

RE-Energising the Future – COP 21 Workshop on Renewable Energy and Industry

According to the latest IPCC report, the industry and power sector alone are responsible for over 75% of greenhouse gas emissions with industry consuming 43% of global electricity production. According to UNIDO, industrial production is projected to increase by a factor of four between now and 2050. However, there are renewable energy options that can reduce greenhouse gas emissions in both existing and newly built production plants. Biomass, solar thermal, heat pumps and geothermal energy could increase the share of renewable energy from 8%-9% today to 19% by 2030, equivalent to GHG emission reductions of around 1 Gt. Furthermore, on-site production of renewable electricity or the decarbonisation of the power sector could result in an additional 2.4 Gt of GHG emissions reductions by 2030.

During this workshop, it is proposed to present renewable energy solutions already being implemented in various countries around the world for different types of energy-intensive industrial activities, which are major greenhouse gases emitters. These include: solar or wind energy for mining, cement plants, processing industries; production of energy through hybridization; and use of biomass for process heat in the pulp and paper and wood sectors, to name a few. Presenters will discuss projects that are cost effective, driven by innovation, and easily replicable, as well as their benefit in terms of GHG reduction and social impact.

Date : Friday, December, 4th from 3 :00 PM to 5 :00 PM

Location : FNSEA, 11, rue de la Baume – 75008 Paris – Subway Mirosmenil

Attendance : 80 participants

Opening

Renewable energy option for the industry sector : global and regional potential until 2030

Dolf GIELEN, Director of the Innovation and Technology Center in Bonn – IITC, IRENA

Success stories

1. L'OREAL plant in Libramont, Belgium – BIOGAS – RE Heat and Power

A unique industrial biogas plant was built close to the L'OREAL plant in Libramont. Biomass, from local farmers and the agro alimentary industry, is collected in a hermetic sealed tank. In this tank bacteria convert the biomass into methane through the biological process of fermentation. This biogas is then transported through a 600 meter subterranean pipeline to the factory. The biogas bought by L'Oréal is used in three cogeneration engines that generate both green heat and electricity. The plant is unique because both the generated electricity and heat, which is converted into steam, is completely used by the factory.

Pierre DE MONTLIVAUT, Director Verdesis, Dalkia Group

*Alexandra PALT, Director Corporate Responsibility and Sustainability, L'Oréal**

* To be confirmed

2. GOOGLE data center powered by an ENECO wind farm in the Netherlands – WIND & STORAGE – RE POWER

In order to power its new data centre in Eemshaven, Netherlands, Google has signed a contract with a neighboring windfarm owned by Eneco. The building, currently being built will be 100% powered by locally generated renewable energy from its first day of operation. The 19 turbines project will have a total capacity of 62 MW. Google and ENECO have signed a cooperation agreement that engage them for 10 years counting from 2016.

This project is part of a general effort made by google to curb the carbon intensity of its growth. 30% of the company's needs are currently powered by renewable energies. Google has added buying clean energy supply as part of its development strategy. More than 1 billion dollars were invested in the last year in such projects for a total capacity of 2 GW that exceeds by far the company's needs. These projects allow the generation of the quantity of energy used to power more than 500 000 homes.

Gary DEMASI, Google's director of global infrastructure & Joris Laponder, Director of Corporate Accounts

3. MIRRAH solar thermal plant to enhanced oil recovery in Oman – SOLAR – RE Heat

The 1,021 megawatt plant in South Oman is being built by PDO and GlassPoint Solar, a US specialist in solar enhanced oil recovery (EOR). The Miraah (which means mirror in Arabic) plant will harness the sun's rays to produce steam, which will then be used in solar enhanced oil recovery to extract heavy and viscous oil at the Amal oilfield. Mirrah will deliver the largest peak energy output of any solar plant in the world, PDO said.

EOR steam is currently produced in Oman by burning natural gas. Once it is complete, Mirrah will save 5.6 trillion British Thermal Units (BTU) of natural gas a year - enough to provide electricity to the homes of 209.000 people in Oman. The project is expected to reduce CO2 emissions by over 300,000 tons annually, the equivalent of taking 63,000 cars off the road, PDO said.

Mrs. Ruqaiya Al Hinai, Corporate Planning Director & John O'Donnell, Vice President of Business Development, GlassPoint Solar

4. Glencore RAGLAN Mine Renewable Electricity Smart-Grid Pilot Demonstration, Canada – WIND & STORAGE – RE POWER [TBC]

The Project proposes to install and operate a 3 megawatts (MW) wind turbine with storage based on a flywheel, Li-Ion battery, and hydrogen systems, connected to a diesel grid in a mining location in Northern Quebec to decrease reliance on diesel fuel electricity.

The challenge faced by mining companies pursuing operations in the North is similar to the challenges faced by many northern communities pursuing business development activities - having access to sufficient supplies of low-cost reliable electricity and energy. Due to their extreme northern location, and the sparse population spread out over great distances, it is not feasible to provide hydro-electricity or tie-in to the national grid without significant subsidies from government. As a result, mining companies have had to rely on their own resources to generate power using diesel generators. The exclusive use of diesel fuel for electricity generation has left mining companies exposed to oil price volatility that has caused oil prices to triple over the last ten years.

*M. Laurent Abbatiello, co-founder, Tugliq Energy**

Closing

Renewable energy for manufacturing industries: possible future applications, technical & economical potentials, LCOE reduction, GHG emission expectations.

Paolo Frankl, Head of Renewable Energy Division, IEA