News Letter

Issue No 01, 02 Dec 2013

Professionalism Beyond Boundries

INSTITUTION OF INCORPORATED ENGINEERS, SRI LANKA
UAE BRANCH

IIESL UAE Branch Meet IQSSL

Delegates from IQSSL met IIESL UAE Branch Executive Committee on 23rd November 2013. The purpose of the meeting was to explore ways and means to serve Sri Lankan professional working in the Gulf region by facilitating professional recognitions.

UAE Experienced rain, lightening and thunder

Heavy rain thunder, lightening and wind displayed over 48 hours in UAE skies. This picture below captured a lightening that strike on 22nd November 2013 4:40am.

Camera Model: Nikon D90
F-stop: f/4.5
Exposure Time: 1/2sec
ISO speed: ISO 640

Special Characters – Key Strokes for MS Office

One Quarter - ¼ : *ALT+ 0188*

Half - ½ : *ALT+0189*

Three Quarters - ¾ : *ALT+0190*

Square Meter - m² : *ALT+0178*

Meter Cube - m³ : *ALT+0179*

Degree - 90° : *ALT+0176*

Diameter - Ø : *ALT+0216*

Plus or Minus - ± : *ALT+0177*

IIESL Members may send their articles to iiesluae@gmail.com.

News Letter

Issue No 01, 02 Dec 2013

Professionalism Beyond Boundries

INSTITUTION OF INCORPORATED ENGINEERS, SRI LANKA
UAE BRANCH

Issue No 01, 02 Dec 2013

An IIESL Member at the Infinite Value Award 2013

For the first time in the history a member of IIESL has been elected to compete with the international industry professionals for the "Infinite Value Award 2013".

This award ceremony, recognized by Australian Government, is organized annually by Australian Institute of Quantity Surveyors (AIQS) and held in Sydney on 8th November 2013, to honor those who have made an outstanding contribution to the industry and have dedicated a significant amount of time to champion the profession both inside and outside of the work environment.

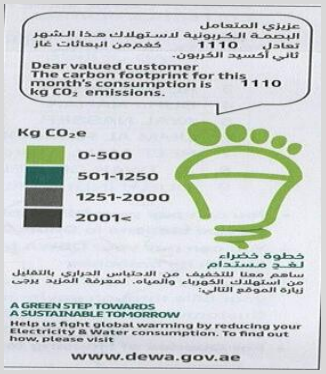
Having met all required, yet rigorous selection criterion, IIESL Fellow Eng. Dhammika Gamage stood up with the other three finalists; Mr. Martin A. Seward-Case, Mr. Stephen Ballesty and Mr. John Popplewell, for the "Lifetime Contribution Award" category.

We, IIESL members, congratulate Eng. Dhammika Gamage for becoming a finalist for this prestigious award.

Emission Trading System (ETS) – What is it? What is my role?

It has become a talking point in every level of corporate world today going `**green'**, or simply how to reduce the amount of **carbon dioxide (CO2) emissions** to our dear atmosphere. A new yard stick known as the `**Carbon Foot Print'** has popularly become the buzz word among world nations who are very much concerned of `**global warming'** phenomenon while the damage has already been done by the industrialist nations for the past two centuries which is still not late to recover.

If you take a close look at your monthly water & electricity bill; a prominent place has been given to the rate (see Fig), the consumer has released CO2 to the atmosphere by the usage of residential Air-conditioning machines & water. The Carbon Foot Print scale is measured in Kgs of CO2 with a colour code, warning the consumer to be more careful in the usage.



Definitely it will be a tough ask for a consumer living in the hot tropical or extremely hot Middle Eastern countries to be without the comforts of an air-conditioning machine for most part of the year. Unfortunately, the consumer will have to strike a balance between their comforts zone and saving the world!

As you understand, emission of exhaust gas from big passenger airline jet engines is of a major concern to the global warming

Professionalism Beyond Boundries
INSTITUTION OF INCORPORATED ENGINEERS, SRI LANKA
UAE BRANCH

Issue No 01, 02 Dec 2013

phenomena. It is indeed a threat to the fight against the global warming since the poisonous exhaust fumes coming out from big fan jet engines are released directly to our atmosphere right at the heights of 35,000-40,000 feet itself! Therefore, all flying machines inclusive of passenger, Cargo, Military or booster Rockets are indeed stake holders of damaging our dear atmosphere to certain extent. Imagine the amount of air travel taking place around the world? It is estimated that about two million passengers & hundred thousand tons of air cargo crisscross around the globe on daily basis; therefore one can imagine the number of aircraft needed to be deployed to handle the demand the amount of exhaust gasses emitting from aircraft engines ?!

Many nations in European Union (EU) have taken a combined decision to tackle the control of emissions released from the aircrafts flying over their European airspace in supporting reducing of carbon foot print thus help the world. A combined order of emissions control scheme had been adopted called **`Emission Trading System' or abbreviated as ETS.**

How ETS will operate

Under the international agreement as per `Kyoto protocol', to reduce the **Green House Gas (GHG)** emissions, a measure had to be launched by coordinated & a committed the European nations under EU policy agreements. Therefore, a `cap-and-trade' scheme called ETS has been put forward by the EU nations.

Not only ETS rule had been deployed on high flying airlines over Europe , but around 10,000 stationary energy intensive installations of the EU nations as well. EU turned their attention on the high flying aviation sector needed regulated immediately. But, not everyone seems to be happy of the regulations, especially non-EU registered airliners belongs to American, Asian, Middle Eastern & Far Eastern countries that are compelled to fly into major international hubs and popular destinations. The regulations are effective to airlines that overfly European airspace as well. The Non-EU airline companies are grumpy and challenging the ETS rules & policies. But, which airline risks their profits by not flying over or into lucrative European destinations? Therefore they need to abide by ETS rule in the hard way!!

Aviation Emissions

Airline operators are debating on ETS rule; therefore it is no doubt that a carbon emission from aviation sector is substantial and growing in rapid speed.

Jet aircraft emissions comprise of approximately 70% of CO2, slightly less than 30% of water vapor (incidentally, both of these factors are considered as GHG's), less than 1% of other emissions such as non burnt fuel, oil and other gasses. The water vapor has a short term effect in the atmosphere once released, but the CO2 emissions remain in the atmosphere for a long period of time. This effect is the focus of the regulators of environment. It is found that the aviation emissions attributes to 13% of global warming compared to 74% from road vehicles. The International Civil Aviation Organization **(ICAO)** anticipates 2-3% growth per year in Aviation sector. ETS would like to cap the Aviation sector emissions forecasting a net reduction under the scheme by 46 % by year 2020.

The Methodology of ETS

The ETS is in essence a market based mechanism for controlling emissions by converting into a tradable allowance. There is a built-in flexibility for emission saving to be made where most cost effective to do so; generally speaking,

Professionalism Beyond Boundries
INSTITUTION OF INCORPORATED ENGINEERS, SRI LANKA
UAE BRANCH
Issue No 01, 02 Dec 2013

- Individual operators must hold and surrender at end of each year enough allowances, each representing the **right for it to emit one tonne of CO2** into the atmosphere.
- The Operators emitting below their holdings can sell the surplus or bank it for the next year, while those which emit in excess may purchase further allowances on the secondary market.

In year 2012, 85% of allowance was allocated to all airline operators for free, reducing the cap to 82% in year 2013-2020 period. 15% of allowances will be auctioned each year from 2012. Smaller airline operators, with fewer than 243 flights in three consecutive four months periods or any emitting **less than** 10,000 tonnes of CO2 per annum are exempted from ETS scheme.

The future scenario of Airline Emissions

The Aviation sector does of course already have a commercial incentive to improve fuel efficiency. Today's aircraft offers a 15% improvement on fuel burn compared to what it was a decade ago. The gravity of the fuel efficiency was recently echoed by the President of Emirates Airlines, Mr. Tim Clark, based in Dubai during the recently concluded bi-annual Air Show where after placing a mammoth order for 50 superjumbo Airbus A380 Aircrafts, he challenged the manufacturers of the four engine A380 Aircraft to try to find further ways to maximize the fuel efficiency before the aircrafts will be delivered to the airline by 2020.

The modern jet aircraft models emit 16-20 % less carbon emissions per passenger compared to their predecessors. The airlines themselves are striving hard to reduce the carbon foot print to control Green House Gas emissions, thus will be in comfortable ETS frame when they fly to European countries & elsewhere when more & more Green House Gas restrictions spring up in other countries in the future.

Some of the external factors the airlines requests the airports to be redefined are; offer direct routes, refining departure and landing procedures (such as taxiing with engines shut down and using ground sourced electrical power and air-conditioning instead of on board auxiliary

power units which needs to consume fuel), pressing for air traffic control to be simplified, routes have to be rationalized and smaller aircrafts to be operated where ever possible.

Bio-fuels are cited as the best prospect for reducing the aviation emissions, with estimates suggesting these could be cut the dangerous emissions by **50%**! However, sustainable production in sufficient quantities is a major challenge in Bio-Fuel production, so this is not a realistic immediate solution.

As a passenger of an airline you too are bound to help controlling of emissions with less fuel burnt by engines. For that, if global passengers realize of travelling light with personal baggage, the payload will be less and the airline will have to pump less fuel to the tanks to take you from place to place. A global understanding among the airline passengers no sooner will collectively contribute to the reduction of dangerous Green House gas Emissions to the air by the airlines they travel.

Deepal Rajaguru
MIIESL, IEng, GCGI (UK), AMRAeS, MBA (PIM, Sri.j)

Assisted Ref; James Lambert & Nigel Price, `ETS: Taking on the world', Aerospace Int'l (Dec.2011)