Subject | Minutes of the First Management Committee Meeting of COST Action CM1404 “Chemistry of Smart Energy Carriers and Technologies (SMARTCATS)”

Brussels, Belgium
06/03/2015

1. Welcome to participants

The participants were welcomed by Dr Lucia Forzi, Science Officer, and by Ms Svetlana Voinova, Administrative Officer of the Action. Lucia Forzi chaired the first part of the meeting, including the election of the Action Chair, Vice Chair, and the selection of the Grant Holder Institution and its Scientific Representative that was carried out under agenda item 8.

2. Adoption of the agenda

The agenda (Annex 1) for the 1st Management Committee (MC) meeting was adopted.

3. Status of the COST Action

CSO Approval: 13/11/2014
Start of the Action: 06/03/2015
End of Action: 05/03/2019
Total number of COST Countries having accepted the MoU: 21 (Annex 2)
Total number of COST Countries intending to accept the MoU: 0

4. Tour de table/ introduction of the MC members

The list of officially nominated delegates and the participants of the meeting with their contact information is presented in Annex 3.

5. Establishment of quorum

The quorum (2/3 of COST Countries participating in the Action) was reached: 20 country representatives out of 21 attended the meeting (COST doc. 134/14 B.2 “COST Action Management Monitoring and Final Assessment” Annex I, Article 8).

6. General information on COST mechanism and the funding and reporting of coordination activities

Dr Lucia Forzi gave a presentation on the COST mechanism, Actions, networking instruments and policies of the COST Association (Annex 4). Relevant information can be found on the COST website at: http://www.cost.eu.

Ms Svetlana Voinova continued with an introduction to the COST Grant System and provided details on COST Actions administrative rules and guidelines (Annex 4). Relevant information is on the COST website at http://www.cost.eu/participate, including the following reference documents:

The Rules of Procedure for the Management Committee (Annex 5) were presented to the MC.

8. Election of the Chair, Vice-Chair, Grant Holder Institution and its Scientific Representative

Dr Mara De Joannon (Italy) was elected as the Chair.

Dr George Skevis (Greece) was elected as the Vice-Chair.

Consiglio Nazionale delle Ricerche – Istituto di Ricerche sulla Combustione (Italy) was selected as the Grant Holder Institution, with Dr Mara De Joannon (Italy) as its Scientific Representative.

9. Workplan for the implementation of the COST Action (based on the Memorandum of Understanding – Presentation of the Action by the elected Action Chair)

MoU objectives and working programme
The AC presents the main points of the Action as follows:
General guideline defining the framework.

The energy scenario constraints are well summarised by the so called energy trilemma: sustainability, equity and security.

This framework is complicated by the fact that 80% of energy comes from combustion of primary and new energy sources.

New combustion technologies must be identified in the perspective of the energy trilemma constraints to move towards new energy carriers.

Fuel flexibility, efficiency and distributed systems become the keywords defining the purpose of this Action, the study of smart energy carriers.

A smart energy carrier is a new and energy containing molecule (increasing number available every day) providing a suitable energy mix for new processes and technologies, efficient and environmental friendly (CO2, pollutants).

Smartcats objective: to match new technologies with specify new energy carriers, combining fundamental research with applications.

Working method - organisation and management (including Working Groups)
Distribution of tasks
To this aim, the Action is organised in 5 groups, going from more fundamental (WG1-WG3) to more applicative (WG4-WG5) Working Groups.

WG1 is the group dedicated to improving detailed kinetic knowledge of smart energy carrier, to improve confidence in the chemical mechanisms of these energy carriers. This is needed due to the increasing number of carriers as well as for the broad range of operating conditions met in these new combustion processes (pressure, dilution).

New models are needed for new molecules and revised models need to be provided for smart molecules.

Natural gas mixtures, biofuels, lignocellulosic biomass components, mixture of 1st and 2nd generation fuels. The interaction between experimentalists and model developer will be necessary for this WG1. The activities will focus on automatic generation, simplification procedures, verification of thermodynamic properties. Everything will be joined together by Uncertainty Quantification activities to critically assess the use of mechanisms in applications.
WG2 is the group related to the use of chemistry to control the natural of Smart Energy Carriers. Oxygenated species, PAH, soot can be produced from fuels in special conditions. This will need the improvement of kinetic mechanisms, in particular oriented to the minimisation of noxious emissions. Models and experiments will jointly contribute to this task. Solid characterisation will constitute an important part of the WG.

WG3 is focused on the use of advanced diagnostics for Smart Energy Carriers, to identification of elementary species for kinetic studies as well as for real time measurements in practical combustion devices (emissions). This WG will focus on the development on new markers for tracking the progress and efficiency of the combustion process for new fuels and new conditions.

WG4 will focus on standard definition and mining for database management and data collection to allow data handling and chemistry optimisation. This will have an important impact on applications, since the WG is oriented to the efficient use of kinetic mechanism. The WG will contribute to the world ongoing discussion on kinetic data management for kinetic mechanism development.

WG5 is the integration of fundamental knowledge towards application of Smart Energy Carriers. This implies integration of detailed kinetic mechanisms, development of appropriate turbulence/chemistry combustion models, assessing the level of uncertainty in the numerical simulations. The approach is that of identifying cases allowing to separate the relevant physics but ensuring an appropriate level of physical interactions.

**Strategies for implementing COST policies: Excellence and Inclusiveness, International Cooperation, SME and Industry Cooperation**

The Chair then moves to the promotion of the COST Action. There are 21 countries with 4 expected to join soon the Action. Two institutions from International Partner Countries were included in the approved proposals (the final MC approval is needed) and already 15 companies expressed their interest in the Action. The Chair underlines that the participation of companies to the Actions is one of the COST policy.

COST also promotes Early Career Investigators (ECI, PhD + up to 8 years) and gender balance. The Action will take this into great consideration by creating an advisory committee for the purpose.

**10. Appointment of horizontal roles**

**Appointment of Working Group (WG) Leaders and of the Core Group (CG)**

The Chair discusses the Action management structure and proposes the following as WG Leaders/WG Vice Leaders, approved by the MC:

<table>
<thead>
<tr>
<th>WG1 Leader</th>
<th>Vice Leader</th>
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<tr>
<td>Frédérique Battin-Leclerc (FR)</td>
<td>Olivier Herbinet (FR)</td>
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<td>Maria Alzueta (ES)</td>
<td>Maria Abian (ES)</td>
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<td>Stefan Voss (DE)</td>
<td>Oliver Welz (DE)</td>
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<td>Edward Blurock (SE)</td>
<td>Stephen Dooley (IE)</td>
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<td>Alessandro Parente (BE)</td>
<td>Catheelen Perlman (SE)</td>
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MC unanimously approves the following for the other horizontal roles:
- Iliyana Naydenova (BG) as Short Term Scientific Mission Manager.
- Fabian Mauss (DE) as Coordinator of the Industrial Advisory Committee.
- Terese Lovas (NO) as Coordinator of Early Career Investigator (ECI) and gender balance committee

For the web institution, the Grant Holder (IRC-CNR) will manage and host the website. The official website of the Action will be [www.smartcats.eu](http://www.smartcats.eu). The Web and Dissemination Manager will be Raffaele Ragucci (IT, from the Grant Holder Institution) that will be supported by Zissis Malliotakis (EL).

It was unanimously agreed to form a **Core Group (CG)**. The **CG** will be composed by the Chair, the Vice Chair, the WG Leaders, STSM Manager, Industrial Advisory Committee Coordinator, ECI and Gender balance committee Coordinator and the Web and Dissemination Manager.

The Chair asks for the possibility of having a MC delegation of authority for the Core Group for budgetary decisions up to €5000 euros. The MC approves unanimously.
The Chair recalls that electronic voting of the MC members is valid with the rule of presumed consent. In general, no reply to a voting request from the Action Chair within 7 days will be equivalent as a YES vote.

11. Draft Work and Budget (W&B) Plan for the first Grant Period (GP)

Timetable
The Chair describes timetable.

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<td>Quarter</td>
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<td>MC Meetings</td>
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<td>General Meetings</td>
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The MC approves the proposition of the Chair to delete the training school in the 1st Grant Period.

The total budget for the grant period 01-June-2015- 31-May-2016 is EUR 129,000.00. The drafted breakdown is:

**WORK AND BUDGET PLAN SUMMARY**

<table>
<thead>
<tr>
<th>COST NETWORKING TOOLS</th>
<th>EXPECTED COST</th>
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<td>Meetings</td>
<td>€ 75,450,00</td>
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<td>Training Schools</td>
<td>€ -00</td>
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<tr>
<td>STSMs</td>
<td>€ 32,000,00</td>
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<tr>
<td>Dissemination</td>
<td>€ 4,723,91</td>
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<td>Other Expenses Related to Scientific Activities</td>
<td>€ -00</td>
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<tr>
<td>Total ASience Expenditure</td>
<td>€ 112,173,91</td>
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<tr>
<td>FSAC</td>
<td>€ 16,826,09</td>
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<tr>
<td>TOTAL Expenditure</td>
<td>€ 129,000,00</td>
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Meetings:
Two meetings are proposed:

1) Workshop on Smart Energy Carriers-Thessaloniki (Greece) 3-4.9.2015 (2 days)
Number of participants to be reimbursed: 35
Travel and accommodation costs: 35 x 770 Organizational support: max €3000, invited lecture: €1000

2) General Meeting- (WG1-WG2-WG3-WG4-WG5) Naples 11-12 February 2016
Number of participants to be reimbursed: 50
Travel and accommodation costs: 35 x 770 Organizational support: max €5000, invited lecture: €1000

Several advices and considerations on the possibility of holding a joint workshop/General Meeting earlier rise from MC. The SO also advises that the General Meeting should be held as early as possible in the 1st Grant Period. A survey for preferences is done. It is concluded that the Chair will propose a new solution to be submitted for final approval by electronic vote to the MC. On the basis of discussion, the most probable proposal will be for a joint GM/Workshop to hold in Thessaloniki (Greece) on the first week of September.
STSMs: €32,000 (16 grants for an average budget of €2,000/grant)-approved

Dissemination: €4,723-for website and flyer/posters-approved

FINANCIAL & SCIENTIFIC ADMINISTRATION AND COORDINATION (FSAC): 15% of total scientific expenditure: €16,826.09- approved

12. Any Other Business (AOB) Closing

No additional item was raised.

13. Closing

The MC Chair thanked all MC members present and closed the meeting.

List of Annexes

Annex 1 - Agenda
Annex 2 - Action Fact Sheet
Annex 3 - Attendance list
Annex 4 - Science Officer presentation and Administrative Officer presentation
Annex 6 - MC Chair presentation