

The Future Of Renewable Natural Gas

Ever since the evolving of mankind and innovation in technologies, we have been using the natural reserves to meet the energy needs for efficient work processes and for conducting researches. But with time, the reserves are decreasing at a faster rate which calls for renewable resources. Renewable resources portray that once used, these can be recycled and used again for a long span of time. If we look at the natural gas industry sectors, they have been using the natural gas reserves as well but now, circumstances call for better and innovated solutions to meet those needs.

According to the research and surveys, if we are successful in shifting to the renewable gas resources, our energy expenditures can be controlled at a maximum rate and can even help in stabilizing the economies of scale. However, the material consumption will be reduced and quality of life will be improved. Not only our quality of life but the climate will be stable and global warming will be controlled or we may see it reduced. Last but not the least; energy production activities pose many negative health effects on the ecosystem which will be well taken care of.

But the question arises - how can renewable gases, also are known as biogas, be maintained and manufactured? We dug in a little deeper to find the answers so, let's see what we have got for you!

Renewable natural gas or biogas is a form of gas that can be easily interchanged with natural gas and can be used in vehicles. It is basically a pipeline quality gas which is manufactured by the decomposition and burning of waste and organic matter up to certain standards. Just like natural gas, biogas can be used as a fuel to start and drive the vehicle, work machines and equipment, and also meet the energy needs of the community. There are few points which you must notice;

- Gasification is the process by which biogas is generated to meet the heat and electricity needs
- Upgrading is the process in which CO₂, hydrogen sulfide, and other elements are cleaned to purify the biogas so it can be used as fuel for the vehicles

The outcome of the purification of biogas has high methane content which makes it a good energy source. There are four ways through which biogas can be generated and maintained and they are;

Biogas From Landfills – Landfills are the places and dumping points where the residential, commercial, and industrial wastes are collected which means such dumps will have high methane content. The biogas produced from landfills will be known as LFG (landfill gas) as the digestion of waste will take place in the ground rather than in a machine digester. There are almost 645 projects in the United States that are producing biogas from landfills to meet the electricity needs.

Biogas From Livestock Operations – In the agricultural based communities and economies, livestock is the key part and by far the most essential part. In such economies, biogas is generated from the waste material of the livestock. For instance, the manure of livestock is collected and added into the anaerobic digester in which methane is produced and optimized. The output of this process can be used as a fuel for natural gas vehicles. The United States of America isn't an agricultural economy but still have almost 247 operational units that produce energy from the commercial livestock's manure and waste material.

Biogas From Wastewater Treatment – This process can be used to produce biogas by digestion of solids that are commonly removed during the wastewater treatment. The biogas generated from the wastewater treatments can meet the 12% energy needs of the United States of America

Other Biogas Sources – The last source of generating biogas is using the industrial, food sector, restaurant, hospital, and wholesaler organic waste to produce the energy in the form of biogas. The common things involved are energy crops, crop residues, and woody biomass that go through fermentation and digestions to manufacture biogas

Impacts On The Natural Gas Industry

According to the forecasts, the electricity supply generated from natural gas will fall from 20% to 14% by 2050 which shows that natural gas industries need to focus on more sustainable gas production such as biogas. The industry will need to put up pipeline gas manufacturing as the industry demands for more projects to meet the energy needs. So, all they have to do is invest in sustainable and innovative ways to produce gas (biogas) and leave the natural gas reserves alone. Biogas will still have to be regulated and mandated by the government which means the production and regulation of Biogas will continue to grow the industry!