



WSSET
World Society of Sustainable Energy Technologies

NEWSLETTER

Featured article



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SET 2014 – Geneva, Switzerland

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The 13th International Conference on Sustainable Energy Technologies (SET 2014)

Merry Christmas from all of us here at WSSET, I would like to take the opportunity to announce the 13th International Conference on Sustainable Energy Technologies 25th – 28th August 2014 Geneva – Switzerland. SET 2014 is a multi-disciplinary international conference on the sustainable energy sources and technologies.

The conference will provide a forum for the exchange of latest technical information, the dissemination of the high-quality research results on the issues, the presentation of the new developments in the area of sustainable energy, and the debate and shaping of future directions and priorities for better environment, sustainable development and energy security.

SET 2014 aims at the scientists, industrials and politicians and will provide a forum for the exchange of latest technical information, the dissemination of the high-quality research results on the issues, the presentation of the new developments in the area of sustainable energy, and the debate and shaping of future directions and priorities for better environment, sustainable development and energy security.

Symposium topics include:

- Renewable Energies (E1)
- Energy Conversion (E2)
- Energy Storage (E3)
- Energy Technologies (E4)
- Policies & Management (E5)

The HES-SO (University of Applied Sciences and Arts Western Switzerland) and the WSSET (World Society Sustainable Energy Technologies) look forward to welcoming you to SET 2014, August 25 to 28, 2014 in Geneva, Switzerland.

SET 2014 website: <http://set2014.hes-so.ch/fr/set-3085.html>

SET 2014 first call for abstracts: <http://wsset.org/wp-content/uploads/2012/03/SET2014-1st-CALL-Sustainable-Energy-Technologies-V03.pdf>

SET 2014 abstract template: <http://wsset.org/wp-content/uploads/2012/03/SET2014-Template-Abstract.pdf>

Articles WSSET recommends

The FORCE – Coventry ECO House

Sustainable design and construction has been a topic which has engulfed our industry for over a decade. Despite the hordes of literature and discussions, initiating a best practice solution for sustainable developments on a local scale, is something which has yet to be accomplished, particularly in an economically viable fashion. Since 2009, FORCE (Forum for Constructing Excellence in Coventry and Warwickshire), in collaboration with its members and several partners, which includes the likes of; Orbit Heart of England Housing, Coventry City Council and Coventry University, have set out to achieve just that. Vagdia and Holmes Chartered Architects have led the process, and helped instigate the once pipeline sustainable-dream into a project which is now deep into construction.

Our premise for the project was simple; to construct two 3-bedroom detached houses, both of the same layout and design, but different in principles. The first, to meet the Passivhaus energy standards, and the second, to meet Code for Sustainable Homes (CSH) Level 6, with the end goal to provide a template for cost effective, green homes. The project seeks to provide an equal comparison between Passivhaus and Level 6 performances, something which has barely been seen on such a direct scale before.

As the design group, it was important for us to meet the highest government recognised grading system for consummate developments in CSH Level 6. 28 photovoltaic panels are to be fitted to maximise energy efficiency and rainwater harvesting have been incorporated in order to meet the required standard. The German established Passivhaus standard focuses on energy consumption within buildings, and in the Coventry ECO House, building to exceptional air-tightness by excluding an air cavity and avoiding thermal bypass, has allowed the external walls to gain U-Values of 0.081 W/m²K.

Beattie Passive, the main contractor for the project, specialise in providing low energy houses at cost effective prices. Their patented build system, coupled with our designs, has effectively delivered extreme air tightness and insulation into the Coventry ECO House, resulting in exterior wall U-Values of 0.081 W/m²K and 0.11 W/m²K.

As part of the wider Canley Regeneration development, which looks to provide over 700 new homes to the area, Coventry City Council offered the desolate land for the Coventry ECO House project. The aim of which, is to provide the first of many sustainable and rentable, social houses. Vagdia and Holmes have also sought to provide links with education, in particular, Coventry University, whom with the relevant funding, have used the project to offer a PHD study which offers up comparisons between the two buildings’ sustainable performances.

Local economic feasibility distinguishes this project from its predecessors, encompassing our objective to enhance the education of local businesses and to demonstrate their skills such as design and project management through new best practice solutions. This helps develop future guidance towards sustainable developments of the same format.

Perhaps a precedent of free land for sustainable social housing should be rolled-out across the country? If as an industry, we are to combat the potential housing crisis by 2022, Local Authorities should actively seek to upend the current situation. At Vagdia and Holmes we are passionate about providing sustainable living through current technologies, and propose to develop the Coventry ECO House blueprint across the country. The practice is eager to progress with this model and would like to discuss any potential development with other likeminded people, in order to create further impact on sustainable urban living.

For further information on the Coventry ECO House project, or, if you’d like to create your own, please do not hesitate to contact our office or visit our website @ <http://vagdiaholmes.com/ecohouse.html>



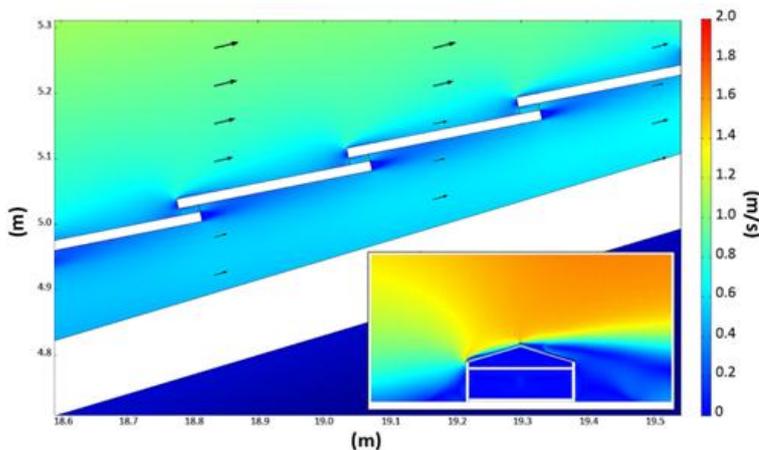
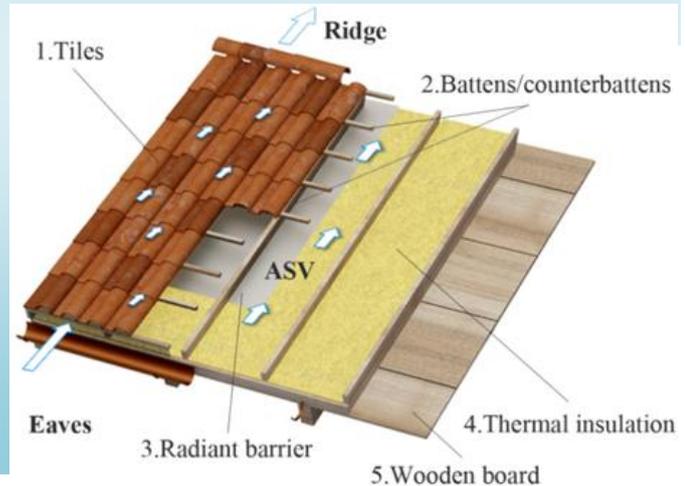
Articles WSSET recommends

Summer Performance of a Ventilated Pitched Roof - M.Bottarelli, G.Zannoni

Department of Architecture, University di Ferrara, Italy

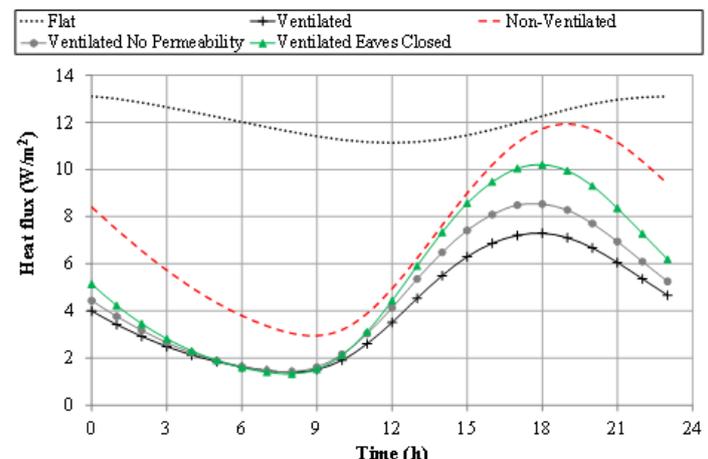
Reducing building energy requirements and increasing the standards of indoor comfort are key issues in the building design process. But, specificities are different according to the latitude. In Mediterranean countries the energy demand for cooling equals or exceeds that for heating, and the roof becomes instrumental in reducing the incoming heat flux due to its extension and exposure to the sun.

Strategies to improve the roofs thermal performance can be summarized in increasing the thermal insulation, thermal mass or solar reflectance. The exploitation of natural convection in roofs is a further possibility that is well exploitable in traditional pitched roof by means of a ventilation layer. This feature is usually recognised as the Above Sheathing Ventilation (ASV); air flows from eaves sections to the ridge, and helps dissipating the solar radiation. Moreover, in tiled roofs the air-permeability of the covering is an additional and diffuse intake/exhaust air-vent system. Nevertheless, flat roofs are widespread in areas with a long hot summer.



Towards an advanced comparison in hot climates, the effects of the covering air-permeability and the eaves section opening were numerically evaluated in unsteady-state by means of a 2-D finite model. Real data sets for wind, temperature and solar radiation were used to simulate realistically summer conditions, and a cooling-system was included to control the indoor temperature. According the supposed average indoor comfort temperature (26°C), the cooling power should be set at 6 W/m³ in the flat roof case, and reduced up to 40% in the ventilated pitched roof case.

Even if the presence of the attic volume added in the pitched roof case is significant, the ASV plays a further role, because the incoming heat flux in a non-ventilated pitched roof was resulted 30% higher than in a ventilated one. So, the AVS is an effective solution for reducing the solar heat gain in summer. Since the impact of the buoyancy forces effect was just limited in presence of moderate wind conditions, the ASV efficiency depends primarily on the eaves section opening and then on the tiled covering permeability. The eaves section behaves as an air intake-vent. As a consequence its closure causes a considerable decrease of the air flowing into the duct.



The permeability loses its effectiveness if reduced beyond a certain limit and a decrease in ASV performance is observed. Therefore, a specific design of the roof-tiles is essential to take advantage of the air-permeability effect. The highlighted aspects should be considered in relation to the climatic conditions to improve pitched roof technology in order to increase its energy saving.

Articles WSSET recommends

Contributory Factors in Bridging the Office Building Energy Performance Gap

OSAJI, E.E., MUSHATAT, S. and NWAGBOSO, C. Faculty of Science and Engineering, University of Wolverhampton

In 2002, the primary author designed the 'Building Energy-Efficient Hive (BEEHive)' to demonstrate how sustainable building design could support office building energy-efficiency. However, a gap typically occurs between predicted (design stage) and actual office building energy use despite the contributions of practitioners and advocates of energy-efficiency, sustainable building design and building performance evaluation. Unfortunately, not much is known about contributory factors in this office building energy performance gap. The author studied this problem by using methods such as: literature reviews of relevant theories, policies, guidelines, regulations, research and practice in order to determine the contributory factors in the office building energy performance gap.

An overview of the findings show that the different nature of various sustainable building design and building performance evaluation factors contribute to either office building energy-efficiency or energy performance gap increases or decreases in several ways. In the cases reviewed, there were more occurrences of energy performance gap increases.

For further information, please contact Emeka Efe Osaji via e.osaji@hotmail.com

Awards WSSET recommends

The ENERGY GLOBE World Award for Sustainability

Emeka Efe Osaji, ENERGY GLOBE Ambassador to United Kingdom

The ENERGY GLOBE World Award for Sustainability is today's most prominent environmental award worldwide. It is awarded on a local, national and international level every year. The international award (under the title ENERGY GLOBE World Award for Sustainability) is awarded in five categories (Earth, Fire, Water, Air and Youth) and each of the winners receives €10,000 in prize money.



In addition, the annual national awards distinguish the best projects in each of more than 100 participating nations. For instance, on 5th June 2012 (World Environment Day), ENERGY GLOBE presented the national ENERGY GLOBE winners from 151 countries under the patronage of UNESCO (please have a look at those outstanding projects at www.energyglobe.info and get inspired).

The submitted projects are reported worldwide via television and the internet. International award presentations take place in the realm of ceremonies that took place in Japan, Canada, Rwanda, Czech Republic, Belgium (at the European Parliament), Austria etc. Prominent Award presenters included: Kofi Annan (former UN Secretary General); Mikhail Gorbachev (Nobel Peace Prize Winner); the Presidents of the EU Commission and EU Parliament; Achim Steiner (UNEP Executive Director and Under-Secretary-General of the UN); as well as celebrities such as Martin Sheen, Aamir Khan, Alanis Morissette, etc. Discussions are currently taking place in order to hold future International ENERGY GLOBE World Award for Sustainability ceremonies at the UN Headquarters in New York.

Please visit <http://www.energyglobe.info/en/participation/> to access the submission guidelines. Please also submit your project(s): online via the project submission webpage at <http://www.energyglobe.info/en/participation> or via e-mail to contact@energyglobe.info ; or via snail mail to ENERGY GLOBE, Muehlbach 7, 4801 Traunkirchen, Austria.

Conferences WSSET recommends

- **3rd International Conference on the Developments in Renewable Energy Technology**
9th – 11th January 2014, Dhaka, Bangladesh
<http://www.icdret.uiu.ac.bd/>
- **1st International Conference on Non-Conventional Energy, ICONCE 2014**
16th – 17th January 2014, Kalyani, India
<http://www.iconce.in/>
- **International Conference on Material Science and Material Engineering**
14th – 16th March 2014, Chicago, USA
- **10th International Hydrogen & Fuel Cells Conference, Exhibition & Partnering**
March/April 2014, Birmingham, UK
- **The 3rd International Conference on Smart Grids and Green IT Systems**
4th – 5th April 2014, Barcelona, Spain
<http://www.smartgreens.org/>
- **International Conference Ammonia and CO2 Refrigeration Technologies**
16th – 18th April 2015, Ohrid, Republic of Macedonia
- **9th Annual International Symposium on Environment**
12th – 15th May 2014, Athens, Greece
<http://www.atiner.gr/environment.htm>
- **1st International Conference on Renewable Energy Gas Technology**
22nd – 23rd May 2014, Malmo, Sweden
<http://regatec.org/>
- **Global Conference on Global Warming-2014**
25th – 29th May 2014, Beijing, China
<http://www.gcgw.org/gcgw14/index.php?conference=gcgw&schedConf=gcgw14>
- **6th International Conference on Applied Energy**
30th May – 2nd June 2014, Taipei, Taiwan
<http://www.applied-energy.org/CMS/index.php?m=content&c=index&a=show&catid=6&id=25>
- **7th International Ege Energy Symposium & Exhibition (7th IEESE)**
18th – 20th June 2014, Usak, Turkey
<http://www.ddamt.org/conference/symposium-1.html>
- **International Conference on Water Resource and Environmental Protection (WREP2014)**
7th – 8th June 2014, Hong Kong, China
<http://www.wrep.org/>
- **3rd IIR International Conference on Sustainability and the Cold Chain**
June 2014, London, UK
<http://www.ior.org.uk/iccc2014>
- **6th International Conference from Scientific Computing to Computational Engineering**
9th – 12th July 2014, Athens, Greece
http://www.scce.gr/index.php?option=com_content&view=article&id=301&Itemid=102&lang=gr
- **13th International Conference on Sustainability Energy Technologies (SET 2014)**
25th – 28th August 2014, Geneva, Switzerland
<http://set2014.hes-so.ch/fr/set-3085.html>

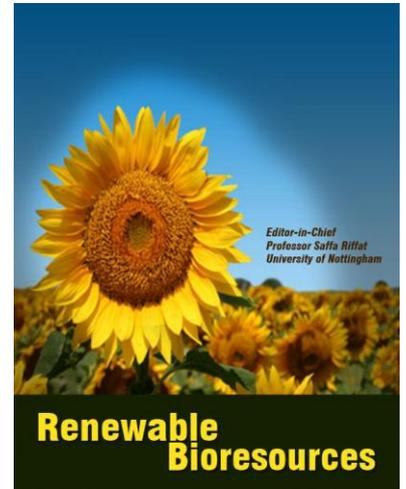
Journals WSSET recommends

Along with the successful *International Journal of Low Carbon Technologies* (<http://ijlct.oxfordjournals.org/>) and *International Journal of Sustainable Cities and Societies* (<http://www.journals.elsevier.com/sustainable-cities-and-society/>) Professor Saffa Riffat would like to invite you to submit articles to his newest Journal:

Renewable Bio-resources (<http://www.hoajonline.com/renewablebioresources>)

Scope of the journal - As global energy requirements change and grow, it is crucial that all aspects of the bio energy production process are streamlined and improved, RENEWABLE BIORESOURCES emphasises, on the advanced applications of biotechnology to improve biological ecosystems through renewable energy derived from biological sources.

Articles related to the topics of renewable bio resources are all welcome, and should be submitted using the above link.



Contributing to WSSET newsletters and e-bulletins

All WSSET members are kindly invited to submit articles for publication in future WSSET newsletters. Articles can be on a range of topics surrounding the word of sustainable energy technologies. With over 1000 active members, the WSSET newsletter provides a great opportunity to publicise new ideas, technologies or products – all free of charge!

Articles should be no more than 400-500 words and one or two photographs would be very much appreciated. Submissions should be emailed to secretay@wsset.org

Furthermore please contact secretay@wsset.org regarding any conferences, seminar or symposiums relating to topics of sustainable energy technologies that wished to be advertised in the newsletter.

Once again WSSET wishes to thank the continued support of its members.

Along with LinkedIn, WSSET has recently joined the social network Facebook. Being connected with WSSET on Facebook is an effective way of getting in touch with members from both academic and industrial backgrounds, finding the latest updates and news from WSSET and get the latest updates and news of up-and-coming events. Follow us at www.facebook.com and search *World Society of Sustainable Energy Technologies*.



Donations are welcomed and greatly appreciated!

We would like to remind our members that WSSET is a non-profit organisation, hence providing free membership. We would not be able to play a significant role in consolidating practical partnerships between academic and industrial organisations without the help of our members.

Whether you would like to get more involved or contribute financially, please get in touch with us at secretary@wsset.org.

Important for the repudiation of WSSET

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