

Building Integration of Solar Thermal Systems – TU1205 – BISTS

Final Meeting of MC & WG COST Action TU1205 10 March 2017-Dublin

"Building Integration of Solar Thermal Systems (BISTS)"

Soteris Kalogirou Action Chair







European Cooperation in the field of Scientific and Technical Research

Building Integration of Solar Thermal Systems - TU1205 - BISTS

Agenda

- Welcome to participants
- Adoption of agenda
- Minutes of Warsaw meeting (Poland, September 2016)
- Report from the COST Office
 - News from the COST Office
 - Status of Action, including participating countries
 - Budget status, budget planning and allocation process
 - Non-COST countries
- · Critical managerial issues
- Progress report of working groups
- STSM status
- · Publications, dissemination and outreach activities
- · Web news
- AOB







Building Integration of Solar Thermal Systems - TU1205 - BISTS

Agenda

- Welcome to participants
- Adoption of agenda
- Minutes of Warsaw meeting (Poland, September 2016)
- Report from the COST Office
 - News from the COST Office
 - Status of Action, including participating countries
 - Budget status, budget planning and allocation process
 - Non-COST countries
- Critical managerial issues
- Progress report of working groups
- Publications, dissemination and outreach activities
- Web news



COST is supported by the EU Framework Program Horizon 2020





Building Integration of Solar Thermal Systems – TU1205 – BISTS

Welcome to participants

- Warm welcome to all.
- Our COST Action comes to and end Final meeting.
- Four years of collaboration, meetings,, memories.
 - More in the final session (Don't miss it!!)
- Purpose of the meeting: To evaluate the activities carried out and any remaining issues, especially concerning:
 - Deliverables
 - End of Action Evaluation
- Welcome from David, Dublin Institute of Technology.







Building Integration of Solar Thermal Systems - TU1205 - BISTS

Agenda

- Welcome to participants
- · Adoption of agenda
- Minutes of Warsaw meeting (Poland, September 2016)
- Report from the COST Office
 - News from the COST Office
 - Status of Action, including participating countries
 - Budget status, budget planning and allocation process
 - Non-COST countries
- Critical managerial issues
- Progress report of working groups
- STSM status
- Publications, dissemination and outreach activities
- Web news
- AOB



COST is supported by the EU Framework Program Horizon 2020





European Cooperation in the field of Scientific and Technical Research

Building Integration of Solar Thermal Systems – TU1205 – BISTS

Agenda

- Welcome to participants
- Adoption of agenda
- Minutes of Warsaw meeting (Poland, September 2016)
- Report from the COST Office
 - News from the COST Office
 - Status of Action, including participating countries
 - Budget status, budget planning and allocation process
 - Non-COST countries
- Critical managerial issues
- Progress report of working groups
- STSM status, planning of activities
- Publications, dissemination and outreach activities
- Web news
- AOB



COST is supported by the EU Framework Program Horizon 2020





Building Integration of Solar Thermal Systems - TU1205 - BISTS

Agenda

- Welcome to participants
- Adoption of agenda
- Minutes of Warsaw meeting (Poland, September 2016)
- Report from the COST Office
 - News from the COST Office
 - Status of Action, including participating countries
 - Budget status, budget planning and allocation process
 - Non-COST countries
- Critical managerial issues
- Progress report of working groups
- STSM status
- Publications, dissemination and outreach activities
- Web news
- AOB



COST is supported by the EU Framework Program Horizon 2020





European Cooperation in the field of Scientific and Technical Research

Building Integration of Solar Thermal Systems - TU1205 - BISTS

Report from the COST Office

- Remember with new of e-COST system:
 - Submit everything electronically to the system no paper copies are accepted any more.
 - Need to sign the presence form as before.
 - Need to be careful to upload all documents properly
 - No chance is given to carry out corrections.
- Scientific officer Dr. Michael Pero invited but couldn't participate.







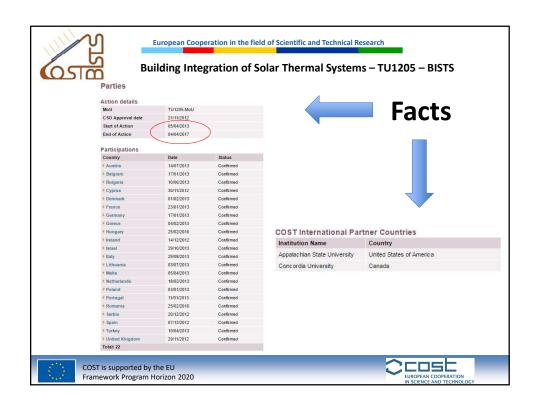
Building Integration of Solar Thermal Systems - TU1205 - BISTS

Status of the Action

- Status of Action, including participating countries:
 - 22 COST countries participating (next slide)
 - 32 MC members (+14 substitute members)
- Non-COST countries:
 - Two non-COST countries participating:
 - USA (James Russell-Appalachian State University)
 - Canada (Andreas Athienites-Concordia University)
 - → Athienites group sent work to the Final Action Conference.

COST is supported by the EU Framework Program Horizon 2020







Building Integration of Solar Thermal Systems - TU1205 - BISTS

Budget status, budget planning and allocation process

- Forth year budget 101,750 Eur.
- Main expenses:
 - Total for meetings 62,000 Eur.
 - Training schools = 21, 940 Eur
 - -4 STSM = 4,000 Eur (all carried out)
 - Dissemination 1,500 Eur. (webpage)
 - Other = 2000 Eur. (Bank charges)







European Cooperation in the field of Scientific and Technical Research

Building Integration of Solar Thermal Systems – TU1205 – BISTS

New Budget reduction

- The COST Association has allocated a budget of 101,750 EUR for COST Action TU1205 for Grant Period 4 (2016-05-01 to 2017-04-04)
 - New overall reduction of about 15% to all Actions.
- Budget for last year reduced from previous years by further 16.5% (last year 122k, previous 134k)







Building Integration of Solar Thermal Systems – TU1205 – BISTS

Meetings

- YEAR 3
- MC & WG First meeting Guimaraes (July 2015)
 - Combined with Action Symposium
- MC & WG Second meeting Barcelona (April 2016)
 - Combined with Training School-2
- YEAR 4
- WG meeting Warsaw (September 2016)
 - Combined with Training School-3
- MC & WG meeting Dublin (March 2017) Final
 - Combined with Final Action Conference







European Cooperation in the field of Scientific and Technical Research

Building Integration of Solar Thermal Systems - TU1205 - BISTS

Agenda

- Welcome to participants
- Adoption of agenda
- Minutes of Warsaw meeting (Poland, September 2016)
- Report from the COST Office
 - News from the COST Office
 - Status of Action, including participating countries
 - Budget status, budget planning and allocation process
 - Non-COST countries
- · Critical managerial issues
- Progress report of working groups
- STSM status
- · Publications, dissemination and outreach activities
- Web news
- AOB







Building Integration of Solar Thermal Systems - TU1205 - BISTS

Critical managerial issues

- Pay attention to emails that you may receive concerning final evaluation (very important).
- Emphasis on managerial issues concerning payments.
 - Make a note and when we are late in paying send an email (maybe something goes wrong) → 1-2 emails only please....
- Reimbursement procedure
 - All payments will be carried out simultaneously, so the sooner will complete the missing items the sooner all participants will get paid.
 - Very important for this final payment.....







European Cooperation in the field of Scientific and Technical Research

Building Integration of Solar Thermal Systems - TU1205 - BISTS

Procedures:

- Proof of participation is the attendance list.
- → Make sure you sign this list.
- Reimbursement claims are now send electronically through e-cost system.
- Mr. Charalambos Tsioutis and myself can answer questions concerning details.

COST is supported by the EU Framework Program Horizon 2020





Building Integration of Solar Thermal Systems - TU1205 - BISTS

Always remember

- Communicate to me any projects submitted/organised based on the Action, like:
 - New PhDs
 - New local funded research
 - New H2020 proposals, etc.
 - New papers.
 - → Very important for the evaluation of the Action
 - → I need to know this even if the proposal was not successful.







European Cooperation in the field of Scientific and Technical Research

Building Integration of Solar Thermal Systems - TU1205 - BISTS

Critical items:

- We are one month before the end of the Action and we still have a few items to prepare/deliver....
 - Details on the following slides
- Need commitment from everybody to deliver things on time.
- Please try to keep promises made and timetables agreed.... Not done by most people so far. There is no more time to correct things....
- We all need to complete the Action successfully.







Building Integration of Solar Thermal Systems - TU1205 - BISTS

Agenda

- Welcome to participants
- Adoption of agenda
- Minutes of Warsaw meeting (Poland, September 2016)
- Report from the COST Office
 - News from the COST Office
 - Status of Action, including participating countries
 - Budget status, budget planning and allocation process
 - Non-COST countries
- Critical managerial issues
- · Progress report of working groups
- STSM status
- Publications, dissemination and outreach activities
- Web news
- AOR



COST is supported by the EU Framework Program Horizon 2020





European Cooperation in the field of Scientific and Technical Research

Building Integration of Solar Thermal Systems - TU1205 - BISTS

WG1: Development and characterisation of new BISTS

- Task 1.1 Review of the state of the art
- Task 1.2 Development of new BISTS solutions (Year 3 & 4)
- Task 1.3 Characterisation of BISTS developed in Task 1.2 (Y 3 & 4)
- D 1.1. Review of current STS and identification of problems associate with their building integration.
 This review will also be submitted as a joint partner publication in a peer reviewed journal (Month 12) V DONE
- D 1.2. Annual STSM on BISTS development and characterisation for PhD students and Early Stage Researchers (Month 6, 18, 30, 42) ✓ DONE
- D 1.3. Annual Training School for dissemination of expertise on BISTS development and characterisation techniques and new architectural solutions to PhD students and Early stage researchers (Month 18, 30, 42) ▼ DONE
- D 1.4. Report on the evaluation technologies available for BISTS characterisation (Month 24) **▼ DONE.**







Building Integration of Solar Thermal Systems - TU1205 - BISTS

WG2: Modelling and Simulation

- Task 2.1 Development of new mathematical and numerical models for BISTS (Years 3 & 4)
- Task 2.2 Validation and implementation of codes developed in 2.1
- D 2.1. Review of current STS modelling techniques. This review will also be submitted as a joint partner publication in a peer reviewed journal (Month 12) **V DONE**
- D 2.2. Annual STSM for PhD students and Early Stage Researchers on theoretical modelling and numerical simulation of thermal behaviour of BISTS (Month 6, 18, 30, 42) ▼ DONE
- D 2.3. Annual Training School for dissemination of expertise to PhD students and Early Stage Researchers (Month 18, 30, 42) ▼ DONE
- D 2.4. Report on the validation of developed codes, both thermal and optical **∨ DONE**
- D 2.5. Report on the new models developed during the project and potential for adaptation for RES (Month 42). X STILL PENDING
- D 2.6. Report on the development of new models for innovative integrated STS applications (Month 46). X STILL PENDING



COST is supported by the EU Framework Program Horizon 2020





European Cooperation in the field of Scientific and Technical Research

Building Integration of Solar Thermal Systems - TU1205 - BISTS

WG3: Investigation of new applications for innovative BISTS

- Task 3.1 Design of innovative BISTS designs
- Task 3.2 Fabrication of BISTS prototypes
- Task 3.3 Characterisation of novel BISTS indoors and outdoors to assess the actual performance in real conditions
- D 3.1. Review of current STS and the suitability of integration onto building structures for domestic, commercial and industrial buildings (Month 12). ▼ DONE
- D 3.2. Annual STSM for PhD students and Early-stage researchers on design, fabrication and characterisation of innovative integrated STS/ RES (Month 6, 18, 30, 42) ▼ DONE
- D 3.3. Annual Training School to disseminate expertise to PhD students and Early Stage Researchers (Month 18, 30, 42). V DONE







Building Integration of Solar Thermal Systems - TU1205 - BISTS

WG3 continue...

- D 3.4. Report on fabricated integrated STS prototypes optimised for increased efficiency and low cost. Full building services integration (e.g. into existing heating, cooling, hot water) or stand-alone operation but integral to the structure. This will depend on the extent of own research funding allows (Month 36). V DONE.
- D 3.5. Report on the performance of new integrated STS/RES prototypes:
 A country performance comparison with geographic diversity (South,
 Central and North Europe), (Month 42). X STILL PENDING
- D 3.6. Handbook for architects and building services engineers on the developed BISTS solutions for the design market ready products. (Month 46). ✓ DONE. More on this follows....







European Cooperation in the field of Scientific and Technical Research

Building Integration of Solar Thermal Systems - TU1205 - BISTS

More on Handbook

- According to MOU:
- This will include new prefabricated products, a variety of mounting surfaces (vertical, sloped, horizontal) and the use of new materials, like PCM. The handbook will also include the development of BISTS through novel modelling techniques, fabrication and assembly of BISTS prototypes specifically tailored to building element integration, performance measurement of novel BISTS and the suggestion of standardised procedures and the determination of a range of applications for BISTS.







Building Integration of Solar Thermal Systems – TU1205 – BISTS

Final Handbook

- Overall good piece of work
- No review of chapters as agreed no time
- Most authors <u>did not followed guidelines.....</u>
 - Much work required to bring them to the appropriate shape/format.
- Many thanks to <u>David</u> and <u>Mervyn</u> for proofreading all chapters and corrected the language.



COST is supported by the EU Framework Program Horizon 2020





European Cooperation in the field of Scientific and Technical Research

Building Integration of Solar Thermal Systems - TU1205 - BISTS

Final Handbook

- Some chapters problematic ithenticate note added so indicate responsibility:
 - <u>Notice</u>: The compilation of the various chapters contained within this handbook have been produced by COST Action TU1205 members having sole responsibility of the material presented therein.
- Some chapters co-authored by non-cost members note added both on first page of contribution as footnote and list of contributors.
 - Non-COST Action member
 - Apologies to those that I declined to add more authors







Building Integration of Solar Thermal Systems - TU1205 - BISTS

Practical issues - Handbook

- A total of 250 copies are printed-expense covered by COST.
- 90 copies were sent to David (Postage ~ 450€)
- All BIRES conference paid participants received a copy plus all other members participating in this meeting - good dissemination method.
- More copies are available pay postage fee







European Cooperation in the field of Scientific and Technical Research

Building Integration of Solar Thermal Systems - TU1205 - BISTS

Cost of more books

- 1 book → 15 Eur
- 2 books → 25 Eur
- 3 books → 35 Eur (all of them clear amount)
- If more copies are required in the future (after the stock is used):
 - Add 50 Eur per book to the above prices (actual printing cost for smaller quantity of books).
 - Need to know accurate postage address.
- Complete copy of the book is on website as PDF.
- → Please inform me of any mistakes to correct at least on web







Building Integration of Solar Thermal Systems - TU1205 - BISTS

Agenda

- Welcome to participants
- Adoption of agenda
- Minutes of Warsaw meeting (Poland, September 2016)
- Report from the COST Office
 - News from the COST Office
 - Status of Action, including participating countries
 - Budget status, budget planning and allocation process
 - Non-COST countries
- Critical managerial issues
- Progress report of working groups
- STSM status
- Publications, dissemination and outreach activities
- Web news
- AOR



COST is supported by the EU Framework Program Horizon 2020





European Cooperation in the field of Scientific and Technical Research

Building Integration of Solar Thermal Systems – TU1205 – BISTS

Short Term Scientific Missions (STSM)

- Duration 5 days to 3 months (max. 6 month for ESR)
- Overall cost:
 - Max 2500 EUR for STSM up to 3 months
 - Max 3500 EUR over 3 months (ESR)
- Calculation based:
 - Daily allowance: 60-90 EUR
 - Travel: 300 EUR







Building Integration of Solar Thermal Systems - TU1205 - BISTS

In our Action:

- 4 STSM were planned for the fourth year.
- Total Budget 4,000 EUR (~1000/stsm).
 - All four were carried out & paid.
- The idea to use STSM almost exclusively to prepare Action deliverables worked to a good extent well.



COST is supported by the EU Framework Program Horizon 2020





European Cooperation in the field of Scientific and Technical Research

Building Integration of Solar Thermal Systems - TU1205 - BISTS

Agenda

- Welcome to participants
- Adoption of agenda
- Minutes of Warsaw meeting (Poland, September 2016)
- Report from the COST Office
 - News from the COST Office
 - Status of Action, including participating countries
 - Budget status, budget planning and allocation process
 - Non-COST countries
- Critical managerial issues
- Progress report of working groups
- STSM status
- · Publications, dissemination and outreach activities
- Web news
- AOB



COST is supported by the EU
Framework Program Horizon 2020





Building Integration of Solar Thermal Systems - TU1205 - BISTS

Publications, dissemination and outreach activities

Publications of the Action:

- Overview of BISTS state of the art, models and applications
- Proceedings of COST Action TU1205 Symposium
- BIRES book of abstracts
- BIRES proceedings (on the web only)!
- BISTS design and applications handbook







European Cooperation in the field of Scientific and Technical Research

Building Integration of Solar Thermal Systems - TU1205 - BISTS

More on Publications...

- Overall good quality publications They could be better!
- All books with ISBN
- Many papers are published by members in journals related to the Action.
 - Remember to acknowledge cost
 - Remember to send me details to include in final evaluation
- All publications (books and deliverables) will remain on the WEB for some time (1-2 years), but better download copies early.



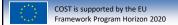




Building Integration of Solar Thermal Systems - TU1205 - BISTS

BIRES conference

- Name: First International Conference on Building Integrated Renewable Energy Systems
- Total number of abstracts received = 68
- Total number of final papers = 62
- Supported by two EU projects:
 - BFIRST and INPATH-TES
 - Main dissemination activity







European Cooperation in the field of Scientific and Technical Research

Building Integration of Solar Thermal Systems - TU1205 - BISTS

BIRES conference

- No review of papers as planned no time
 - Many submissions were very late.
 - Evaluation will be done for the papers selected for the RENE Special Issue.
 - Not all papers will appear in the Special Issue.
 - Special Issue Guest Editors responsible for this All decisions pass through me as the EiC as usual.
- Planned to repeat it on a bi-annual basis
 - Next one in Cyprus (hopefully)
- Plan to develop it as the main RENE supported conf.



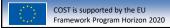




Building Integration of Solar Thermal Systems - TU1205 - BISTS

BIRES conference - Thanks

- Thanks to all COST members who supported the conference with papers.
- Many thanks to <u>David Kennedy</u> all the members of the organising committee
- Many thanks to <u>Brian Norton</u>, president of DIT for accepting to host the conference







European Cooperation in the field of Scientific and Technical Research

Building Integration of Solar Thermal Systems - TU1205 - BISTS

Agenda

- Welcome to participants
- Adoption of agenda
- Minutes of Warsaw meeting (Poland, September 2016)
- Report from the COST Office
 - News from the COST Office
 - Status of Action, including participating countries
 - Budget status, budget planning and allocation process
 - Non-COST countries
- Critical managerial issues
- Progress report of working groups
- STSM status
- · Publications, dissemination and outreach activities
- Web news
- AOB







Building Integration of Solar Thermal Systems - TU1205 - BISTS

Web Page

- 1. COST official web page
 - http://http://www.cost.eu/domains actions/tud/Actions/TU1205
- 2. Action web page
 - Web site: http://www.tu1205-bists.eu/
 - Password: cost 1234! (Don't forger "!")
- Remember to send us anything related to the Action (papers, new PhD, new research proposals, etc.)
 - Required for the final evaluation.







European Cooperation in the field of Scientific and Technical Research

Building Integration of Solar Thermal Systems – TU1205 – BISTS

Web page

- Any NEW documents should be sent to Mr. Costas Christofi. Email: c.christofi@cut.ac.cy
- Website includes all deliverables produced in PDF
 - Done to ease evaluation
- Website includes all books produced in PDF
 - Download copies early







Building Integration of Solar Thermal Systems - TU1205 - BISTS

Agenda

- Welcome to participants
- Adoption of agenda
- Minutes of Warsaw meeting (Poland, September 2016)
- Report from the COST Office
 - News from the COST Office
 - Status of Action, including participating countries
 - Budget status, budget planning and allocation process
 - Non-COST countries
- Critical managerial issues
- Progress report of working groups
- STSM status
- Publications, dissemination and outreach activities
- Web news
- AOB



COST is supported by the EU Framework Program Horizon 2020





European Cooperation in the field of Scientific and Technical Research

Building Integration of Solar Thermal Systems – TU1205 – BISTS

Closing – rest of meeting

- Coffee break (11.00-11.30)
- Targets Achieved
 - Working group leaders are expected to present the achievement of their WG including deliverables, models, demonstrations, projects, etc.
- 11.30-12.30 WG1
- 12.30-13.30 WG2
- Lunch (13.30-14.30)
- 14.30-15.30 WG3







Building Integration of Solar Thermal Systems - TU1205 - BISTS

Closing

- 15.30-16.00: As WG4 activities are already covered will use this session to discuss the way forward
- Laura in collaboration with Annamaria and Adolfo will handle this.
- Coffee break (16.00-16.30)
- Closing of the Action (16.30-17.30)
 - Memories Honor of key persons
 - Don't miss it!!





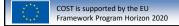


European Cooperation in the field of Scientific and Technical Research

Building Integration of Solar Thermal Systems – TU1205 – BISTS

Practical details

- Arrangements were made to get food here at the university restaurant-downstairs.
- You will get vouchers for lunch. We need to be at the canteen at 12.45 and finish by 13.30.







Building Integration of Solar Thermal Systems – TU1205 – BISTS

Finally an advertisement for the Portuguese friends

