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## 'Scope of Biomass Fuel Vast'

By Archana Ravi | Published: 24th November 2015 07:20 AM | Last Updated: 24th November 2015 07:20 AM

THIRUVANANTHAPURAM: The best competition to the oil refineries of West Asia could just be in our backyard. CSIR-Indian Institute of Petroleum Principal Scientist Thallada Bhaskar said, "Imagine using all the agricultural and forest waste for production of fuel. We can produce it locally, and stop depending on Dubai."

"For every tonne of rice, there will be nearly a tonne of agricultural waste. Then there is forest and aquatic plant waste. Say, water hyacinth, which infests in some waters. These can be cleared and used as fuel. It's scope is huge," he says.

In India, the biomass fuel plants have to be decentralised, he said. "A 10,000 metric-tonne plant requires huge volumes of plants. Plants will have to be sourced and transported from far. Instead, we can have smaller plants which need just 500 kg to 1 tonne of biomass," he said.

He has been doing researches on producing fuel from biomass for the past 15 years.

He has employed hydropyrolysis and hydrothermal processes to produce fuel and his work in the area is considered to be pioneering. "Unlike in pyrolysis, in hydropyrolysis, organic compounds are heated to a high temperature in the presence of water and not inert atmosphere.

"The pressure builds up. It reduces the time for the process and gives a high quality product at less than 300 degree centigrade," Thallada Bhaskar said.

His team has been working on finding out the optimum manufacturing process for converting biomass into fuel. Different feed stocks will have different amounts of organic carbon. They are trying to gauge the amount of fuel that can be produced from different kinds of agricultural waste.

Another area that he is passionate about is plastics. "Plastics don't create a problem, we do. We need to be aware that there are technologies that can convert plastic into high value products like aviation fuel. After all plastics are made from crude oil," he said.

He is in Thiruvananthapuram for the international conference 'New Horizons in Biotechnology', organised jointly by CSIR's National Institute of Interdisciplinary Science and Technology (NIIST), Thiruvananthapuram, and Biotech Research Society (BRSI), India.