

# **Renewable Energy Resource**

The United States of America and China are considered the biggest emitters of energy around the world and they are now switching to biogas from natural gas and coal to meet energy demands. Many other countries are choosing to shift to renewable energy resources from the coal as the CO<sub>2</sub> emissions from coal are bad for the environment as well as human health. It has been forecasted that this action can lock up years of methane emissions which is actually really good.

Moreover, in the Asian continent, the demand for coal has been increased and according to the study conducted, coal plants were responsible for nearly 80% of economic growth. On the other hand, the demand for coal decreased in the United States but the natural gas consumption was heightened at the maximum in the last 46 years of record. If we look at the global picture, fossil fuels remain the most used sources for energy production. Up until now, only Europe has managed to shift their energy production from non-renewable resources to renewable resources, and that too is stable!

However, this doesn't mean that countries have not tried to shift to sustainable energy resources as China has added six times more amount of renewable energy to the grid as compared to other continent but still, there hasn't been a complete uplift from the utilization of fossil fuels and other non-renewable resources.

According to IEA, the efforts have been worked upon to improve the efficiency and soon, the world will see the changes. However, if we see on the policy side, there is a huge gap between the urgent energy demand and the global policies regarding the problem. Some federal government policies are as;

## **Farm Bill Programs**

- The energy bill of 2007 allows the incentives for the biogas utilization as vehicle moving fuel

- Per kilowatt tax credit for energy produced by the biogas which comes under the PTC. According to the Under Recovery Act, anything that qualifies for the PTC tax can have a hold on investment tax credit in case of the electricity production facility
- If the facility is to be opened and planted in any low-income area, the credits for the completion of the project will be provided

### **Renewable Energy Tax Credits**

- The aim is to become the PTC focused entity with short-term extensions
- Investment tax credit and the production tax credit will be provided
- Investment for the biogas plants will be provided

### **Farm Bill Energy Title**

- There are huge bills and biogas percentage is low
- There can be drastic changes in funding
- Energy title will be 1 to 2% of the total bill along with the chopping block

All these policies and regulations will increase the effective and efficient production of renewable energy resources and biogas to be exact. These policies also aim to move towards a more energy efficient society.

Now, the question arises if the biogas plants are given the complete preference and they are being used for the energy production, are there any gas detectors being developed and innovated to keep things safe and secure? The answer to this question is yes because handheld multi-gas detections have already been developed. The handheld multi-hand gas detectors will monitor the gas level and detect the presence of toxic or any other unwanted gases in the environment. This detection has been made possible with the help of the installation of high-end sensors that analyze the air and report the percentage of specific gases that have been monitored in the surrounding air. The gas alarms come with visual, tactile, and audible alarms to warn people about the harmful environmental conditions. The full level of government compliance and regulation has not been defined, but the industry will still have safety standards to develop and put in place.

## **Benefits of Biogas Production**

Ever since the idea to shift energy production from non-renewable to renewable resources, the biogas production has been a topic of immense controversy but according to the recent findings, biogas poses many positive aspects which are;

- Global warming has been increasing due to the high concentration of CO<sub>2</sub> in the air and those emissions are because of the burning of coal and other fossil fuels. If we look at the biogas, the CO<sub>2</sub> emission will be reduced which portrays that global warming will be controlled at a good rate
- The air pollution will be reduced as no greenhouse gas emissions will take place
- The energy supply will be diversified, and the use of fossil fuels will be reduced and natural reserves can be saved for crucial times

The switch to new sources of energy will mean the development of new regulations. This will result in a continued positive growth in infrastructure, utility jobs and environmental safety. We will continue to see this growth and shift in the next few years as the Biogas industry develops.