

Q&A for webinar Lighting University - Climate Leadership - How to go Carbon Neutral? September 20th 2018

Q: Could you please explain as some scientist and people believe that the damages were done to the environment by the human, very minimum when we think about the globe. Also nature balances the environment because the atmosphere is enormous. Renewal energy is good, but it does not necessarily control global warming. Please clarify?

A:

As of early 2017, the Earth has warmed by roughly 1 degree Celsius since 1880 when records began at a global scale. That figure includes the surface of the ocean. The warming is greater over land and greater still in the Arctic and parts of Antarctica (a few degrees in some areas, with huge seasonal variation and extremes). Whilst recognising natural variation and cycles, scientists still believe that most and probably all of the warming since 1950 was caused by the human-induced greenhouse gas emissions. And if these emissions are left unchecked, they say that global warming could ultimately transform the planet in a way that would undermine its capacity to support a large human population, with the maximum safe level of 2°C.

In terms of renewable energy, our view is that the global transition from fossil fuels to clean energy is likely to accelerate. According to the [International Renewable Energy Agency](#), increasing renewables to 36% of the global energy mix by 2030 would provide about half emissions reductions needed to hold warming to 2°C. Even when including the “lifecycle” emissions of clean energy (in other words, the emissions from each stage of a technology’s life - manufacturing, installation, operation, decommissioning), the [GHG emissions associated with renewable energy are minimal](#). Increasing the supply of renewable energy would allow us to replace carbon-intensive energy sources and significantly reduce GHG emissions, which in turn helps curb global warming.

Q: Could you please share guidelines (or where to find those) on how to estimate/calculate the emission levels for the several sources mentioned in slide 26?

A:

As discussed in the presentation, there are three ways a business emits greenhouse gases and carbon through their operations and the use or consumption of energy. In our world, we refer to them as 'scopes.'

- Scope 1: These emissions result from sources directly owned or operated by a company.
- Scope 2: These are emissions based on the energy a company purchases to directly operate the enterprise. The most common across-the-board example is electricity consumption.
- Scope 3: These refer to indirect emissions, such as the extraction and production of purchased materials and fuels, transport-related activities in vehicles not owned or controlled by the company, outsourced activities, waste disposal, and electricity-related activities not covered in Scope 2.

To ensure that the calculations of a corporate GHG footprint are robust, there is a great body of established industry guidance on how to collect data and select appropriate emission factors. These emission factors relate to the amount of greenhouse gases emitted by a business to a set amount of activity performed by that business (such as, for example, the amount of distance traveled or fuel combusted as part of a certain activity).

There are also tools that are based on industry standards such as the Greenhouse Gas Protocol, the most widely used standard for understanding, quantifying and managing greenhouse gas emissions: <http://svante.green/#/start>. Emission conversion factors can be derived from government sources, such as Defra in the UK: <https://www.gov.uk/government/collections/government-conversion-factors-for-company-reporting>

Q: What will be the future from the nations not participating in the Paris agreement?

A:

The US is now reportedly the only nation in the world which remains opposed to the Paris Agreement after Mr Trump decided to pull out of the accord in 2017. **Governments realise that both their [creditworthiness](#) and their future prosperity could be compromised by not following a low-carbon trajectory.**

For example, French President Macron just this week announced that France will no longer sign trade deals with those who do not comply with the global climate deal - and he is calling on other nations to follow. And let's not forget that awareness around the risks posed by climate change is very high among the private sector, both globally and locally, and they will keep moving forward with or without national support. To give you an example: Investors are increasingly aware that investments in projects, companies and **countries** that are riskier as [markets and societies unlock from fossil fuels](#). Prominent U.S.-based tech industry executives all made it clear that they [viewed President Trump's decision to pull out of the Paris Agreement as a huge mistake](#), and would continue on their path to, among others, transition their energy-intensive data centers to using 100% renewable energy. The recent Global Climate Action Summit also witnessed [a groundswell of commitments and initiatives](#) that all point towards the same direction: accelerating the transition to a sustainable, climate-smart economy. You wouldn't want to miss that train!

I would also invite you to have a look at [a timely analysis](#) of the topic of possible trade wars prompted by climate change.

Q: How can we transfer these goals about Climate change in an Asian country? Is there any project going in Asia that really help curb carbon emissions?

A:

The next few years of [climate policy developments in Asia](#), and more specifically Southeast Asia, will actually be pivotal in determining whether the world achieves the Paris Agreement's 2°C goal and in unlocking regional green growth opportunities worth an estimated \$1 trillion.

There are, in fact, numerous projects and policy developments on renewable energy, energy efficiency and carbon reductions taking place in Southeast Asia and we're very proud to be involved in many of them. To name a few:

- [The Southeast Asian Energy Transition Partnership](#), a coalition of global philanthropies and countries working together with Southeast Asian nations to accelerate the renewable energy transition and meet Paris climate commitments. Our team is proud to be supporting the design of an

organisational structure and key activities that will facilitate the coordination between these partners across technical, financial, political, and legal areas.

- **Channelling finance to a low-carbon economy** with the help of [robust, verified emission reduction projects across Asia](#)
- **The launch of the Chinese (national) carbon market** was a welcome milestone in global climate action that our team hopes will trigger similar efforts from other countries such as India

Q: It seems sometimes out of reach and needs big entities to implement this kind of projects but as individuals what can we do to participate at home or in office?

A:

You can reduce your own carbon footprint in many simple ways - and most of them will actually save you money! You can plug leaks in your home insulation to save power, install a smart thermostat, switch to more efficient light bulbs, turn off the lights in any room where you are not using them, drive fewer miles by consolidating trips or taking public transit, take less airplane flights, waste less food and eat less meat. There are several articles, such as this one https://www.huffingtonpost.com/entry/7-instant-ways-to-reduce-your-carbon-footprint-us_59321992e4b00573ab57a383?guccounter=1, that can help you reduce your carbon footprint. Just make sure to look for reliable sources. Depending on where you live, you can also get on board supporting local renewable energy or climate protection initiatives by donating or volunteering.

Q: How is IOT based lighting going to achieve carbon neutrality target in near future?

A:

[There has been great progress made in the lighting industry.](#) The introduction of LED-based systems has been something of a revolution that is even enhanced by incorporating IoT and connectivity in lighting systems.

Thinking ahead, IoT based lighting can play an important role when it comes to [protecting the climate](#). It can support organisations, but also whole cities, in saving energy, which in turn reduces carbon emissions. According to the global NGO The Climate Group a wide implementation of LED lighting, specifically in public spaces and for street lighting, can lead to a [cut in carbon emissions](#) by 1.4 million tonnes annually.

Q: LED manufacturing is also not a green tech, how to go about it?

A:

[Research from IHS](#) suggests that “LED component and lighting companies were responsible for reducing the global carbon (CO₂e) footprint by an estimated 1.5 percent in 2017, and that number is likely to continue to grow as more LEDs are installed around the world”. While indeed the power consumption in the manufacturing process was not considered for those numbers, “the efficiencies of scale” should be factored in, especially when comparing the process to the established technology used in producing regular light bulbs.

In order to reduce the climate impact even more, manufactures can opt to compensate the emissions caused during the production process and/or to power their production by renewable energies using on-site Photovoltaics or Renewable Energy Certificates (RECs).