017.pdf.

Working Party on Renewable Energy Technologies (REWP)

• The 73rd meeting of the REWP took place in Paris on 28-29 March 2018, preceded on 27 March by a joint workshop of the REWP and the IEA Energy Efficiency Working Party on the theme of 'Enhancing the impact of energy efficiency and renewable energy policies'. It focused on emerging policy and business initiatives which seek to deliver affordable integrated energy services to consumers and the built environment, how governments are beginning to analyse and align existing policies, and where potential trade-offs might exist. Presentations will be available in the coming days: http://www.iea.org/workshops/enhancing-the-impact-of-energy-efficiency-and-renewable-energy-policies--.html. The next meeting of the REWP will take place in Rome on 24-26 October 2018. Three TCPs attended to present their Annual Briefings.

Working Party on Fossil Fuels (WPFF)

The 73rd meeting of the WPFF took place in Paris on 12-13 December 2017 with first-time attendance by delegates from Mexico and Morocco. All five TCPs attended and presented their Annual Briefings. Following the recent departure of Juho Lipponen, the role of Secretary to the group has been taken over by Samantha McCulloch. The next WPFF meeting will take place in Banff, Canada on 5-6 June 2018 back-to-back with the ExCo meeting of the GOTCP.

Experts Group on R&D Priority-Setting and Evaluation (EGRD)

 The next workshop of the EGRD will take place on 28-29 May in Brussels on the topic "Addressing the energy-water nexus through R&D planning and policies". Participants will explore opportunities to address the energy-water nexus in order to inform more effective R&D planning and policies. For more information visit the website: http://www.iea.org/workshops/addressing-the-energy-water-nexus-through-rd-planning-and-policies-.html. If you are interested in attending please contact carrie.pottinger@iea.org.

4. TECHNOLOGY COLLABORATION PROGRAMMES (TCPs)

Raising visibility of TCPs on the IEA website

Work has begun to increase TCP visibility on the IEA website, enhance accessibility of data and information on TCPs, and redesign individual TCP web pages. Further information is available in the presentation made by the IEA Head of Communication and Information Office at the TCP Universal Meeting: http://www.iea.org/media/workshops/2017/tcps/RebeccaGaghen.pdf.

Visit the new IEA buildings topic page at

The Secretariat will be contacting TCP representatives over the coming months to discuss content for the individual TCP pages on the IEA website.

Modernisation of the TCP legal mechanisms

At the TCP Universal Meeting in October 2017, a message emerged that the changing landscape of energy technology innovation had made collaboration across TCPs and with outside entities increasingly important and that the existing TCP legal mechanisms, which originated in 1974, were not necessarily in sync with the realities of today's world. The IEA Secretariat is considering whether modernization of the TCPs' legal mechanisms is required in order to simplify procedural requirements and enable new types of collaboration in a changing energy landscape. Kenneth (KC) Michaels and Claire Hilton (IMPAG.legal@iea.org.) are leading this activity.

New participations in TCPs (since 1 January 2018)

- GOTCP: Argentina Ministry of Energy and Mining
- PVPS TCP: Morocco The Research Institute for Solar Energy and New Energies (IRESEN)
- Bioenergy TCP: Estonia Ministry of Economic Affairs and Communication
- AFC TCP: Croatia University of Zagreb
- GOTCP: Canada Natural Resources Canada

Recently renovated TCP websites

- CCC TCP (https://www.iea-coal.org/)
- ECES TCP (https://iea-eces.org/)
- ISGAN TCP (http://www.iea-isgan.org/)
- Wind TCP (https://community.ieawind.org/home)

IEA staff relevant to the Energy Technology Network

Name	TCP Responsibilities	TCP grouping
Uwe Remme	ETSAP TCP	Cross-cutting
Cecilia Tam	C3E TCP	Cross-cutting
John Dulac	DHC TCP, ECES TCP, HPT TCP	End-use (Buildings)
Brian Dean	EBC TCP	End-use (Buildings)
Luis Munuera	HTS TCP, ISGAN TCP	End-use (Electricity)
Julie Cammell	4E TCP	End-use (Electricity)
Jeremy Sung	DSM TCP	End-use (Electricity)
Araceli Fernandez Pales	IETS TCP	End-use (Industry)
Pierpaolo Cazzola	Combustion TCP, HEV TCP	End-use (Transport)
Marine Gorner	AMF TCP	End-use (Transport)
Jacob Teter	AFC TCP, AMT TCP	End-use (Transport)
Raimund Malischek	CCC TCP, EOR TCP, FBC TCP, GOTCP	Fossil fuels
Samantha McCulloch	GHG TCP	Fossil fuels
Carrie Pottinger	CTP TCP, ESEFP TCP, FM TCP, NTFR TCP, PWI TCP, RFP TCP, ST TCP, SH TCP	Fusion
Hideki Kamitatara	Bioenergy TCP, Geothermal TCP, Hydrogen TCP, Hydropower TCP, Ocean TCP, PVPS TCP, SHC TCP, SolarPACES TCP, Wind TCP	Renewables
Simone Landolina	Head, International Partnerships and Initiatives	
Diana Louis	General co-ordination	
Claire Hilton	Legal advice (TCP procedural and governance matters, including membership, requests for extension, reporting requirements and other documentation)	
K.C. Michaels	Legal advice (modernisation of the TCPs' legal mechanisms; legal matters involving collaboration)	

5. IEA PUBLICATIONS

Market report series: Oil 2018	For sale	Available
Nordic EV Outlook 2018	Free	Available
Insights Paper: System Integration of Renewables	Free	Available
Insights Paper: Renewable Heat Policies	Free	Available
Global Energy and CO ₂ Status Report	Free	Available
Technology Roadmap: Low-Carbon Transition in the Cement Industry	Free	Available
Tracking Clean Energy Progress 2018	Free	May 2018
Future of Cooling	Free	May 2018
Global EV Outlook 2018	Free	May 2018